MAHARISHI MARKANDESHWAR (DEEMED TO BE UNIVERSITY)
Mullana, Ambala, Haryana,133207
(Established under section 3 of the UGC Act, 1956
(NAAC Accredited Grade 'A++')

PROGRAM OUTCOMES (ENGINEERING UNDER GRADUATE PROGRAM)

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of

technological change.

Engineering PG Programs

Program Outcomes

PO1: An ability to independently carry out research /investigation and development work to solve practical problems

PO2: An ability to write and present a substantial technical report/document

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

PROGRAM OUTCOMES MCA

1. Computational Knowledge: Apply knowledge of computing fundamentals, computing specialisation, mathematics, and domain knowledge appropriate for the computing specialisation to the abstraction and conceptualisation of computing models from defined problems and requirements.

2. Problem Analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.

3. Design /Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

4. Conduct Investigations of Complex C o m p ut i n g Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.

6. Professionl Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practice.

7. Life-long Learning: Recognise the need, and have the ability, to engage in independent learning for continual development as a computing professional.

8. Project management and finance: Demonstrate knowledge and understanding of t h e c o mp u t i n g and management principles and apply these to one's own work, as a member and leader in a team, to 16 manage projects and in multidisciplinary environments.

9. Communication Efficacy: Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.

10. Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.

11. Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

12. Innovation and Entrepreneurship Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

PROGRAM OUTCOMES PHARMACY

1. Pharmacy Knowledge: Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.

2. Planning Abilities: Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.

3. Problem analysis: Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.

4. Modern tool usage: Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.

5. Leadership skills: Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and wellbeing.

6. Professional Identity: Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).

7. Pharmaceutical Ethics: Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.

8. Communication: Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.

9. The Pharmacist and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.

10. Environment and sustainability: Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

11. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Selfassess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

PROGRAM OUTCOMES MANAGEMENT

1. Apply knowledge of management theories and practices to solve business problems.

2. Foster Analytical and critical thinking abilities for data-based decision making.

3. Ability to develop Value based Leadership ability.

4. Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business.

5. Ability to lead themselves and others in the achievement of organizational goals,

PROGRAM OUTCOMES HOTEL MANAGEMENT

1. Develop students with an in depth understanding of the operational aspects and knowledge of the underlying principles of the hotel industry.

2. Making students familiar with the practical aspects of the hospitality industry.

3. Develop professional skills of strategic management issues involved in operating hotels and train students for operational, supervisory and management positions.

4. Enhance the techniques of advanced technological uses in hotel industry.

5. Business Knowledge - Students will be able to master the key frameworks, models, and skills that reflect the body of knowledge in their major, and will apply discipline-based habits of analytical thinking to problems and opportunities. Be skilled in the analysis of both qualitative information and quantitative data.

6. Communication Skills- Students will be able to synthesize and summarize information and to professionally communicate their analyses, arguments, and recommendations to a variety of audiences. Be skilled in written, oral, and visual communication and will be able to effectively choose communication methods that are appropriate to the topic, objective, and setting.

7. Quantitative Skills- Students will be able to Understand, analyse and use quantitative data to make business decisions and report to stakeholders. Identify quantitative characteristics of a problem, to examine and interpret numerical data and to analyse numerical data to derive conclusions.

8. Critical Thinking Skills - Evaluate, analyse and interpret information to solve problems and make business decisions. Interpret and evaluate unstructured situations; to define the problem; to apply theories to ambiguous situations and to draw conclusions and implement solutions.

9. Technology- Demonstrate proficiency in the use of information technology. Students will use information systems to select, manipulate and process data in a meaningful way in order to make business decisions and use software tools to solve accounting, financial and quantitative problems.

10. Ethics- Understand and evaluate ethical issues and situations to make business decisions. Recognize ethical problems in both domestic and international

Name of the Course	Course Outcome
Programming in C (BCA-101)	• On completion of the course, students will be able to • Learn basic terminology used in computer programming. • Write, compile and debug programs in C language. • Design programs involving decision structures, loops and functions. • Design programs with the use arrays and string. • Understand the dynamics of memory by the use of pointers • Work with files efficiently
Computer Fundamentals & MS Office (BCA-102)	On completion of the course, students will be able to • Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming. • Understanding the use of WindowsOperating System and working. • Recognize when to use each of the Microsoft Office programs to create professional and academic documents.
Digital Electronics (BCA-103)	On completion of the course, students will be able to 1. Analyze the characteristics of various gates. 2. Simplify of the Boolean equations and design the gate circuits using various methods. 3. Explain the concepts of different sequential circuits like D, J/K flip flops etc. 4. Classify the various basic memory elements: registers and their concepts. 5. Demonstrate the design of various counters of the computer system.
Introduction to Information Technology (BCA-104)	On completion of the course, students will be able to 1. Understanding the concept of Information Technology and Security. 2. Working with the web server. 3. Discuss security, authentication, and on-line transactions 4. Understand and apply Internet terms, concepts and access techniques 5. Understanding the working of Email

English (BHUM-001)	To develop skills for speaking with fluency in everyday life by focusing on some essential grammar, vocabulary and pronunciation skills & emphasizes on the base setting for the speaking skill
Object Oriented Programming using C++ (BCA-201)	On completion of the course, students will be able to • Use object oriented programming language like C++ and associated libraries to develop object oriented programs. • Understand and apply various object oriented features like inheritance, data abstraction, encapsulation and polymorphism to solve various computing problems using C++ language. • Apply concepts of operator-overloading, constructors and destructors. • Apply exception handling in real life applications
Data Structure (BCA-202)	On completion of the course, students will be able to • Ability to analyze algorithms and algorithm correctness • Ability to summarize searching and sorting techniques • Ability to describe stack, queue and linked list operation. • Ability to have knowledge of trees and graphs concepts.
System Analysis & Design (BCA-203)	On completion of the course, students will be able to • To analyze and specify the requirements of a system. • To design system components and environments. • To build general and detailed models that assist programmers in implementing a system.
Essence of Indian Traditional Knowledge (BHUM-117)	• Ability to understand the concept of Indian Traditional knowledge and its importance. • Know the need and importance of Shrimad Bhagwat Gita and its role in building character. • To know about Vedic Culture and sanskars described in Scriptures. • To know about the significance of Ashtang Yog and different Yogic Practices.
Environment Studies (ES – 101)	To provide basic information about environment than to connects principles of the environmental sciences for addressing complex environmental issues.

Database Management System (BCA-301)	On completion of the course, students will be able to 1. Understand the basic concepts and the applications of database systems. 2. Apply relational database theory and be able to describe relational algebra expression, tuple and domain relation expression from queries. 3. Learn the basics of SQL and construct queries using SQL. 4. Understand the relational database design principles. 5. Apply and relate the concept of transaction, concurrency control and recovery in database.
Web Designing Fundamentals (BCA-302)	On completion of the course, students will be able to 1. Learn and understand the terminology related to Web Designing 2. Understand how web applications work. 3. Learn how to create websites and complete UI designs. 4. Learn to write valid and concise code for webpages. 5. Learn to develop a dynamic website with database connectivity. 6. Understand, analyze and build interactive web applications.
Computer System Architecture (BCA-303)	On completion of the course, students will be able to 1. Understand the architecture and functionality of central processing unit. 2. Demonstrate concepts related to processors, memories and I/Os. 3. Explain the function of each element of a memory hierarchy. 4. Identify and compare different methods for computer I/O 5. Analyze the performance of commercially available computers.

Mathematical Foundation (BCA-304)	On completion of the course, students will be able to 1. Learn the basic concepts of matrices, algebra and Calculus. 2. Solve mathematical based computer problems. 3. Learn the basic concepts of integration. 4. Familiar with Measures of Central Tendency and Measures of Dispersion Range. 5. Develop analytical ability in the students to solve real-world problems using these methodologies.
Data Communication & Networking (BCA-305)	On completion of the course, students will be able to 1. Understand the basic concepts of data communication, protocols and interworking between computer networks and switching components. 2. Enumerate the layers of the OSI model and TCP/IP. 3. Understand and build the skills of routing mechanisms. 4. Familiarize with the basic protocols and how they can be used to assist in network design.
Programming in Java (BCA-401)	On completion of the course, students will be able to 1. Learn the basic concepts of java programming language. 2. Learn the use of Packages and Interface in java. 3. Understand the concept of exception handling in java. 4. Learn to develop applets for web applications. 5. Learn to develop GUI based applications using AWT and event handling

Open Source Programming using PHP (BCA-402)	On completion of the course, students will be able to 1. Build programs using programming constructs like variables, conditional logic and looping. 2. Use list, tuple and dictionary in Python. 3. Understand the concept of numpy, classes, modules and exception handing. 4. Access database in Python programs. 5. Develop GUI applications in Python.
Operating System (BCA-403)	On completion of the course, students will be able to 1. Understand the fundamental components of a computer operating system. 2. Compare and illustrate various process scheduling algorithms. 3. Understand the concepts of deadlock in operating systems and its management & avoidance. 4. Understand the design and management concepts of main memory and virtual memory. 5. Understand the file allocation methods, different types of directory systems and file protection
Software Engineering (BCA-404)	On completion of the course, students will be able to 1. Understand software engineering models and apply methods for design and develop various software projects in industries. 2. Work with various techniques and strategies for testing software projects. 3. Understand and apply the basic project management practices in software projects. 4. Choose appropriate process model depending on the user requirements. 5. Apply the various methodologies, techniques, and skills in the development of a software product.

Disaster Management(BCIV-080)	On completion of the course, students will be able to 1. Comprehend the key perspectives of disasters, hazards and the related concepts. 2. Prevent, mitigate, develop preparedness, response and plan recovery for disaster risk reduction. 3. Discuss the roles and responsibility of Govt. and private bodies for disaster management. 4. Prepare a comprehensive hazard and vulnerability profile of India.
Data Structure using C++ (MCA-101)	On completion of the course, students will be able to CO1 Understand the concept of Object Oriented Programming for solving real problems CO2 Determine the efficiency of an algorithm CO3 Implement searching and sorting techniques CO4 Use the applications of stack, queue and linked list CO5 Apply the concept of trees and graphs in various applications
Advanced Database Management System (MCA-102)	On completion of the course, students will be able to CO1 Utilize various models concern to databases for implementation of good designs/ structures CO2 Use the fundamentals of query writing, during development process by considering 360 scenarios of the problems CO3 Apply various tools and techniques in order to manage security related activities like login, user and role creations on various existing database entities/ schemas CO4 Efficiently manage activities concern to databases backup and recovery w.r.t. requirements and type of backups/ recovery to be performed CO5 Understand and implement the concepts of distributed databases for making resource available all the time for responses to ongoing transactions in real world application

Operating System (MCA-103)	On completion of the course, students will be able to CO1 Describe the main components of OS and their working CO2 Explain the communication between application programs and hardware devices through system calls CO3 Compare and illustrate various Process scheduling algorithms CO4 Apply appropriate memory and file management schemes CO5 Illustrate various disk scheduling algorithms CO6 Explains the security and protection features of an Operating System
Software Engineering (MCA-104)	On completion of the course, students will be able to CO1 Identify, formulate, and solve complex engineering problems by applying principles of engineering CO2 Recognize ethical and professional responsibilities in computer applications challenges and make informed judgments CO3 Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives CO4 Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions CO5 Work in a team as well as independently on software projects
Business Intelligence and its Applications (MCA-105)	On completion of the course, students will be able to CO1 Describe the concepts and components of Business Intelligence CO2 Critically evaluate use of BI for supporting decision making in an organization CO3 Understand and use the technologies and tools that make up Data warehousing, Data reporting and use of Online analytical processing CO4 Understand and design the technological architecture that underpins BI systems CO5 Understand the process of data profiling and integration

Computer Fundamentals and Web Design (MCA-B101)	On completion of the course, students will be able to CO1 Explain the needs of hardware and software required for computation tasks CO2 Demonstrate the basic fundamental of programming CO3 Understand how to make the system secure CO4 Build well-formed HTML/ XML Document and implement Web Service CO5 Develop and understand the concept web based application
Object Oriented Programming using Java (MCA-201)	On completion of the course, students will be able to CO1 Understand the use of OOPs concepts and solve real world problems using OOP techniques CO2 Understand the use of abstraction CO3 Understand the use of Packages and Interface in java CO4 Develop and understand exception handling, multithreaded applications with synchronization. CO5 Understand the practical use of file handling to read and write data CO6 Design GUI based applications and develop applets for web applications
Web Technologies (MCA-202)	On completion of the course, students will be able to CO1 Learn the basics and evolution of web technology CO2 Learn the different phases of web application development. CO3 Develop a dynamic webpage by the use of java script. CO4 Write a well formed / valid XML document. CO5 Write a server side java application called JSP to catch form data sent from client and store it on database. CO6 Develop web based applications.

Data Communication & Networking (MCA-203)	On completion of the course, students will be able to CO1 Understand and design the different network topologies CO2 Describe the principles of layered protocol architecture; be able to identify and describe the system functions in the correct protocol layer and further describe how the layers interact. CO3 Understand, explain and calculate digital transmission over different types of communication media. CO4 Use the techniques of error detection and correction. CO5 Describe the principles of access control to shared media. CO6 Understand and explain the principles and protocols to determine the route.
Software Testing and Quality Assurance (MCA-204)	On completion of the course, students will be able to CO1 Use all the quality standards while developing a project CO2 Effectively utilize metrics for risk analysis and risk management CO3 Understand and Implement Test Cases at each step of Project Life Cycle for verification and validation concerned activities CO4 Write reports for every test case implemented for further references or analysis CO5 Use all the standard terms for post implementation analysis
Digital Marketing (MCA-205)	On completion of the course, students will be able to CO1 Identify the importance of the digital marketing for marketing success CO2 Manage customer relationships across all digital channels CO3 Identify the digital channels and their advantages and limitations CO4 Understand to increase sales and leads for business CO5 Develop and understand the concept of optimize your online presence particularly your website for search engines

Logical Organization of Computers (MCA-B201)	On completion of the course, students will be able to CO1 Compute various number system conversions and perform different binary operations CO2 Explain Digital Logic Circuits, Register and Processor level Design and Instruction Set architecture CO3 Solve problems related to computer arithmetic and Determine which hardware blocks and control lines are used for specific instructions CO4 Design a pipeline for consistent execution of instructions with minimum hazards CO5 Explain memory organization, I/O organization and its impact on computer performance
Fundamentals of Mathematics (MCA-B202)	On completion of the course, students will be able to CO1 Apply mathematical logic to solve problems. CO2 Familiarize with a number of mathematical concepts associated with computers and computer science. In particular, the student will become well acquainted with the Matrices, its properties and applications. CO3 Understand set theory, functions and relations and their applications in computers. CO4 Understand the concept of graph theory CO5 Apply Mathematical logic to computer programming.
Programming with Python (MCA-301)	On completion of the course, students will be able to CO1 Identify python application development challenges. CO2 Classify mobility space and outlines python application development approaches and technologies. CO3 Implement and demonstrate an application development from inception to publishing. CO4 Explore the usage of graphics, animation capabilities for graphic user interface. CO5 Understand strategies and best practices for publishing an application with database. CO6 Understand the basics of data science and data visualization.

Cloud Computing (MCA-302)	On completion of the course, students will be able to CO1 Understand the basic concepts of Cloud Computing & its Services. CO2 Understand different hypervisors of Clouds for the Virtualization. CO3 Know the architecture and types of cloud. CO4 Identify need of security and how to secure the Cloud. CO5 Manage the different offering from cloud provider.
Advanced Computer Architecture (MCA-303)	On completion of the course, students will be able to CO1 Understand pipelining, instruction set architectures, memory addressing. CO2 Understand the performance metrics of microprocessors, memory, networks, and disks. CO3 Understand the various techniques to enhance a processors ability to exploit Instruction-level parallelism (ILP), and its challenges. CO4 Understand exploiting ILP using dynamic scheduling, multiple issue, and speculation. CO5 Understand multithreading by using ILP and supporting thread-level parallelism.
Advanced Java Programming [MCA-304 (a)]	On completion of the course, students will be able to CO1 Understand the concept of J2EE architecture. CO2 Learn to perform database programming using JDBC. CO3 Learn to perform client-server communication using network programming. CO4 Learn the remote method invocation using Java API. CO5 Learn the concept of Enterprise Java Beans and React .JS

Mobile Application Development [MCA-304 (b)]	The aim of this course is to provide the knowledge of real life applications of Mobile Application Development. The student will learn the basics and advanced concepts to develop mobile apps of Android platform and to understand the publishing of mobile application on the Android marketplace. Course Outcome: On completion of the course, students will be able to CO1 Learn and understand the terminology related to mobile application development CO2 Understand how Android applications work, their life cycle, manifest, Intents, and using external resources CO3 Learn to utilize the power of background services, threads, and notifications CO4 Learn to use Android's communication APIs for SMS, telephony, network management, and Flutter CO5 Develop Mobile Applications using data storage in SQLite Database.
NoSQL Database [MCA-304 (c)]	On completion of the course, students will be able to CO1 Able to define, compare and use the four types of NoSQL Databases (Document-oriented, Key-Value Pairs, Column-oriented and Graph). CO2 Able to demonstrate detailed architecture, define objects, load data, query data and performance tune NoSQL databases. CO3 Able to perform on collections by filtering data efficiently using tools like: MongoDB.
Artificial Intelligence [MCA-305 (a)]	On completion of the course, students will be able to CO1 Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations. CO2 Understand the various and game playing techniques. CO3 Apply basic principles of AI for providing solutions for the problems belongs to knowledge representation, and learning. CO4 Understand the concept of NLP. CO5 Acquire the knowledge of real world Knowledge representation.

Software Project Management [MCA-305 (b)]	On completion of the course, students will be able to CO1 Understand about various approaches of project management. CO2 Investigate the scenario and to select the proper model to implement.. CO3 Describe software testing life cycle and testing phases. CO4 Understand how to detect, classify, prevent and remove defects. CO5 Choose appropriate quality assurance models and develop quality. CO6 Explain various quality assurance techniques and standards to produce high-quality software.
Cryptography & Network Security [MCA-305 (c)]	On completion of the course, students will be able to CO1 Learn and understand the basic terminologies related to network security. CO2 Understand how cryptographic algorithms providing shield against attacks. CO3 Learn about secret key & public key cryptosystems. CO4 Be cognizant about the working of various key exchange mechanism. CO5 Understand the cryptanalysis technique for measuring the security of cryptographic algorithms.
Machine Learning (MCA-401)	On completion of the course, students will be able to CO1 Understand the need for machine learning for various problem solving. CO2 Understand a wide variety of learning algorithms and how to evaluate models generated from data. CO3 Understand the latest trends in machine learning. CO4 Design appropriate machine learning algorithms and apply the algorithms to a real world problems. CO5 Optimize the models learned and report on the expected accuracy that can be achieved by applying the models.

Open Source Technologies using PHP (MCA-402)	On completion of the course, students will be able to CO1 Understand the basic concepts and principles of PHP programming language. CO2 Learn how to develop web applications using PHP and open source technologies. CO3 Understand how to use MySQL, Apache, and Linux in web application development. CO4 Develop skills in using open source technologies for building scalable and secure web applications. CO5 Implement database connectivity and perform CRUD. CO6 Understand strategies and best practices for publishing an application with database.
Blockchain Technology [MCA-403 (a)]	On completion of the course, students will be able to CO1 Understand the evolution and origin, source of Block chain technology. CO2 Understand basic knowledge of computer security, cryptography, networking, concurrent or parallel programming & abstract models for Block chain Technology. CO3 Identify and differentiate the different working methods of crypto currency as Ethereum. CO4 Analyze detailed implementation of Crypto currencies such as BitCoin & Ethereum. CO5 Evaluate security issues relating to block chain technology. Identify major research challenges and technical gaps existing between theory and practice in crypto currency.
Computer Graphics [MCA-403 (b)]	On completion of the course, students will be able to CO1 Know the foundations of computer graphics. CO2 Comprehend the concept of geometric, mathematical and algorithmic concepts. CO3 Understand the comprehension of windows, clipping and view-ports object representation in relation to images displayed on screen. CO4 Recognize the software utilized in constructing computer graphics applications. CO5 Understand and demonstrate Hidden Surfaces, Projection & Shading

Design and Analysis of Algorithms [MCA-403 (c)]	On completion of the course, students will be able to CO1 Analyze the asymptotic performance of algorithms. CO2 Demonstrate a familiarity with major algorithm design techniques CO3 Apply important algorithmic design paradigms and methods of analysis. CO4 Solve simple to moderately difficult algorithmic problems arising in applications. CO5 Able to demonstrate the hardness of simple NP-complete problems CO6 Analyze the asymptotic performance of algorithms.
Big Data [MCA-404 (a)]	On completion of the course, students will be able to CO1 Integrate machine learning Libraries and mathematical and statistical tools with modern technologies like Hadoop and Map-reduce. CO2 Solve problems associated with batch learning and online learning and big data characteristics such as high dimensionality, dynamically growing data. CO3 Identify the characteristics of datasets and compare the trivial data and Big data for various applications. CO4 Select and implement machine learning techniques and computing environment that are suitable for the application under consideration. CO5 Resolve scalability issues related to high dimensionality and dynamically growing data in Big Data Environments.

Data Mining and Warehousing [MCA-404 (b)]	On completion of the course, students will be able to CO1 Define various architectures of Data warehousing and Data Mining functionalities. CO2 Perform Knowledge discovery process on large data bases. CO3 Identify Steps for Data Cleaning, Data integration and Transformation. CO4 Describe different Classification techniques of machine learning and Evaluate the accuracy of a classifier. CO5 Do association mining and correlation analysis on large databases.
Internet of Things [MCA-404 (c)]	On completion of the course, students will be able to CO1 Understand the fundamentals of Internet of Things. CO2 Realize the Internet of Things Ecosystem using Wireless Technologies. CO3 Analyze various protocols for Internet of Things. CO4 Understand the IOT Architecture. CO5 Familiarize with Web of Things. CO6 Know about application areas of IOT.

Introduction to Indian Cookery (HHA 202 a)	CO1. Know about History and background of Indian Cuisine, Its key features, Cuisines of different states with some of the famous dishes from various parts of India, Equipment used in Indian regional cooking and regional cooking methods CO2. Familiarize with condiments, herbs and spices used in Indian cuisine, their functions and medicinal benefits and their storage and usage tips. CO3. Learn about preparation and usage of different Indian Gravies, regional dry & wet masala . CO4. Understand various commodities like souring, thickening, tenderizing, coloring & flavoring agents and Rice, Cereals & Pulses with their usage in Indian cuisine.
Food & Beverage Service (BSC HHA 202 b)	CO1. Categorization of the bar and it's various equipment. CO2. Understand the alcoholic beverages and fermentation & distillation method of making alcohol CO3. Know about wines their classification and making method . CO4. Learn about the New world wines their storage and wine terminology
Accounting Skills for Hospitality (HHA 206)	CO1. Understand the basic concept of accounting CO2. Learn about maintenance of various accounting records. CO3. Understand financial statements and adjustments to final accounts. CO4. Know about depreciation, reserves and provisions

Universal Human Values (HSMC-051)	CO1. Development of a holistic perspective based on self- exploration about themselves family, Society and nature / existence. CO2. Understanding of the harmony in the human being , family ,society, and nature / existence. CO3. Strengthening of self -reflection. CO4. Development of commitment and courage to act.
CELL BIOLOGY (BBIOT –101)	• The basic and concepts of cell biology • Basic structure and functions of various organelles • Developing platform for higher studies and research in cell biology
GENETICS (BBIOT –201)	• The basics and concepts of classical genetics, modern genetics and cell cycle • • Genome organization and chromosomal structure • • Crossing over, genetic mapping, linkage and inheritance • • The importance of molecular biology and genetics in life

BIOFERTILIZERS AND VERMICOMPOSTING (BBIOT –203)	• To inculcate concepts of bio fertilizers and vermicomposting. • To understand techniques in biofertlizers and vermicomposting. • • To increase employability of the students. • • To improve the soil quality by promoting the bio fertilizers and vermicompost.
PLANT BIOTECHNOLOGY LAB (BBIOT –206)	• • Practical knowledge of plant tissue culture • • Handling of instruments and learn the techniques in plant tissue culture • • Developing practical skills for higher education and employment • • Learn about the related aspects of plant biotechnology
GENERAL MICROBIOLOGY (BBIOT – 301)	The basics and concept related to microbiology □ Microbial diversity, cultivation, diversity and maintenance □ Microbial growth, reproduction and related aspects □ Applications of microbiology

BIOETHICS AND BIOSAFETY (BBIOT – 302)	Students should be able to understand the necessity of biosafety, bioethics, and Intellectual property rights. Students should have conceptual knowledge of containment levels, classification of organisms according to risk. Students should be familiar with the guidelines, policies and constitutional committees for bio-safety guidelines and monitoring. Students will learn associated risks of GMOs to human health and environment and bioethical issues regarding GMOs and their products

business contexts identify alternatives and make appropriate ethical choices.

11. Multicultural and Diversity- Students, particularly those who pursue the degree in international business concentration, will develop an awareness and understanding of the cultural issues that impact business operations in a global society.

12. Demonstrate Learning- Enhancing skills in hospitality core areas at various position of specialization addressing customer satisfaction.

COURSE OUTCOMES

NAME OF INSTITUTE	Programme	Course	Course Outcomes
MMEC	B. TECH. BIOTECHNOLOGY 1 SEMESTER	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B. TECH. BIOTECHNOLOGY 2 SEMESTER	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B. TECH. BIOTECHNOLOGY 3 SEMESTER	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning

MMEC	B. TECH. BIOTECHNOLOGY 4 SEMESTER	Engineering Mechanics	Students have practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.
MMEC	B. TECH. BIOTECHNOLOGY 5 SEMESTER	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B. TECH. BIOTECHNOLOGY 6 SEMESTER	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.
MMEC	B. TECH. BIOTECHNOLOGY 7 SEMESTER	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B. TECH. BIOTECHNOLOGY 8 SEMESTER	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.

MMEC	B.TECH. BIOTECHNOLOGY 2ND SEMESTER	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH. BIOTECHNOLOGY 3ND SEMESTER	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH. BIOTECHNOLOGY 4ND SEMESTER	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH. BIOTECHNOLOGY 5ND SEMESTER	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. BIOTECHNOLOGY 6ND SEMESTER	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. BIOTECHNOLOGY 7ND SEMESTER	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH. BIOTECHNOLOGY 8ND SEMESTER	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. BIOTECHNOLOGY 9ND SEMESTER	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.

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MMEC	B.TECH. BIOTECHNOLOGY 10ND SEMESTER	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. BIOTECHNOLOGY 3RD SEMESTER	Fundamentals of Microbiology	Introduce microorganisms and methods for their study. Introduce microbial processes of environmental and geochemical significance. Provide detailed information on the most up to date methods for the study of microbial communities. Introduce the analysis of microbial datasets.
MMEC	B.TECH. BIOTECHNOLOGY 4RD SEMESTER	Biochemistry	The course aims to provide students with a basic understanding of Biochemistry involved in living system. The course aims to provide an advanced understanding of the core principles and topics of Biochemistry and their experimental basis, and to enable students to acquire a specialised knowledge and understanding of selected aspects by means of a stem/branch lecture series and a research project.
MMEC	B.TECH. BIOTECHNOLOGY 5RD SEMESTER	Cell Biology	Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles. They will understand how these cellular components are used to generate and utilize energy in cells. They will understand the cellular components underlying mitotic cell division. They will apply their knowledge of cell biology to selected examples of changes or losses in cell function. These can include responses to environmental or physiological changes, or alterations of cell function brought about by mutation.
MMEC	B.TECH. BIOTECHNOLOGY 6RD SEMESTER	Genetics	This course covers genetics, the science of heredity, from its basic principles to the most recent advances in the field. By the end of the course, you will have a working knowledge of classical (transmission) and molecular genetics. You should be able to analyze and solve genetics problems and you will have a good understanding of most of the laboratory techniques employed in modern molecular genetics labs.

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MMEC	B.TECH. BIOTECHNOLOGY 7RD SEMESTER	Microbiology Practical	To impart practical knowledge of microorganisms and methods for their study. Introduce microbial processes of environmental significance. Provide detailed information on the most up to date methods for the study of microbial communities.
MMEC	B.TECH. BIOTECHNOLOGY 8RD SEMESTER	Bio-chemistry Practical	The practical course aims to provide students with a basic understanding of Molecular Biochemistry involved in living by experimentation.
MMEC	B.TECH. BIOTECHNOLOGY 9RD SEMESTER	Cell Biology Practical	The practical course Cell Biology aims to provide students the knowledge of cytology and all the molecular machinery involved in its proper function.
MMEC	B.TECH. BIOTECHNOLOGY 10RD SEMESTER	Genetics Practical	This practical course provides hand on experience in genetics, the science of heredity, from its basic principles to the most recent advances in the field.
MMEC	B.TECH. BIOTECHNOLOGY 11RD SEMESTER	Fermentation Technology Practical	This course is aimed at introducing the students to the basic concepts of fermentation; aerobic and anaerobic fermentation, alcoholic fermentation resulting in the production of bread, beer, wine and vinegar. Acid fermentation resulting into the production of cheese, butter, yoghurt etc. Malolactic fermentation processes.
MMEC	B.TECH. BIOTECHNOLOGY 4TH SEMESTER	Molecular Biology	The objective of this course is to explain the structure of nucleic acids and proteins and modulate the specificity of binding between them.
MMEC	B.TECH. BIOTECHNOLOGY 5TH SEMESTER	Immunology	The objective of this course is to learn about the structural features of the components of the immune system as well as their functions, but the primary emphasis of this course will be on the mechanisms involved in immune system development and responsiveness.
MMEC	B.TECH. BIOTECHNOLOGY 6TH SEMESTER	Bio-analytical Techniques	The primary objectives of this course are to develop the skills to understand the theory and practice of bio analytical techniques. To provide scientific understanding of analytical techniques and detail interpretation of results.

MMEC	B.TECH. BIOTECHNOLOGY 7TH SEMESTER	Industrial Microbiology	To highlight the importance of microorganisms in the production of useful human products. To dispel the age long fear that microorganisms can only cause sicknesses and diseases.
MMEC	B.TECH. BIOTECHNOLOGY 8TH SEMESTER	Thermodynamics of Bio-process	The field of biotechnology is developing very rapidly and needs skilled engineers with bioprocess engineering background to design, build, control, and operate bioreactors and fermenters. This course provides students with basic concepts and prepares them to meet the challenges of the new and emerging biotechnology industry.
MMEC	B.TECH. BIOTECHNOLOGY 9TH SEMESTER	Bio Analytical Techniques & Molecular Biology	To develop skilled manpower in the field of Bioanalytical Sciences. Exploration of traditional systems of medicine (ASU) with the help of modern scientific instruments Generating new avenues for biosciences using modern techniques like Proteomics And Genomics, Bioinformatics.
MMEC	B.TECH. BIOTECHNOLOGY 10TH SEMESTER	Industrial Microbiology Practical	Introduction to Different aspects of Industrial Microbiology and provide hand on experience of microbiology practical.
MMEC	B.TECH. BIOTECHNOLOGY 11TH SEMESTER	Immunology Practical	The major immunology experiments will allowed the elucidation of these mechanistic features will be featured to help understand how immunologists think and work.
MMEC	B.TECH. BIOTECHNOLOGY 5TH SEMESTER	Stem Cell Culture Technology	This course aims to impart in students an understanding of the primary cell culture and methods that convert them to long term established cultures. They will be exposed to all the factors which could impact cell culture and equipment requirements for propagation. Awareness is generated about recent advances in the area of stem cell technology, organ culture, tissue engineering etc.
MMEC	B.TECH. BIOTECHNOLOGY 6TH SEMESTER	Hormones & Neurotransmitter	Identify and discuss the role of neurotransmitters on behavior. Describe the chemical nature of hormones and neurotransmitters and their function in cell communication. Explain the modes of action of hormones and neurotransmitters and describe how drugs can be used to alter their action.

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MMEC	B.TECH. BIOTECHNOLOGY 7TH SEMESTER	Recombinant DNA Technology	This course allows students the understanding for genetic manipulation of organisms by incorporating DNA sequences from different sources into a single recombinant molecule. They will understand the revolutionary technology of several applications in plant genomics and clinical research.
MMEC	B.TECH. BIOTECHNOLOGY 8TH SEMESTER	Genetic Engineering	The objective of this course is to discipline to students knowledge of main engines of implementation and transmission of a genetic material at molecular and cellular levels, and also methods of change of a genetic material and constructioning of transgene organisms with the given properties.
MMEC	B.TECH. BIOTECHNOLOGY 9TH SEMESTER	Genetic Engineering Practical	The module provide hand on experience of applications of genetic engineering in biotechnology and demonstrates the influence of Recombinant DNA technology in the production of mammalian products (such as human growth hormones and insulin) and vaccines, gene therapy, transgenic plants and animals, food processing as well as environmental bioremediation.
MMEC	B.TECH. BIOTECHNOLOGY 6TH SEMESTER	Design & Production of Vaccines	The course aims at imparting knowledge on viruses, vaccine, vaccine types, vaccine development and production and factors affecting production.
MMEC	B.TECH. BIOTECHNOLOGY 7TH SEMESTER	Nano-Biotechnology	The course aims at providing an understanding about biological systems as templates in the development of nano scale products and their biological responses, understanding of emerging Nanotechnologies, nanolebels, nanobiosencers and nanomedicine , techniques and synthesis of nanobiomolecules and their applications in biomedical field.
MMEC	B.TECH. BIOTECHNOLOGY 8TH SEMESTER	Instrumental Methods of Analysis	The course aims at providing background of useful instruments, their handling, principles and applications, in the field of Molecular Biology and biotechnology.

MMEC	B.TECH. BIOTECHNOLOGY 9TH SEMESTER	Instrumental Methods of Analysis Practical	The advent of dedicated Bioinstruments has facilitated progress in the instrumental methods of analysis in Biology. Large number of Biological data points can be collected, stored, manipulated and analyzed at a high precision with the help of instruments having high sensitivity, selectivity, and extremely low detection limit. This course aims at providing background of useful instruments, their handling and applications, in the field of Molecular Biology and Biotechnology.
MMEC	B.TECH. BIOTECHNOLOGY 7TH SEMESTER	Biostatistics and Computer Application	The basic objective of this course is to get familiar with Biostatistics and computers. Provides students with an understanding of probability concepts, distributions of random variables, nonparametric methods, and other statistical methods used in pharmaceutical, and health care research.
MMEC	B.TECH. BIOTECHNOLOGY 8TH SEMESTER	Diagnostic Technology	The course aims at imparting technical knowledge to biomedical and immunodiagnostics procedures, Monoclonal antibodies, HLA TYPING, Transplantation, Genetically engineered therapeutic agents, DNA-Diagnostic systems, Multi-drug resistance, Diagnosis of genetic diseases, Detection of mutation in DNA.
MMEC	B.TECH. BIOTECHNOLOGY 9TH SEMESTER	Diagnostic Technology Laboratory	The course aims at giving practical training to diagnostic techniques imparting technical knowledge to biomedical and immunodiagnostics procedures, Monoclonal antibodies, HLA TYPING, Diagnosis of genetic diseases, Detection of mutation in DNA.
MMEC	B.TECH. BIOTECHNOLOGY 8TH SEMESTER	B Tech Thesis on-Campus BT -G -402	Students have the exposure to carry out research work and to develop the research cum scientific acumen in the respective field of interest in Biotechnology
MMEC	B.TECH. BIOTECHNOLOGY 9TH SEMESTER	Industrial Project Course Off –Campus BT -G -404	Students have the industrial exposure to carry out research work and to develop the research cum scientific acumen in the respective field of interest in Biotechnology
MMEC	B.TECH. BIOTECHNOLOGY 10TH SEMESTER	General Fitness and Professional Aptitude BT-G-406	Students have the exposure to have the professional skills and general fitness to be successful in their career.

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MMEC	B.TECH. CIVIL 1 SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B.TECH. CIVIL 1 SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B.TECH. CIVIL 1 SEM	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning
MMEC	B.TECH. CIVIL 1 SEM	Engineering Mechanics	Students have practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.
MMEC	B.TECH. CIVIL 1 SEM	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B.TECH. CIVIL 1 SEM	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.
MMEC	B.TECH. CIVIL 1 SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.

MMEC	B.TECH. CIVIL 1 SEM	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.
MMEC	B.TECH. CIVIL 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH. CIVIL 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH. CIVIL 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH. CIVIL 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. CIVIL 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. CIVIL 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH. CIVIL 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. CIVIL 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.

MMEC	B.TECH. CIVIL 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. CIVIL 3RD SEM	Optimized & Calculus of Variable	Application of abstract mathematical theory to optimization problems of calculus of variations and control theory. Abstract nonlinear programming and applications to control systems described by ordinary differential equations, partial differential equations, and functional differential equations. Dynamic programming.
MMEC	B.TECH. CIVIL 3RD SEM	Multivariate Analysis, Linear Algebra and Special Functions	Familiarizes the students about the analysis on Complex Number field; impart the understanding of techniques to evaluate integrals involving complex valued functions.
MMEC	B.TECH. CIVIL 3RD SEM	Building Material	To understand properties of various types of construction materials e.g. fire resisting materials and sound insulation materials.
MMEC	B.TECH. CIVIL 3RD SEM	Structure Analysis-I	To understand the concept of simple stresses, strains, the theory of simple bending, different beams with different loading conditions, various types of columns along with Euler's critical buckling load and their slope and deflection with the help of moment area method, conjugate beam method, unit load method and by method of differential equations.
MMEC	B.TECH. CIVIL 3RD SEM	Fluid Mechanics	Introduce to the fundamental of fluid flow characteristics, its measurements techniques in various substantial fluid flows and its application in Civil Engineering.
MMEC	B.TECH. CIVIL 3RD SEM	Engineering Surveying-I	On completion of this course successfully, a candidate will be able to understand about the importance and need of Surveying in various Civil Engineering projects. Also the measurement of distances, angles, bearings, leveling, plane table Survey, Theodolite, Tachometry, Curves their types and Layout.
MMEC	B.TECH. CIVIL 3RD SEM	Structure Mechanics (P)	To understand the concept of various theorems to determine slope and deflection of beams, to analyze the trusses for horizontal and vertical deflection, the three hinged arches and behavior of struts.

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MMEC	B.TECH. CIVIL 3RD SEM	Fluid Mechanics (P)	Acquaint with the fluid measurement apparatus and basic fluid mechanics principles through the practical approach.
MMEC	B.TECH. CIVIL 3RD SEM	Engineering Surveying-I (P)	To conduct chain surveying and chain traversing, compass surveying, and to perform plane tabling by using two points and three point problem, to do permanent adjustments of level and to prepare contour maps of any given location.
MMEC	B.TECH. CIVIL 3RD SEM	Building Material (D)	To understand the types of masonry constructions including various bond formations, concept of partition walls, cavity walls, various types of roofs, roof trusses, floors, doors, windows, staircases, plan and sections of a building.
MMEC	B.TECH. CIVIL 3RD SEM	Personality Devlopment	Ability to recognize self capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.
MMEC	B.TECH. CIVIL 4TH SEM	Complex Analysis	This course is an introductory course on Complex Analysis. It introduces students to the complex numbers system and varieties of operations, analyses and problems that may arise within the context. It also equips the students with mathematical techniques and skills to handles such cases.
MMEC	B.TECH. CIVIL 4TH SEM	Soil Mechanics	On completion of this course successfully, a candidate will be able to understand about engineering properties of soil by conducting various tests and to understand the concepts of permeability, compaction and consolidation of soil using various theories and their application.
MMEC	B.TECH. CIVIL 4TH SEM	Structure Analysis-II	To analyze the continuous beams and frames using slope deflection method as well as moment distribution method and in addition to analyze two hinged arches, three hinged stiffening girder, shear center, the forces and stresses on uniformly loaded cables.
MMEC	B.TECH. CIVIL 4TH SEM	Hydraulics and Hydraulics Machinery	The study of complex fluid flow and the principles through the practical approach by using flow measuring apparatus, boundary layer flow and hydraulic machinery.
MMEC	B.TECH. CIVIL 4TH SEM	Engineering Surveying-II	Student will acquaint yourself about basics & practical utility of Trignometrical leveling and Triangulation in Surveying. Also the types of error and their solution, Basic Astronomy & different time systems, Photographic Survey and GIS, GPS and Remote Sensing Techniques.

MMEC	B.TECH. CIVIL 4TH SEM	Engineering Geology & Rock Mechanics	Student will be able to understand about the geological features of rocks, their origin, classification and formation, bedding plane, faults and folds, dip and strike. Also the various types of testing for rocks, rock bolting etc, To analyze the suitability of an area for construction of various projects like dams, reservoirs, tunnels, bridges etc
MMEC	B.TECH. CIVIL 4TH SEM	Engineering Surveying-II (P)	To understand horizontal and vertical measurements using theodolite, calculate the horizontal distance and elevations using tachometry and to understand various curves at a given terrain.
MMEC	B.TECH. CIVIL 4TH SEM	Soil Mechanics (P)	On completion of this course successfully, a candidate will be able to understand about classification of soil and the tests methods like as proctor compaction test, unconfined compressive strength test and direct shear test related, to determine the physical properties of soil for engineering purposes.
MMEC	B.TECH. CIVIL 4TH SEM	Project	Planning and execution of appropriate engineering projects. These investigations may be assigned on an individual or a team basis and in most cases will involve experimental work.
MMEC	B.TECH. CIVIL 5TH SEM	Discrete Mathematics	The purpose of this course is to understand and use (abstract) discrete structures. In particular, this course is meant to introduce logic, proofs, sets, relations, functions, counting, and probability.
MMEC	B.TECH. CIVIL 5TH SEM	Probability and Statistics	This course provides an elementary introduction to probability and statistics with applications. The course emphasizes on probabilistic foundations required to understand probability models and statistical methods.
MMEC	B.TECH. CIVIL 5TH SEM	Transportation Engineering-I	To provide basic knowledge in transportation engineering so that students can understand and be able to solve problems related to cross sectional elements, highway alignment profile, traffic characteristics and road construction materials.
MMEC	B.TECH. CIVIL 5TH SEM	Reinforced Cement Concrete Design	To analyze rectangular and flanged beams with checks for shear, development length and deflection and also be able to design one way, two way slabs, isolated footings and columns.
MMEC	B.TECH. CIVIL 5TH SEM	Environmental Engineering-I	It gives an idea about the pollution control and the parameters that characterize their quality, and how their use alters their properties. It also gives an idea about the solid waste management.
MMEC	B.TECH. CIVIL 5TH SEM	Quantity Survey and Estimation	To study the various types of estimations along with their principles, the necessity of different specifications of works linked with PWD and to prepare detailed analysis of rates for various construction items.

MMEC	B.TECH. CIVIL 5TH SEM	Mathematics Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. CIVIL 5TH SEM	Transportation Engineering (P)	To provide experimental knowledge of aggregates and bitumen used in road construction as per Indian Standard Code.
MMEC	B.TECH. CIVIL 5TH SEM	Environmental Engineering-I (P)	The candidate will develop skills necessary to characterize waste waters and sewage and evaluate the performance of sewage treatment plants.
MMEC	B.TECH. CIVIL 5TH SEM	Survey Camp	To provide basic surveying exposure on a considerably difficult hilly terrain, to take up tasks such as setting up of traverse stations, base-line measurements, fly leveling, detailing, and contouring. Also to draw topographical sheets/maps and develop capability to work in groups.
MMEC	B.TECH. CIVIL 6TH SEM	Fuzzy Maths	This course provides the fundamentals of classical set theory and fuzzy set theory.
MMEC	B.TECH. CIVIL 6TH SEM	Concrete Technology	Ability to understand the properties of concrete as well as to know about the ingredients of concrete. Understand the concrete design mix as well as to know about procedure of concreting. To explore the knowledge of cement different types cement and manufacturing of cement.
MMEC	B.TECH. CIVIL 6TH SEM	Design of Steel Structure	To analyze and design riveted, bolted and welded connections in the design of tension and compression members using simple and built up sections and to study about web buckling, crippling and diagonal buckling.
MMEC	B.TECH. CIVIL 6TH SEM	Water Resource Engineering	Students will acquaint with the hydrological process, crop water requirements, type of irrigation practices, canal distribution system and various losses and design principal of canal, river training works and its necessities.
MMEC	B.TECH. CIVIL 6TH SEM	Transportation Engineering-II	To provide basic knowledge of railway, airport and water transportation systems along with their design procedures.
MMEC	B.TECH. CIVIL 6TH SEM	Environmental Engineering-II	Introduction to water supply and wastewater treatment and systems, emphasizing fundamental biological, chemical, and physical processes related to protection of public health and water reuse. It will also give idea about treatment required by the different industrial effluents and suggest treatment units

MMEC	B.TECH. CIVIL 6TH SEM	Concrete Technology (P)	To understand the selection of appropriate equipment/machines for different construction activities with right choices of techniques for a given application.
MMEC	B.TECH. CIVIL 6TH SEM	Project	The purpose of the course is to develop an understanding of independent research through the study of a particular Civil Engineering topic of interest. The special project is an exercise in the professional application of specialist skills and experience developed in Civil Engineering program. Research topics will be mainly based on principal experimental, theoretical or applied, will be chosen in consultation with a project supervisor.
MMEC	B.TECH. CIVIL 7TH SEM	oundation Engineering	On completion of this course successfully, a candidate will be able to understand about investigation and sampling techniques, concepts of bearing capacity of soil and different types of foundations with its application.
MMEC	B.TECH. CIVIL 7TH SEM	Construction Planning Management	To provide basic knowledge of construction management for cost - time optimization of project.
MMEC	B.TECH. CIVIL 7TH SEM	Project	Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, design, formulation and solution.
MMEC	B.TECH. CIVIL 8TH SEM	Industrial Project (24 week)	Provide vital experiential learning opportunity, an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting like a company, industry, non-profit, governmental, or community-based organization related to the field of Civil engineering.
MMEC	B.TECH. ME 1ST SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B.TECH. ME 1ST SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
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MMEC	B.TECH. ME 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH. ME 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.

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MMEC	B.TECH. ME 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH. ME 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. ME 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. ME 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH. ME 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. ME 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. ME 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. ME 3RD SEM	Optimized & Calculus of Variable	Application of abstract mathematical theory to optimization problems of calculus of variations and control theory. Abstract nonlinear programming and applications to control systems described by ordinary differential equations, partial differential equations, and functional differential equations. Dynamic programming.
MMEC	B.TECH. ME 3RD SEM	Multivariate Analysis, Linear Algebra and Special Functions	Familiarizes the students about the analysis on Complex Number field; impart the understanding of techniques to evaluate integrals involving complex valued functions.

MMEC	B.TECH. ME 3RD SEM	Basic Thermodynamics	This course provides information about work, heat, energy & various laws of thermodynamics. It also imparts knowledge about various thermodynamic cycles and processes their applications in day to day life.
MMEC	B.TECH. ME 3RD SEM	Solid Mechanics	This course imparts the knowledge of engineering properties of materials; fundamental concepts of stress and strain, strength and stiffness, deformations and displacements, strain energy, and load carrying capacity. The course also introduces students to the basic engineering approach of materials selection.
MMEC	B.TECH. ME 3RD SEM	CAD & Computer Graphics	Introduction to computer-aided graphics & design. Applications of graphics software and hardware with mini- and micro-computer systems. Interactive computer graphic techniques. Extensive laboratory study of wire-frame and raster computer graphics. Static and dynamics graphic presentation methods.
MMEC	B.TECH. ME 3RD SEM	Fluid Mechanics	Demonstrate knowledge and understanding of mathematical models of the fluid motion, potential flow theory, turbulence, non-Newtonian fluids and lubrication and tribology.
MMEC	B.TECH. ME 3RD SEM	Basic Thermodynamics Lab	Understand the construction and working of I.C. Engines, water tube boilers and fire tube boilers. Also study the working and various parts of steam engines.
MMEC	B.TECH. ME 3RD SEM	Solid Mechanics Lab	Introduction to the behavior of materials when subjected to different loading conditions and demonstrate the material test procedure on commonly used equipment for material testing.
MMEC	B.TECH. ME 3RD SEM	Fluid Mechanics Lab	Introduction to various applications of the basic fluid mechanics principles and to provide a more intuitive and physical understanding of the concept.
MMEC	B.TECH. ME 3RD SEM	Personality Development	Ability to recognize self capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.
MMEC	B.TECH. ME 4TH SEM	Complex Analysis	This course is an introductory course on Complex Analysis. It introduces students to the complex numbers system and varieties of operations, analyses and problems that may arise within the context. It also equips the students with mathematical techniques and skills to handles such cases.
MMEC	B.TECH. ME 4TH SEM	Advanced Fluid	Aims to give Mechanical Engineering students a deeper and more thorough grounding in principles and basic applications of fluid

		Mechanics	mechanics.
MMEC	B.TECH. ME 4TH SEM	Engineering Materials	The course is framed to enhance timeless fundamentals of crystallography, solid state chemistry/ physics. It gives the basics to understand various materials, let it be fabric, plastic or steel. It helps understand how atoms/ molecules/ unit cells makeup the material and how their arrangement has affect on all the mechanical properties and need for engineering novel materials. More emphasis was put on Fe based materials and understands the importance of various processing methods for steel.
MMEC	B.TECH. ME 4TH SEM	Mechanisms and Machines	Imparts knowledge to understand the fundamentals of the theory of kinematics and dynamics of machines and motion of machines and their components.
MMEC	B.TECH. ME 4TH SEM	Primary Manufacturing	Impart knowledge and skills to the students of different methods of manufacturing a product and practical applications of manufacturing methods in production industry.
MMEC	B.TECH. ME 4TH SEM	Advance Solid Mechanics	Aims to give Mechanical Engineering students a deeper and more thorough grounding in principles and basic applications of solid mechanics.
MMEC	B.TECH. ME 4TH SEM	Mechanisms and Machines Lab	This laboratory has a good set-up for demonstrating aspects of both kinematics and dynamics of mechanism and machines. Experiments on cam mechanism, whirling of shafts, gyroscope, balancing vibrations etc. can be performed here.
MMEC	B.TECH. ME 4TH SEM	Manufacturing Lab	To understand various types of lathe operations, surface finishing process and ability to understand gear making process.
MMEC	B.TECH. ME 4TH SEM	Project	Planning and execution of appropriate engineering projects. These investigations may be assigned on an individual or a team basis and in most cases will involve experimental work.
MMEC	B.TECH. ME 5TH SEM	Discrete Mathematics	The purpose of this course is to understand and use (abstract) discrete structures. In particular, this course is meant to introduce logic, proofs, sets, relations, functions, counting, and probability.
MMEC	B.TECH. ME 5TH SEM	Probability and Statistics	This course provides an elementary introduction to probability and statistics with applications. The course emphasizes on probabilistic foundations required to understand probability models and statistical methods.
MMEC	B.TECH. ME 5TH SEM	Design of Machine Elements	Imparts knowledge to understand the basics of design and ability to design joints, shafts, levers, couplings and power screws.

MMEC	B.TECH. ME 5TH SEM	Refrigeration & Air Conditioning	Imparts knowledge to understand the application of refrigeration and air conditioning systems and to understand vapor compression, vapor absorption system and design of air conditioning systems.
MMEC	B.TECH. ME 5TH SEM	Heat Transfer	Imparts knowledge to understand the concept of conduction, convection, radiation and various types of heat exchangers.
MMEC	B.TECH. ME 5TH SEM	Mathematics Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. ME 5TH SEM	Heat Transfer Lab	Imparts knowledge to understand and experimentally analyze the conductivity of different materials. To analyze free and forced convective heat transfer. Further imparts knowledge to experimentally analyze radiation heat transfer.
MMEC	B.TECH. ME 5TH SEM	Project	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. ME 6TH SEM	Control Engineering	This course teaches the fundamentals of control theory with the addition of basic electronics theory.
MMEC	B.TECH. ME 6TH SEM	Fuzzy Maths	This course provides the fundamentals of classical set theory and fuzzy set theory.
MMEC	B.TECH. ME 6TH SEM	Industrial Engineering	Impart knowledge of optimizing the resources of industry by use of various methods of industrial engineering in various aspects of society.
MMEC	B.TECH. ME 6TH SEM	Integrated Design & Manufacturing	Students will be introduced to topics in design and manufacturing, basic manufacturing principles, computer aided design, computer aided manufacturing, geometrical dimensioning and tolerance, and rapid prototyping.

MMEC	B.TECH. ME 6TH SEM	Tribology Lab	Imparts knowledge to understand different types of wear, the surface roughness and learn to measure the pressure profile, frictional torque and power transmission of lubricants.
MMEC	B.TECH. ME 6TH SEM	Project	The purpose of the course is to develop an understanding of independent research through the study of a particular Mechanical Engineering topic of interest. The special project is an exercise in the professional application of specialist skills and experience developed in Mechanical Engineering program. Research topics, which may be principally experimental, theoretical or applied, will be chosen in consultation with a project supervisor.
MMEC	B.TECH. ME 6TH SEM	Strength of Materials Lab	Introduction to the behavior of materials when subjected to different loading conditions and demonstrate the material test procedure on commonly used equipment for material testing.
MMEC	B.TECH. ME 6TH SEM	Production Technology Lab	To understand various types of lathe operations, surface finishing process and ability to understand gear making process.
MMEC	B.TECH. ME 6TH SEM	Personality Development (Business Ethics & Managerial Skills)/ Personality Development (Analytical Ability	Ability to recognize self-capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.
MMEC	B.TECH. ME 7TH SEM	Optimization Technique	It aims to understand the concept of linear programming technique, transportation, replacement models, simulation, decision theory, queuing theory and game theory.
MMEC	B.TECH. ME 7TH SEM	Project	Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, design, formulation and solution.

MMEC	B.TECH. ME 8TH SEM	Industrial Project (24 Week)	Provide vital experiential learning opportunity, an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting like a company, industry, non-profit, governmental, or community-based organization related to the field of mechanical engineering.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning
MMEC	B.TECH. MECHATRONICS 1ST SEM	Engineering Mechanics	Students have to practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students are prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.

MAHARISHI MARKANDESHWAR (DEEMED TO BE UNIVERSITY)
Mullana, Ambala, Haryana,133207
(Established under section 3 of the UGC Act, 1956
(NAAC Accredited Grade 'A++')

MMEC	B.TECH. MECHATRONICS 1ST SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. MECHATRONICS 1ST SEM	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH. MECHATRONICS 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH. MECHATRONICS 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.

MMEC	B.TECH. MECHATRONICS 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. MECHATRONICS 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Mathematics -III	Ability to understand the Fourier series and Fourier Transforms concepts.To familiarize with complex Variables. To understand the concept Probability Distributions and applications of linear programming.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Production Technology	Understand the theory of metal cutting & tool life. Understand the economics of metal machining & multi-edged tools. Understand the knowledge of metal forming, Jigs, Fixtures and metrology.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Mechanics of Solids	This course imparts the knowledge of engineering properties of materials; fundamental concepts of stress and strain, strength and stiffness, deformations and displacements, strain energy, and load carrying capacity. The course also introduces students to the basic engineering approach of materials selection.

MMEC	B.TECH. MECHHATRONIC 3RD SEM	Electric Drives	The aim of this course is to equip students with knowledge of variable-speed drives and motion control systems which are used in many industrial processes such as in conveyors, machine tools, pumps, compressors, mining drives, electric vehicles, ship propulsion, wind energy systems, air-craft actuators, servo drives and automation systems, to name a few.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Thermal Science	An introduction to the thermal sciences of mechanical engineering providing an overview of thermodynamics, fluid dynamics and heat transfer.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Thermal Engineering Lab	Understand the construction and working of I.C. Engines, water tube boilers and fire tube boilers. Also study the working and various parts of steam engines.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Electric Drives Lab	The main focus of the laboratory is on the measurement and control of electric drives.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Strength of Materials Lab	Introduction to the behavior of materials when subjected to different loading conditions and demonstrate the material test procedure on commonly used equipment for material testing.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Production Technology Lab	To understand various types of lathe operations, surface finishing process and ability to understand gear making process.
MMEC	B.TECH. MECHHATRONIC 3RD SEM	Personality Development (Business Ethics & Managerial Skills)/ Personality Development	Ability to recognize self-capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.

MMEC	B.TECH. MECHHATRONIC 4TH SEM	Hydraulic & Pneumatic Device	This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Semi-Conductor Device and Circuits	This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits usingappropriate techniques and test equipment.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Machine Drawing	Understand various standards for machine drawing.Understand Fits and Tolerances in technical drawing.Prepare assembly drawing of gears, couplings and different machine elements.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Kinematics of Machinery	Understand the basic mechanisms used in machines & their applications in industries.Familiarize with the velocity and acceleration In mechanism & its applications in industries and daily life.Understand the synthesis of mechanisms, Cams and Followers & its applications in industries. Understand the Friction concepts and Belt, Ropes, Chains and its practical applications.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Industrial Engineering	Impart knowledge of optimizing the resources of industry by use of various methods of industrial engineering in various aspects of society.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Instrumentation and Control Systems	This course covers the fundamentals of instrumentation used in industry. Emphasis is on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Semi-Conductor Device and Circuits Lab	The main focus of the laboratory is to know various semiconductor devices and electronic circuits.

MMEC	B.TECH. MECHHATRONIC 4TH SEM	Hydraulic & Pneumatic Lab	This course introduces the basic components and functions of hydraulic and pneumatic systems. Experiments include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Instrumentation and I.C Applications Lab	This course aims to develop a working knowledge of engineering practice in the area of industrial instrumentation and control systems design and implementation with a special emphasis on process control.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Elementary Project	Planning and execution of appropriate engineering projects. These investigations may be assigned on an individual or a team basis and in most cases will involve experimental work.
MMEC	B.TECH. MECHHATRONIC 4TH SEM	Personality Development (Analytical Ability/ Personality Development (Business Ethics & Managerial Skills)	Ability to recognize self-capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	CAD/CAM	Understand Geometric Modeling & Group technology.Learn various types of Curves and Geometric transformations.Ability to understand the surfaces and solids. Ability to understand the NC Part Programming and FMS.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Robotics	The course will consist of lectures including principles of engineering, physics, electronics, mechanics, and computer programming.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Machine Design –I	Understand the Basics of Design.Ability to design various jointsAbility to design Shaft and Levers. Ability to design Couplings and Power Screws.

MMEC	B.TECH. MECHHATRONIC 5TH SEM	Fluid Mechanics and Heat Transfer	Imparts knowledge to understand the concept of conduction, convection, radiation and various types of heat exchangers. Demonstrate knowledge and understanding of mathematical models of the fluid motion, potential flow theory, turbulence, non-Newtonian fluids and lubrication and tribology.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Switching Theory & Logic Design	To familiarize students with different number systems, digital logic,
MMEC	B.TECH. MECHHATRONIC 5TH SEM		Simplification and minimization of Boolean functions. To design combinational & sequential digital circuits and state machines. To introduce programmable logic devices.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Heat Transfer & Fluid Mechanics Lab	Experimental work to enhance understanding of thermodynamics, fluid dynamics, and heat transfer.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	PLC programming Lab	An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Industrial Training -I	Ability to demonstrate the use, interpretation and application of an appropriate international engineering standard in a specific situation. Ability to work in a team and effectively communicate solution to problems (oral, visual, written).
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Design and analysis Project-I	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. MECHHATRONIC 5TH SEM	Personality Development (Communicative English – Intermediate Level)	Ability to recognize self-capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.

MMEC	B.TECH. MECHHATRONIC 5TH SEM	Computer Skill -I	Understand the Basics of Designing software.Study the various commands for dimensioning and constraints used in software.Ability to understand drafting practice using design software's.Ability to model, assemble and drafting using CAD software.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Computer Networking	The principles and practice of computer networking, with emphasis on the Internet. The structure and components of computer networks, packet switching, layered architectures, TCP/IP, physical layer, error control, window flow control, local area networks (Ethernet, Token Ring; FDDI), network layer, congestion control, quality of service, multicast.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Machine Design -II	Ability to determine the strength & analysis of various gears.Understand the design & analysis of Belts, rope chain drive.Understand the design & analysis of springs and bearings. Understand the Design of I. C. Engine Parts.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Dynamics of Machinery	Analysis of various Static & Dynamic Forces and their mechanism.Understand the gyroscopic effects, brakes and their practical applications.Understand the concept of governing & balancing and its applications.Familiarize with gears terminology and various types of gear trains.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Linear IC & its Applications	This is a course on the design and applications of operational amplifiers and analog integrated circuits. This course introduces basic op-amp principles and show how the op-amp can be used to solve a variety of application problems.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Flexible Manufacturing System	The course will cover the practical integration of individual pieces of automation and various levels of electronic control to create stand-alone automated fabrication and assembly systems. The learner will integrate a variety of manufacturing equipment to create, program and operate an automated manufacturing cell and an automated material handling cell (AMHC). Students will evaluate the requirements of implementing an FMS.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Computer Skill –II	Ability to use parametric CAD software for geometric modeling of mechanical Designs.Ability to translate production drawings to 3D CAD models.Understand the assembly, simulation and drafting. Ability to evaluate the mechanical design.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Dynamics of Machinery Lab	Understand and verify the laws of governing the dynamics of machines. To understand the various types of forces. To study the transmission units and brakes. Understand the torque and inertia concepts.

MMEC	B.TECH. MECHHATRONIC 6TH SEM	Information Technology Lab	Upon completing this course, students will understand the fundamentals of information technology, Learn core concepts of computing and modern systems, Understand modern software programs and packages and Learn about upcoming IT technologies.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Design and analysis Project-II	The purpose of the course is to develop an understanding of independent research through the study of a particular Mechanical Engineering topic of interest. The special project is an exercise in the professional application of specialist skills and experience developed in Mechanical Engineering program. Research topics, which may be principally experimental, theoretical or applied, will be chosen in consultation with a project supervisor.
MMEC	B.TECH. MECHHATRONIC 6TH SEM	Personality Development	Recognizing key personal motivating factors and their importance in sustaining a high level of motivation.Understand one's chosen career pathway through adherence to the codes of conduct and behavior.
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Automobile Engineering	This course introduces students to design, manufacture and operate automobiles like buses, trucks, cars etc.
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Operation Research	It aims to understand the concept of linear programming technique, transportation, replacement models, simulation, decision theory, queuing theory and game theory.
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Microprocessors and Micro Controllers	The purpose of thiscourse is to teach students the fundamentals of microprocessor and microcontroller systems. The student will be able to incorporate these concepts into their electronic designs for other courses where control can be achieved via a microprocessor/controller implementation.

MMEC	B.TECH. MECHHATRONIC 7TH SEM	Computer Organization	The course is an introduction to computer architecture and functionality, with programming examples using a processor such as the Motorola 68000. The discussion centers on the description of how different types of data may be represented inside a computer, how the various computer components process the data, and how the operating system and the hardware cooperate to make computer operation possible. The course includes a presentation and discussion of generic principles of computer architecture and digital logic.
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Microprocessors and Micro Controllers Lab	Laboratory exercises will be based on both microprocessor (Intel 8086) and microcontroller (Intel 8051).
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Project-I	Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, design, formulation and solution.
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Industrial Training – II	Ability to demonstrate the use, interpretation and application of an appropriate international engineering standard in a specific situation.Ability to work in a team and effectively communicate solution to problems (oral, visual, written).
MMEC	B.TECH. MECHHATRONIC 7TH SEM	Automobile Engineering Lab	Understand the different types and working of suspension and transmission system. Understand the lubrication and breaking System.Study the advance components of automobile systems.
MMEC	B.TECH. MECHHATRONIC 8TH SEM	Micro Electro Mechanical System	Begins with overview of MEMS devices and processes that are used to fabricate them. The basic governing equations for MEMS devices in different energy domains (mechanical, electrical, optical, thermal, and fluidic) reviewed, and both analytical and finite element coupled-domain modeling is used to design MEMS devices.
MMEC	B.TECH. MECHHATRONIC 8TH SEM	Power Plant Engineering	This course introduces students to the various components of thermal power plants and the related thermal and economical tools for effective engineering analysis of such plants.
MMEC	B.TECH. MECHHATRONIC	Design of Mechatronics	This course is an introduction to designing mechatronic systems, which require integration of the mechanical and electrical engineering disciplines within a unified framework.

	8TH SEM	System	
MMEC	B.TECH. MECHHATRONIC 8TH SEM	Project-II	Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, design, formulation and solution. Ability to communicate with engineers and the community at large in written and oral. Ability to relate micro scale problem to large scale.
MMEC	B.TECH. MECHHATRONIC 8TH SEM	Seminar	Improve oral and written communication skills.Identify, understand and discuss current, real-world issues.To set the stage for future recruitment by potential employers.
MMEC	B.TECH. MECHHATRONIC 8TH SEM	General Fitness & Professional Aptitude	Ability to enhance willpower and moral behavior.Ability to achieve mental strength and disciplined life.
MMEC	B.TECH.EE 1ST SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B.TECH.EE 1ST SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B.TECH.EE 1ST SEM	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning
MMEC	B.TECH.EE 1ST SEM	Engineering Mechanics	Students have to practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students are prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.

MMEC	B.TECH.EE 1ST SEM	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B.TECH.EE 1ST SEM	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.
MMEC	B.TECH.EE 1ST SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH.EE 1ST SEM	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.
MMEC	B.TECH. EE 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH. EE 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH. EE 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.

MMEC	B.TECH. EE 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. EE 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. EE 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH. EE 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. EE 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. EE 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. EE 3RD SEM	Optimized & Calculus of Variable	Application of abstract mathematical theory to optimization problems of calculus of variations and control theory. Abstract nonlinear programming and applications to control systems described by ordinary differential equations, partial differential equations, and functional differential equations. Dynamic programming.
MMEC	B.TECH. EE 3RD SEM	Multivariate Analysis, Linear Algebra and Special Functions	Familiarizes the students about the analysis on Complex Number field; impart the understanding of techniques to evaluate integrals involving complex valued functions
MMEC	B.TECH. EE 3RD SEM	Signals & Systems	This course develops an understanding to describe signals mathematically and to perform mathematical operations on signals and helps students to understand the system properties such as linearity, time invariance, with or without memory, causality, bounded-input bounded-output stability and invertibility.

MMEC	B.TECH. EE 3RD SEM	Power Apparatus & Machine-I	This course provides basic knowledge and theories of Transformer, Three phase Transformer and DC machines.Also to understand the construction, operation, characteristics, starting of DC motors
MMEC	B.TECH. EE 3RD SEM	Electronic Devices	This course introduces the basics of semiconductor devices such as diodes, transistors and FETs and teaches the applications of semiconductor devices such as amplifiers.
MMEC	B.TECH. EE 3RD SEM	Network Analysis & Synthesis	This course familiarizes students with network synthesis and filter design. Provides students the exposure to the electrical networks and analyzes passive networks and their parameters.
MMEC	B.TECH. EE 3RD SEM	Network Analysis and Synthesis Lab	This course deals with the synthesis of an electrical network from a given Impedance/admittance function and also to apply mathematics in analyzing and synthesizing the networks in time and frequency domain.
MMEC	B.TECH. EE 3RD SEM	Power Apparatus and Machine-I Lab	The main objective of the course is to co-relate the theory of transformer and DC machine with practical.
MMEC	B.TECH. EE 3RD SEM	Electronic Devices Lab	The main objective of the course is to basic concepts of electric drive systems. Emphasis on system analysis and applications. Topics include: dc machine control, variable frequency operation of induction and DC machines, adjustable speed drives, adjustable torque drives
MMEC	B.TECH. EE 4TH SEM	Complex Analysis	This course is an introductory course on Complex Analysis. It introduces students to the complex numbers system and varieties of operations, analyses and problems that may arise within the context. It also equips the students with mathematical techniques and skills to handles such cases.
MMEC	B.TECH. EE 4TH SEM	Digital Electronics	This course develops an ability to analyze and design combinational and sequential logic circuits. The course also provides an exposure to computer logic circuits design and practical digital circuit design.
MMEC	B.TECH. EE 4TH SEM	Digital Signal Processing	This course is used to understand the meaning and implications of the properties of systems and signals, understand the Transform domain and its significance and problems related to computational complexity.
MMEC	B.TECH. EE 4TH SEM	Digital Signal Processing	The design of linear digital filters FIR and IIR using different techniques and their associated structures, concept of Multi-rate signal processing and sample rate conversion.

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MMEC	B.TECH. EE 4TH SEM	Power Apparatus & Machine-II	This course provides the basic knowledge and theories of AC machines. Also it provides the understanding including the construction, operation, characteristics, starting of AC machines
MMEC	B.TECH. EE 4TH SEM	Measurements & Instrumentations	With this course students will be get knowledge of various types of meters, their construction and working. The students will be able to measure Voltage, Current, Power factor, Power Energy, Strain, Displacement, Velocity, Angular Velocity, Temperature etc.
MMEC	B.TECH. EE 4TH SEM	Electromagnetic Theory	This course visualizes the nature of electromagnetic field and helps to analyze complex circuits and transmission lines concept using circuit theory.
MMEC	B.TECH. EE 4TH SEM	Project	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. EE 4TH SEM	Digital Signal Processing Lab	This course introduces MATLAB for digital signal processing experiments and also to make students able to program digital signal processing algorithm in MATLAB, designing of butterworth and FIR filter.
MMEC	B.TECH. EE 4TH SEM	Power Apparatus & Machine-II Lab	The main objective of the course is to co-relate the theory of AC machine with practical.
MMEC	B.TECH. EE 4TH SEM	Digital Electronics Lab	This course develops the theoretical and practical aspect of Digital Electronics and to provide an overview of logic gates, Logic families, Registers, and Counters.
MMEC	B.TECH. EE 5TH SEM	Discrete Mathematics	The purpose of this course is to understand and use (abstract) discrete structures. In particular, this course is meant to introduce logic, proofs, sets, relations, functions, counting, and probability
MMEC	B.TECH. EE 5TH SEM	Probability and Statistics	This course provides an elementary introduction to probability and statistics with applications. The course emphasizes on probabilistic foundations required to understand probability models and statistical methods.
MMEC	B.TECH. EE 5TH SEM	Control System and Design	This subject deals with the control system which is used in almost every project in the industries these days and also in our day to day life.

MMEC	B.TECH. EE 5TH SEM	Power Electronics-I	This course introduces the basic theory of power semiconductor devices and passive components, their practical application in Industrial electronics as rectifers. The course gives a complete insight of various schemes involving the protection, triggering and commutation of power electronic devices.
MMEC	B.TECH. EE 5TH SEM	Power System	This course gives an overview of the power systems and its changing landscape. It makes the pupil to learn about ac transmission lines and cable systems.
MMEC	B.TECH. EE 5TH SEM	Project	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. EE 5TH SEM	Control System Lab	This course gives the practical knowledge of controller application on DC Motor, Servo Motor & Stepper Motor. The students understand the characteristics of various first & second order systems.
MMEC	B.TECH. EE 5TH SEM	Power Electronics Lab	This course introduces the student to measurement of important operating characteristics of power electronic circuits and power semiconductor devices. Emphasis is on the whole range of power converters viz, phase control rectifiers, choppers, inverters and cycloconverters.
MMEC	B.TECH. EE 5TH SEM	Power System Lab	This course gives the practical knowledge of operation of various kind of delays & transmission lines and to provide knowledge of practical aspects of transmission lines covering string efficiency of insulators and ABCD parameters.
MMEC	B.TECH. EE 6TH SEM	Fuzzy Maths	This course provides the fundamentals of classical set theory and fuzzy set theory.
MMEC	B.TECH. EE 6TH SEM	Power Electronics-II	Semiconductor devices and passive components, their practical application in Industrial electronics as power converters viz. phase controlled rectifiers, choppers, inverters, cycloconverters. The subject also gives brief application of power converters to SMPS, reactive power control, speed control of ac and dc motors.
MMEC	B.TECH. EE 6TH SEM	Communication Engineering	This course analyzes modulation, demodulation techniques used in communication system. The course also develops knowledge about pre-emphasis and de-emphasis circuits.
MMEC	B.TECH. EE 6TH SEM	Microprocessor & Microcontroller	This course Introduces the fundamentals of microprocessors with the detailed description of 8-bit and 16-bit microprocessors, their architecture and programming. The course also introduces the concept of interfacing and various types of peripheral devices used with microprocessors.

MMEC	B.TECH. EE 6TH SEM	Project	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. EE 6TH SEM	Power Electronics-II lab	This course contain the experiments related to cyclo converter, inverter & choppers and to plot the graph between average output voltage Vo Vs. speed of DC motor, using chopper ckt. (Variable pulse width control strategies).
MMEC	B.TECH. EE 6TH SEM	Microprocessor & Microcontroller Lab	This course deals with the strategies involved in the market for Microcontroller based systems and the industry's demand for highskilled experts in these areas is constantly increasing, So the objective of this lab is to make the students understand and gain knowledge about experiments with Microcontrollers kits and Software as per the industry requirements.
MMEC	B.TECH. EE 7TH SEM	Computer Method in Power Systems	This course covers methods of network modelling by graph theory and algorithmic approach, representation of three phase network elements, Kron reduction technique, Schemes of ordering, short circuit studies using Z bus, load flow equations, Gauss-Seidel and Newton-Raphson methods, fast decoupled methods, AC-DC load flow problems, transient stability solution using modified Euler's method, sparsity techniques and state estimate of an AC network.
MMEC	B.TECH. EE 7TH SEM	Transmission Line Design	This subject gives idea designing the transmission line using various parameters of transmission line
MMEC	B.TECH. EE 7TH SEM	Project	Students will develop and practice engineering design skills by working on a team based project. Students will experience all phases of the design process.
MMEC	B.TECH. EE 7TH SEM	Computer Method in Power Systems Lab	This course introduces the student to investigate operatingcharacteristics of power systems through C++ program. Emphasis ison demand estimation, Y bus/Z bus formulation, load flow studies.
MMEC	B.TECH. EE 8TH SEM	Industrial Project	Provide vital experiential learning opportunity, an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting like a company, industry, non-profit, governmental, or community-based organization related to the field of electrical engineering.
MMEC	B.TECH CSE 1ST SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.

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MMEC	B.TECH CSE 1ST SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B.TECH CSE 1ST SEM	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning
MMEC	B.TECH CSE 1ST SEM	Engineering Mechanics	Students have practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.
MMEC	B.TECH CSE 1ST SEM	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B.TECH CSE 1ST SEM	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.
MMEC	B.TECH CSE 1ST SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH CSE 1ST SEM	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.

MMEC	B.TECH CSE 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations
MMEC	B.TECH CSE 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH CSE 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH CSE 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH CSE 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH CSE 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH CSE 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH CSE 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH CSE 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of C programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH CSE 3RD SEM	Optimized & Calculus of Variations	It uses the theory, methods and techniques of the mathematical terms to solve problems, formulate important results and theorems covered by the course. Students will understand concepts of linear algebra, calculus& static optimization, differential equations & calculus of variation.

MMEC	B.TECH CSE 3RD SEM	Data Structures & Algorithms	It helps in understanding the concept of Static & Dynamic memory management, data types, algorithms & also basic data structures such as arrays, linked lists, stacks and queues.
MMEC	B.TECH CSE 3RD SEM	SAP	SAP helps to understand key business processes in an organization and identify the main integral points. It tells how to effectively use SAP, ERP to configure, test and execute standard business processes.
MMEC	B.TECH CSE 3RD SEM	Java Programming	To study its syntax, idioms, patterns, and styles and to become comfortable with object oriented programming & also to write programs using object-based techniques including classes, objects and inheritance. To develop applets & to create java server pages.
MMEC	B.TECH CSE 3RD SEM	Discrete Mathematics	Able to apply knowledge of Mathematics, Statistics to solve various problems & also to use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, functions and integers.
MMEC	B.TECH CSE 3RD SEM	Data Base Management Systems	The course defines Database Management System and give its description. It also defines basic foundational terms of Database and the applications of Databases. It also compares relational model with the Structured Query Language.
MMEC	B.TECH CSE 3RD SEM	Data Structures & Algorithms Lab	This Course Develop an understanding to create Stack, Queue & Implement Linked List also can be used to implement Tree, Graphs.
MMEC	B.TECH CSE 3RD SEM	OOP Lab	This Course Familiarizes students with concepts of Class, Objects ,Inheritance, polymorphism & teaches students about Virtual classes & Abstract classes.
MMEC	B.TECH CSE 3RD SEM	Data Base Management Systems Lab	This Course help students to use SQL Queries, Connect Databases, use Microsoft Access & use to support data on the back end.
MMEC	B.TECH CSE 4TH SEM	Multivariate Analysis, Linear Algebra and Special Functions	Ability to understand standard concepts and tools at an intermediate to advanced level that will serve them well towards tackling more advanced level of mathematics and applications.

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MMEC	B.TECH CSE 4TH SEM	Computer Organization & Design	To have a thorough knowledge of the basic structure and operation of a digital computer & discuss in detail the operation of the arithmetic unit including the algorithms & implementation of fixed-point and floating-point addition, subtraction, multiplication &division.
MMEC	B.TECH CSE 4TH SEM	Operating Systems (Unix Programming)	Able to understand the difference between different types of modern operating systems, virtual machines and their structure of implementation and applications. The main focus is on UNIX File system including advanced file processing and practice pipelining and IO redirecting.
MMEC	B.TECH CSE 4TH SEM	Formal Languages & Automation Theory	Ability to describe the language accepted by automata or generated by a regular expression or a context-free grammar. It also acquires a fundamental understanding of the core concepts in automata theory and formal languages.
MMEC	B.TECH CSE 4TH SEM	Mobile Apps Development	Explain the differences between Android and other mobile development environments, tap into location-based services, geo-coder, compass sensors, and create rich map-based applications that utilize the power of background services, threads and notifications. Use Android's communication APIs for SMS, telephony, tune, package, and deploy Android Application
MMEC	B.TECH CSE 4TH SEM	Computer Networks	To develop an understanding of network architectures from a design and performance perspective. It helps us to study different topologies, different connecting devices. By using the concepts of computer, preparing the student for entering Advanced courses in computer networking.
MMEC	B.TECH CSE 4TH SEM	Design & Analysis of Algorithms Lab	This course visualizes the nature of different types of searching techniques & applies different asymptotic notations to get better results.
MMEC	B.TECH CSE 4TH SEM	Java Programming Lab	This course describes how to write programs including classes, objects and inheritance & to develop applets & to create java server pages.
MMEC	B.TECH CSE 4TH SEM	Computer Networks Lab	This course helps students to get a detailed knowledge about Computer Networks Lab Including Simulators like Boson & Cisco Packet Tracer. Students will be able to learn concepts of switches, bridge & Routers.
MMEC	B.TECH CSE 4TH SEM	Project	To enhance students knowledge to use modern tools necessary to develop computer projects. Students will be able to make comprehensive use of the technical knowledge gained from previous courses.

MMEC	B.TECH CSE 5TH SEM	Probability and Statistics	It helps us to understand basics of probability tells how to differentiate between different types of probability also helps to understand the application of Random variable and various distribution functions. This concept is widely used in wireless sensor network.
MMEC	B.TECH CSE 5TH SEM	Internet Web Programming	To develop web pages by the use of languages such as html, xml, java scripts & also use to create high level dynamics web contents.
MMEC	B.TECH CSE 5TH SEM	Design & Analysis of Algorithms	It provides basic ability to analyze algorithms and to determine algorithm correctness and time efficiency class. Problems like worst cases can be analyze using asymptotic notations.
MMEC	B.TECH CSE 5TH SEM	Cryptography and Information Security	Identify factors driving the need for network security & types of attacks. Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack and explain the characteristics of hybrid systems.
MMEC	B.TECH CSE 5TH SEM	Microprocessor & Interfacing	This helps to demonstrate programming proficiency using the various addressing modes and data transfer instructions of the 8085, 8051 and 8086 assembly language & able to apply knowledge of the microprocessor's internal registers and operations by use of a PC based microprocessor simulator for 8085.
MMEC	B.TECH CSE 5TH SEM	Operating Systems (Unix Programming) Lab	This course teaches students about Different Operating types along with resource allocation, memory utilization,deadlock, Fragmentation with the inclusion of different Unix operating system commands.
MMEC	B.TECH CSE 5TH SEM	Mobile Apps Development Lab	This course helps students to get familiarize with creation of Mobile apps, how to use them & how to update them.
MMEC	B.TECH CSE 5TH SEM	Project	To provide students knowledge to use modern tools necessary for computer projects. Students will be able to make comprehensive use of the technical knowledge gained from previous courses.
MMEC	B.TECH CSE 6TH SEM	Complex Analysis	Demonstrate the ability to integrate knowledge and ideas of complex differentiation and complex integration in a coherent and meaningful manner and use appropriate techniques for solving related problems and for establishing theoretical results.

MMEC	B.TECH CSE 6TH SEM	Ad Hoc Network	An ability to understand the routing concept of mobile Ad Hoc network & also to understand the reliable and unreliable communication in mobile Ad Hoc network, creates the security mechanism for mobile Ad Hoc network & understand the solutions to improve the quality of service in mobile adhoc network.
MMEC	B.TECH CSE 6TH SEM	Cloud Computing	Understand various basic concepts related to cloud computing technologies, the architecture and concept of different cloud models & and techniques, cloud virtualization, cloud storage, data management and data visualization.
MMEC	B.TECH CSE 6TH SEM	Big data and Analytics	The course covers Big Data Fundamentals, including the characteristics of Big Data, the sources Big Data (such as social media, sensor data, and geospatial data), the challenges imposed around information management, data analytics, privacy and security, as well as platforms and architectures.
MMEC	B.TECH CSE 6TH SEM	Internet Web Programming Lab	Student will be able to develop websites using various web technologies like PHP, HTML, Javascript and CSS.
MMEC	B.TECH CSE 6TH SEM	Project	Student will undergo Application based project according to current running technologies.
MMEC	B.TECH CSE 7TH SEM	Fuzzy Mathematics	Helps to learn the unified and exact mathematical basis as well as the general principles of various soft computing techniques with detailed theoretical and practical aspects of intelligent modeling, optimization and control of non-linear systems. Prepare the students for developing intelligent systems through case studies, simulation examples and experimental results.
MMEC	B.TECH CSE 7TH SEM	Software Engineering	It Provides ability to gather and specify requirements of the software projects. It Provide design software requirements with existing tools.
MMEC	B.TECH CSE 7TH SEM	Business Intelligence	It helps in developing skills & training to work in data rich environments & enable you to develop capabilities in business intelligence & analytics. After studying, will be able to bring together information technology, data science & business so that able to analyze communicate the value of the data
MMEC	B.TECH CSE 7TH SEM	Software Engineering Lab	Students will be able to develop DFD, ERP Systems and able to test software using various software testing techniques.
MMEC	B.TECH CSE 7TH SEM	Project	Students will develop high level industry oriented project using industry oriented technologies.

MMEC	B.TECH CSE 8TH SEM	Industrial Project	Provide vital experimental learning opportunity, an educational strategy that links professional knowledge and student interest with the acquisition of knowledge in an applied work group like a company, industry, non-profit, governmental, or community-based organization related to the field of Computer Science &Engineering.
MMEC	B.TECH. ECE 1ST SEM	Elementary Mathematics	Provides the knowledge of differential and integral calculus and enables understanding of linear algebra, linear programming and set theory.
MMEC	B.TECH. ECE 1ST SEM	Applied Physics-I	Provides understanding of waves, optics, superconductivity and its applications and focuses on the physics behind optics and sound in our daily life.
MMEC	B.TECH. ECE 1ST SEM	Engineering Graphics	Inculcate the knowledge of basic geometries, geometric tools, shapes and procedures used for engineering drawings and different concepts of theory of projections, development, sectioning.
MMEC	B.TECH. ECE 1ST SEM	Engineering Mechanics	Students have practice in applying their knowledge of mathematics, science, and engineering and to expand this knowledge into the vast area of "rigid body Mechanics". Students prepared for higher level courses such as courses in Mechanics of Solids, Mechanical Design and Structural Analysis. Analyze various machining processes and calculate relevant quantities such as velocities, forces, powers etc.
MMEC	B.TECH. ECE 1ST SEM	Computer Programming	To gain fundamental knowledge on basics of computers hardware and number systems. Understand general principles of computer languages such as loops (while/for), conditional branching (if/switch), block structure, functions (including parameter passing, prototypes and recursion), input/output, arithmetic rules Develop problem-solving skills to translate 'English' described problems into programs written using the C language. Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures. Understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures.
MMEC	B.TECH. ECE 1ST SEM	Basic Electrical & Electronics Engineering	Introduction to the fundamental concepts of electricity and electronics that involve direct current, alternating current, series and parallel resistive circuits, inductance, capacitance, transformers, motors, electronic components, and various types of test equipment found in industry.
MMEC	B.TECH. ECE 1ST SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.

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MMEC	B.TECH. ECE 1ST SEM	Communication Skills	To converse fluently, without strain with international speakers of English in an accent and lexis that is widely understood across the globe They will be able to produce on their own texts that are coherent and clear and hence make them communicative at workplace. It is a diagnostic and remedial activity integrated with communication practice. Use vocabulary productively. Profitably use the grammar while producing language for communication.
MMEC	B.TECH. ECE 2ND SEM	Differential Equations	Provide the knowledge of various ordinary, partial differential equations and in-depth understanding of various analytical and numerical methods needed for solving different differential equations.
MMEC	B.TECH. ECE 2ND SEM	Applied Physics -II	Provides the insight of basic physics principles to be applied in engineering courses.
MMEC	B.TECH. ECE 2ND SEM	Elementary Biology	Elaboration of biological concepts with emphasis on effective utilization of biological principles for technology development by engineering students.
MMEC	B.TECH. ECE 2ND SEM	EVS (Through swayam)	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMEC	B.TECH. ECE 2ND SEM	Material Science	An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials.
MMEC	B.TECH. ECE 2ND SEM	Business Communication & Preset Skill	This course aims to help you develop the proficiency needed to succeed in today's technologically enhanced workplace by focusing on the development of professional oral and written communication skills.
MMEC	B.TECH. ECE 2ND SEM	Applied Physics Lab	Provide exposure about optical and atomic physics phenomenon through experimental observations and focuses on interpretation and analysis of technical data.
MMEC	B.TECH. ECE 2ND SEM	Basic Simulation Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.

MMEC	B.TECH. ECE 2ND SEM	Advance Computer Programming Lab /SAP	Introductory experimental laboratory explores the design, construction, and debugging of c programming. Develop students understanding about the core building blocks of a development framework.
MMEC	B.TECH. ECE 3RD SEM	Optimized & Calculus of Variable	Application of abstract mathematical theory to optimization problems of calculus of variations and control theory. Abstract nonlinear programming and applications to control systems described by ordinary differential equations, partial differential equations, and functional differential equations. Dynamic programming.
MMEC	B.TECH. ECE 3RD SEM	Multivariate Analysis, Linear Algebra and Special Functions	Familiarizes the students about the analysis on Complex Number field; impart the understanding of techniques to evaluate integrals involving complex valued functions.
MMEC	B.TECH. ECE 3RD SEM	Electronic Devices	This course introduces the basics of semiconductor devices such as diodes, transistors and FETs and teaches the applications of semiconductor devices such as amplifiers.
MMEC	B.TECH. ECE 3RD SEM	Analog Electronics	This course introduces the basic building blocks of linear integrated circuits and teaches the linear and non-linear applications of operational amplifiers. In addition to that the course also introduced the theory and applications of 555 Timer, special ICs like 8038, Universal Active Filters, PLL and familiarization with the concept of ADC and DAC.
MMEC	B.TECH. ECE 3RD SEM	Signals and Systems	This course develops an understanding to describe signals mathematically and to perform mathematical operations on signals and helps students to understand the system properties such as linearity, time invariance, with or without memory, causality, bounded-input bounded-output and stability.
MMEC	B.TECH. ECE 3RD SEM	Networks Analysis & Synthesis	This course familiarizes students with network synthesis and filter design. Provides students the exposure to the electrical networks and analyzes passive networks and their parameters.
MMEC	B.TECH. ECE 3RD SEM	Personality Development	Ability to recognize self capabilities and their evaluation. Ability to understand chosen career pathways through adherence to the codes of conduct and behavior.
MMEC	B.TECH. ECE 3RD SEM	Analog Electronics Lab	This course familiarizes the students with the knowledge of various Integrated circuits and develops the designing skills in the students. It also makes the students able to simulate the circuit with the help of Multisim software.

MMEC	B.TECH. ECE 3RD SEM	Electronic Devices Lab	This course intends to provide an overview of the principles, operation and application of the analog building blocks like diodes, BJT, FET etc for performing various functions. The course also provides the practical exposure on existing or future analog circuits.
MMEC	B.TECH. ECE 3RD SEM	PCB Designing Lab	This course aware the students with the software available for simulation and PCB designing and teaches students about the PCB designing, component mounting and soldering.
MMEC	B.TECH. ECE 4TH SEM	Complex Analysis	This course is an introductory course on Complex Analysis. It introduces students to the complex numbers system and varieties of operations, analyses and problems that may arise within the context. It also equips the students with mathematical techniques and skills to handles such cases.
MMEC	B.TECH. ECE 4TH SEM	Computer Organization & Architecture	This course familiarizes students with the basic knowledge of computer organization, CPU concepts with instruction fetching and decoding. Make students to understand and built the concepts of microprogramming control, memory system, addressing modes and I/O organization sets.
MMEC	B.TECH. ECE 4TH SEM	Digital Signal Processing	This course is used to understand the meaning and implications of the properties of systems and signals, understand the Transform domain and its significance and problems related to computational complexity.
MMEC	B.TECH. ECE 4TH SEM		The design of linear digital filters FIR and IIR using different techniques and their associated structures, concept of Multi-rate signal processing and sample rate conversion.
MMEC	B.TECH. ECE 4TH SEM	Digital Electronics	This course develops an ability to analyze and design combinational and sequential logic circuits. The course also provides an exposure to computer logic circuits design and practical digital circuit design.
MMEC	B.TECH. ECE 4TH SEM	Principles of Communication	This course familiarizes students with analog modulation schemes and working of different analog transmitters and receivers. Make students aware about the noise and its impact over communication system.
MMEC	B.TECH. ECE 4TH SEM	Electromagnetic Theory	This course visualizes the nature of electromagnetic field and helps to analyze complex circuits and transmission lines concept using circuit theory.
MMEC	B.TECH. ECE 4TH SEM	Digital Signal Processing Lab	This lab introduces basics of MATLAB programming, make students able to program digital signal processing algorithm in MATLAB.

MMEC	B.TECH. ECE 4TH SEM	Digital Electronics Lab	This course will impart the concepts of digital electronics practically and train students with all the equipments which will help in improving the basic knowledge. It also provides students basic experimental experiences in the operation of various families of digital circuits.
MMEC	B.TECH. ECE 4TH SEM	Project	To introduce students a knowledge to use modern tools necessary for electronics projects. Students will be able to make comprehensive use of the technical knowledge gained from previous courses.
MMEC	B.TECH. ECE 5TH SEM	Discrete Mathematics	The purpose of this course is to understand and use (abstract) discrete structures. In particular, this course is meant to introduce logic, proofs, sets, relations, functions, counting, and probability.
MMEC	B.TECH. ECE 5TH SEM	Probability and Statistics	This course provides an elementary introduction to probability and statistics with applications. The course emphasizes on probabilistic foundations required to understand probability models and statistical methods.
MMEC	B.TECH. ECE 5TH SEM	Control Systems	This subject deals with the control system which is used in almost every project in the industries these days and also in our day to day life.
MMEC	B.TECH. ECE 5TH SEM	Introduction to Digital Communication	To study the analog and digital transformation through sampling and quantization process, the essential digital communication concepts by understanding the elements of Digital Communication System.
MMEC	B.TECH. ECE 5TH SEM	Fiber Optic Communication	This course makes familiarization with optical fibers, their structures and working. The various optical sources, the optical amplifier & their applications.
MMEC	B.TECH. ECE 5TH SEM	Mathematics Lab	Gain practical exposure through different types of scientific programming problems and mathematical modeling. Students will able to solve wide range of engineering problems.
MMEC	B.TECH. ECE 5TH SEM	Communications Lab	It demonstrates Digital Communication concepts by hands-on experience using kits and using simulation environments such as MATLAB/Simulink/VisSim.
MMEC	B.TECH. ECE 5TH SEM	Project	The purpose of the course is to develop an understanding of independent research through the study of a particular Electronics Engineering topic of interest. The special project is an exercise in the professional application of specialist skills and experience developed in Electronics Engineering program. Research topics will be mainly based on principal experimental, theoretical or applied, will be chosen in consultation with a project supervisor.

MMEC	B.TECH. ECE 6TH SEM	Fuzzy Maths	This course provides the fundamentals of classical set theory and fuzzy set theory.
MMEC	B.TECH. ECE 6TH SEM	VLSI Design	This course deals with principles and operation of MOSFET with their types, Electrical behavior and fabrication. Scaling in VLSI with delay, Stick Diagrams, Design rules and Layout.
MMEC	B.TECH. ECE 6TH SEM	Antennas and Wave Propagation	This course is meant to orient the students to take off in the areas of Antenna & wave propagation with concise description of different types of antennas. The course also provides various techniques involved in various Antenna Parameter measurement.
MMEC	B.TECH. ECE 6TH SEM	Microprocessors & Microcontrollers	This course Introduces the fundamentals of microprocessors with the detailed description of 8-bit and 16-bit microprocessors, their architecture and programming. The course also introduces the concept of interfacing and various types of peripheral devices used with microprocessors.
MMEC	B.TECH. ECE 6TH SEM	Microprocessors & Microcontrollers Lab	This course makes the students to understand and gain knowledge about experiments with Microprocessor and Microcontrollers kits and Software as per the industry requirements.
MMEC	B.TECH. ECE 6TH SEM	Project	Project involves integration and implementation of knowledge and skills acquired during the degree program. It involves group work with hands on experience on some live projects in the field of Electronics and Communication Engineering
MMEC	B.TECH. ECE 7TH SEM	Mobile Communication & Networks	Introduction to fundamental concepts of wireless communication technologies and its applications. Familiarize the students with the concepts and the issues involved in the design of wireless networks.
MMEC	B.TECH. ECE 7TH SEM	Project	Students will develop and practice electronics engineering design skills by working on a team based project.
MMEC	B.TECH. ECE 7TH SEM	Communication Networks Project Laboratory	This course familiarizes students with transmission media, connector, Hubs, Switches, Implementation of client server applications with TCP/UDP Socket Programming in a standalone Machine.

MMEC	B.TECH. ECE 8TH SEM	Industrial Project (24 Week)	Provide vital experiential learning opportunity, an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting like a company, industry, non-profit, governmental, or community-based organization related to the field of Electronics & Communication Engineering.
MMEC	M.SC. MATHMATICS 1ST SEM	Advanced Abstract Algebra	This course will provide information about groups,sub groups,characteristics of a field, prime subfield and ideal theory in the polynomial ring. It also imparts knowledge about modules.
MMEC	M.SC. MATHMATICS 1ST SEM	Real Analysis	This course will provide information about the properties of real numbers, series of real numbers. It also imparts knowledge about convergence and divergence of series, differentiability of real functions and related problems.
MMEC	M.SC. MATHMATICS 1ST SEM	Topology	This course will provide information about basic concepts of topological spaces. Students will become competent in writing proofs and to apply special imagination to theory.
MMEC	M.SC. MATHMATICS 1ST SEM	Complex Analysis	This course will provide information about real numbers and to learn techniques of complex analysis that make practical problems easy to learn.
MMEC	M.SC. MATHMATICS 1ST SEM	Differential Equations	This course will provide information about Ordinary differential equation and its applications in different fields.
MMEC	M.SC. MATHMATICS 2ND SEM	Measure theory and Integration	This course will provide information about main properties of the measure theory. It also imparts knowledge about lebague integration.
MMEC	M.SC. MATHMATICS 2ND SEM	Differential Geometry	This course will provide information about geometric quantities such as length, curvature and Torsion associated to planar and spatial curves.
MMEC	M.SC. MATHMATICS 2ND SEM	Partial differential Equations	This course will provide information about importance of Partial differential equation and its applications in different field of science.
MMEC	M.SC. MATHMATICS 2ND SEM	Discrete Mathematics	This course will provide information about basic concepts of set theory,logic,proof techniques, binary relations, graph and trees. It also imparts knowledge about effective use of appropriate technology, produce convincing arguments, conceive and/or analyses basic mathematical proofs and discriminate between valid and unreliable arguments.

MMEC	M.SC. MATHMATICS 2ND SEM	Analytical Mechanics and Variational Methods	This course will provide information about the variational techniques and mechanics that exists in different fields of science.
MMEC	M.SC. MATHMATICS 3RD SEM	Functional Analysis	This course will provide information about bounded linear maps between topological linear spaces of various kinds. This provides the basic tools for the development of such areas such as quantum mechanics, harmonic analysis and stochastic calculus.
MMEC	M.SC. MATHMATICS 3RD SEM	Integral Transforms	This course will provide information about Integral transforms so that the knowledge can be used in different fields of Science.
MMEC	M.SC. MATHMATICS 3RD SEM	Optimization Techniques	This course will provide information about solution of real life problems related to business using various optimization techniques.
MMEC	M.SC. MATHMATICS 4TH SEM	Integral Equation	This course will provide information about the integral equation that exists in different fields of science.
MMEC	M.SC. MATHMATICS 4TH SEM	Operation Research	This course will provide information how to solve real life problems related to business using various optimization techniques.
MMEC	M.SC. MATHMATICS 4TH SEM	Theoretical Seismology	This course will provide information about basic concepts in Theoretical Seismology, including plane waves, harmonic wave, P-waves, SV-waves, progressive waves and stationary waves. This course will present and emphasize those topics in order to aid the student in his future mathematical studies.
MMEC	B.SC. MEDICAL 1 SEM	Chemistry-I	The course provides basic idea to the introductory topics of three major branches of chemistry. After successful completion of the course, the students will have the knowledge of structure of atom, types of bonding, basics of organic chemistry and the concepts of ionic equilibria.
MMEC	B.SC. MEDICAL 1 SEM	Chemistry Practical – I	To provide continued development of laboratory skills, interpretation of data and report writing. On successful completion of the course students will be able to develop expertise relevant to the professional practice of chemistry.

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MMEC	B.SC. MEDICAL 1 SEM	Chemistry – I A	The course provides an introduction of the molecules playing a key role in biological processes of life and includes Carbohydrates , proteins, lipids, nucleic acids etc. and their functions. Examples during learning will be drawn from both plants and animals. On satisfying the requirements of this course, students will have the knowledge of the relationship between chemistry and various molecules of life . The students will be able to discuss the elementary biochemistry of the molecules of life and relationship between the structure and functions of biomolecules.
MMEC	B.SC. MEDICAL 1 SEM	Chemistry Practical – I A	The aim of practical course is to cover aspects of the chemistry of carbohydrates, proteins, lipids and nucleic acids. On completion of the course, Students will have the knowledge and skills to identify the different biomolecules , their nature and properties. The students will be able to accurately record the experimental data and its use to synthesise written reports to present the data meaningfully and discuss significance of results.

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MMEC	B.SC. MEDICAL 1 SEM	Zoology – I	The course aims to enlighten the students about wide range of animals and their similarities, differences, and environmental adaptations. This course gives an overview of the invertebrate and vertebrate animals, including sponges, cnidarians, flatworms, nematodes, annelids, molluscs, arthropods, echinoderms, minor protostome and deuterostome groups, invertebrate chordates, fishes, amphibians, reptiles, birds, and mammals. Topics include general characterizations of animal, their classification and phylogeny, anatomical structures, adaptations and functions.
MMEC	B.SC. MEDICAL 1 SEM	Zoology Practical – I	Laboratory practical work mainly emphasises on observational and investigatory approaches to study the features (characteristics, taxonomy and phylogeny of the most important animal phyla) of animals using live and preserved specimens. Field excursions will further allow students to observe animals in their natural environments.
MMEC	B.SC. MEDICAL 2 SEM	Chemistry – II	To develop the student's appreciation of the chemistry, uses and importance of main group elements, their trends and patterns in inorganic chemistry. Also the coruse aims at the functional group chemistry and its importance in synthesis. Discussion on various states of matter will be covered towards completion of the course. At the end of course, students will have enough knowledge of the chemistry of main group elements and how those can be used to explain the trends in periodic table, basic idea of functional groups and basic understanding of core area of physical chemistry.
MMEC	B.SC. MEDICAL 2 SEM	Chemistry Practical – II	The course will cover laboratory safety, basic laboratory operations and simple laboratory exercises. At the end of course, the students will be able to know separation and purification of organic compounds, melting point determination, paper chromatography, skills in titrations and handling physical instruments.

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MMEC	B.SC. MEDICAL 2 SEM	Chemistry – II A	The aim of this course is to give an introductory treatment to the methods used in analysis of materials. For each technique, the principles of operation, the instrumentation required, the information provided and the methods of data analysis will be covered. The students will be able to differentiate between classical and instrumental methods of chemical analysis, to understand spectrometric methods of chemical analysis and to differentiate among molecular absorption, atomic absorption and atomic emission spectroscopy.
MMEC	B.SC. MEDICAL 2 SEM	Chemistry Practical – II A	The objective of this course is to provide students with an opportunity to identify different types of analytical instruments and their practical use for chemical analysis. On successful completion of the course, the students will be able to explain different types of instrumental methods and analytical techniques.

MMEC	B.SC. MEDICAL 2 SEM	Zoology Practical – II	This practical course will enable the student to understand the evolutionary aspects between the body parts of various organisms of different species. Furthermore, it will confer the understanding of concepts of living structures and morphology (the study of the forms and their variations). The genetic bases of development and evolution of different species will also be discussed. Therefore, without comparative anatomy, naming and understanding of organisms seems to be impossible. In addition to this descriptive embryology, causal embryology, phylogeny, palaeontology and systematics biology based practical would be conducted so as to understand both biology as well as evolution of species.
MMEC	B.SC. MEDICAL 3 SEM	Chemistry – III	To impart advanced knowledge of representative elements of the periodic table, some of the organic compounds and basics of thermodynamics. The students will acquire knowledge of the essential elements required for all living organisms, methods of preparation, properties and reactivity of alcohols, phenols, ethers, epoxides ans sulphur containing compounds and various thermodynamic properties.
MMEC	B.SC. MEDICAL 3 SEM	Chemistry Practical – III	To develop the chemical synthetic and process technological skills. At the end of course, the students will have an expertise in advanced titrimetric methods of analysis, qualitative organic analysis, organic preparations and a silled hand in physical instruments.
MMEC	B.SC. MEDICAL 3 SEM	IT Skills for Chemists	To develop practical hands in computers along with its theoretical knowledge. At the end of course, students will have enough knowledge to implement computers in chemistry.
MMEC	B.SC. MEDICAL 3 SEM	Chemistry – III A	The course gives a thorough introduction to organometallic chemistry with a focus on the transition metals. The course starts with fundamental molecular properties and gradually develops this to practical applied catalysis. The application of organometallics in catalysis is highlighted with selected important industrial processes. Completion of the course will provide students a good overview of the fundamental principles of organotransition metal chemistry, knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes and important applications of organometallic homogeneous catalysis in large and small scale production.
MMEC	B.SC. MEDICAL 3 SEM	Chemistry Practical – III A	To provide scientific skills to the students in qualitative mixture analysis. In this practical course, the students will acquire practical skills in inorganic qualitative analysis.

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MMEC	B.SC. MEDICAL 3 SEM	Botany – III	Investigation of Angiosperms (flowering plants) and evaluate the differences between monocots and dicots.
MMEC	B.SC. MEDICAL 3 SEM	Botany Practical – III	The basic concept of meristems through permanent slides and photographs, Tissues (parenchyma, collenchyma and sclerenchyma).

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MMEC	B.SC. MEDICAL 3 SEM	Zoology – III	To teach students basic terms and processes in animal biochemistry and physiology.
MMEC	B.SC. MEDICAL 3 SEM	Zoology Practical – III	The course aims to provide an understanding of the core principles and topics of Biochemistry and physiology with their experimental basis, and to enable students to acquire a specialized knowledge and understanding of selected aspects by means of a lecture and practical series on the following topics

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MMEC	B.SC. MEDICAL 4 SEM	Chemistry – IV	To understand the chemistry of transition elements, Lanthanoids and Actinoids, Coordination chemistry, Carbonyl group chemistry, Chemical equilibria and Solution Chemistry. At the end of course, students will have enough knowledge of transition and inner transition metal chemistry, Carbonyl group chemistry including name reactions, Equilibria and colligative properties in solution chemistry.

MMEC	B.SC. MEDICAL 4 SEM	Chemistry Practical – IV	To provide a scientific skilled hand in quantitative analysis, preparative techniques and experimental skills in the topics like equilibria and colligative properties. The students will acquire practical skills in inorganic quantitative analysis, organic preparations, handling of instruments and practical skills in physical chemistry.
MMEC	B.SC. MEDICAL 4 SEM	Basic Analytical Chemistry	: This course on analytical chemistry intends to enlighten the students on topics like separation techniques of mixtures, soil analysis, water analysis, food analysis and cosmetic products analysis. This evokes a sense of environmental concern in students. In this introductory course, the students will acquire knowledge of the basic concepts of analytical chemistry and its applications.
MMEC	B.SC. MEDICAL 4 SEM	Chemistry – IV A	To develop awareness among students on the topics like quantum chemistry and spectroscopy. Students will be able to acquire knowledge about the basic principles and applications of quantum technique in computational studies and molecular spectroscopy.
MMEC	B.SC. MEDICAL 4 SEM	Chemistry Practical – IV A	To provide hands on training on analtical instruments such as UV/Vis spectrophotometer and Colourimeter. On successful completion of the course, the students will be able to work on spectrophotometer and colourimeter. They will aquire knowledge to develop analytical methods and their applications.
MMEC	B.SC. MEDICAL 4 SEM	Botany – IV	This course will train students in plant physiology and metabolism who are able to work in all related areas of plant science. Understanding of physiobiological processes – photosynthesis, plant hormones relation, metabolic pathways, etc. will enhace the basic knowledge of students.

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MMEC	B.SC. MEDICAL 4 SEM		This subject incorporates the study of classical genetic, modern genetic and evolutionary biology. Both genetics and evolutionary biology are interrelated subjects and explains the various types of evolution in different organisms. Evolutionary Biology integrates several disciplines of Biology in a complex and interactive manner, where a deep understanding of the subject demands knowledge in diverse areas. It also helps the students to gain deep knowledge of linkage, crossing over, genetic variation, mutation, gene mapping and related phenomenon.

MMEC	B.SC. MEDICAL 5 SEM	Chemistry-V	The course intends to enlighten the students on the chemistry of acids and bases, nitrogen containing organic compounds, polynuclear hydrocarbons and electrochemistry. The students will acquire a knowledge about the general inorganic chemistry, a few organic compounds and electrochemistry.
MMEC	B.SC. MEDICAL 5 SEM	Chemistry Practical – V	To provide a skilled practical hand in quantitative analysis, qualitative organic analysis and experimental skills in potentiometric titrations. The students will acquire practical skills in quantitative and qualitative analysis and titrations.
MMEC	B.SC. MEDICAL 5 SEM	Analytical Clinical Biochemistry	This course on analytical clinical biochemistry intends to enlighten the students on the knowledge of various biomolecules supporting life processes and their laboratory testing. Completion of the course will provide students enough information and testing modes of the carbohydrates, proteins, lipids, enzymes, DNA and RNA
MMEC	B.SC. MEDICAL 5 SEM	Chemistry – V A	This course on organic chemistry intends to make students get an idea about various natural products like alkaloids, terpenes alongwith dyes, polymers and different synthetic drugs and pharmaceuticals. In this course, the students will acquire knowledge about the chemistry of natural products, dyes, polymers and medicinal organic chemistry
MMEC	B.SC. MEDICAL 5 SEM	Chemistry Practical – V	To provide hands on extraction and isolation of plant pigments and food other products and preparation of polymers, dyes and pharmaceuticals. On successful completion of this practical course, the students will be able to perform synthetic, extractive and qualitative operations.
MMEC	B.SC. MEDICAL 5 SEM	Botany– V	Identify principles and describe the history of human interactions with plants.

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MMEC	B.SC. MEDICAL 6 SEM	Chemistry-VI	The course intends to enlighten the students on principles involved in qualitative inorganic analysis, heterocyclic chemistry and the topics like phase equilibria and kinetics. The students will be able to apply qualitative analysis towards samples and have a knowledge about the chemistry of heterocyclic compounds and a few essential topics in physical chemistry.
MMEC	B.SC. MEDICAL 6 SEM	Chemistry Practical – VI	To provide a skilled hand in qualitative analysis, preparative techniques and experimental skills in the topics like phase equilibria and kinetics. The students will acquire practical skills in inorganic , organic and physical chemistry.
MMEC	B.SC. MEDICAL 6 SEM	Pesticide Chemistry	The course intends to impart knowledge about the chemistry and importance of pesticides. The students will be able to discuss and prepare pesticides.
MMEC	B.SC. MEDICAL 6 SEM	Chemistry – VI A	To impart knowledge of inorganic polymers, biological importance of elements , concepts of conductance and photochemistry. After this course the students will acquire knowledge of polymers, importance of trace and essential elements, conductance and various photochemical processes.
MMEC	B.SC. MEDICAL 6 SEM	Chemistry Practical – VI A	To improve knowledge of students to the expertise level by doing evaluation and practices. The students will acquire expert practical skills in dealing with the instruments.

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MMEC	B.SC. MEDICAL 6 SEM	Botany-VI	The aim of the course is to introduce basic methods in cell and molecular biology. The practical course includes practical exercises in modern experimental techniques and also training in literature search and the use of Internet. Student will learn structure of prokaryotes and eukaryotes. Cell organelles and their functions will be described. Students will prepare slides for observation of mitotic division. Students should have knowledge to determine the effect of temperature and organic solvents on semi-permeable membranes. Students will learn DNA packaging by micrographs. Students should be able to perform the experimentation related to dialysis, plasmolysis, deplasmolysis, cell size measurement, structure of nuclear pore complex, special chromosome structure. Selected analytical methods will be demonstrated and presented.
MMEC	B.SC. MEDICAL 6 SEM	Zoology – VI	Reproductive Biology covers a variety of topics on reproductive physiology, endocrinology related diseases, receptor studies, andrology, embryology, infertility, assisted reproduction, contraception, obstetrics and gynecology, animal breeding and animal reproduction. This course certainly highlights the various approaches of diagnosis and management of reproductive physiology associated diseases by utilizing modern equipment's.

MMEC	B.SC. MEDICAL 6 SEM	Zoology Practical– VI	In present scenario, the issues of fertility and its control, population growth and family planning, induced abortion and sexually transmitted diseases have been increased. Therefore, a course of lectures and practical have been designed which would cover the major aspects of reproductive biology including control of reproduction; sexual differentiation and gonadal development; fertilisation and early embryonic development and lactation.
MMEC	B.SC NON MED 1 SEM	Chemistry-I	The course provides basic idea to the introductory topics of three major branches of chemistry. After successful completion of the course, the students will have the knowledge of structure of atom, types of bonding, basics of organic chemistry and the concepts of ionic equilibria.
MMEC	B.SC NON MED 1 SEM	Chemistry Practical – I	To provide continued development of laboratory skills, interpretation of data and report writing. On successful completion of the course students will be able to develop expertise relevant to the professional practice of chemistry.
MMEC	B.SC NON MED 1 SEM	Chemistry – I A	The course provides an introduction of the molecules playing a key role in biological processes of life and includes Carbohydrates , proteins, lipids, nucleic acids etc. and their functions. Examples during learning will be drawn from both plants and animals. On satisfying the requirements of this course, students will have the knowledge of the relationship between chemistry and various molecules of life . The students will be able to discuss the elementary biochemistry of the molecules of life and relationship between the structure and functions of biomolecules.
MMEC	B.SC NON MED 1 SEM	Chemistry Practical – I A	The aim of practical course is to cover aspects of the chemistry of carbohydrates, proteins, lipids and nucleic acids. On completion of the course, Students will have the knowledge and skills to identify the different biomolecules , their nature and properties. The students will be able to accurately record the experimental data and its use to synthesise written reports to present the data meaningfully and discuss significance of results.

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MMEC	B.SC NON MED 2 SEM	Chemistry – II	To develop the student's appreciation of the chemistry, uses and importance of main group elements, their trends and patterns in inorganic chemistry. Also the coruse aims at the functional group chemistry and its importance in synthesis. Discussion on various states of matter will be covered towards completion of the course. At the end of course, students will have enough knowledge of the chemistry of main group elements and how those can be used to explain the trends in periodic table, basic idea of functional groups and basic understanding of core area of physical chemistry.
MMEC	B.SC NON MED 2 SEM	Chemistry Practical – II	The course will cover laboratory safety, basic laboratory operations and simple laboratory exercises. At the end of course, the students will be able to know separation and purification of organic compounds, melting point determination, paper chromatography, skills in titrations and handling physical instruments.
MMEC	B.SC NON MED 2 SEM	Chemistry – II A	The aim of this course is to give an introductory treatment to the methods used in analysis of materials. For each technique, the principles of operation, the instrumentation required, the information provided and the methods of data analysis will be covered. The students will be able to differentiate between classical and instrumental methods of chemical analysis, to understand spectrometric methods of chemical analysis and to differentiate among molecular absorption, atomic absorption and atomic emission spectroscopy.
MMEC	B.SC NON MED 2 SEM	Chemistry Practical – II A	The objective of this course is to provide students with an opportunity to identify different types of analytical instruments and their practical use for chemical analysis. On successful completion of the course, the students will be able to explain different types of instrumental methods and analytical techniques.
MMEC	B.SC NON MED 3 SEM	Chemistry – III	To impart advanced knowledge of representative elements of the periodic table, some of the organic compounds and basics of thermodynamics. The students will acquire knowledge of the essential elements required for all living organisms, methods of preparation, properties and reactivity of alcohols, phenols, ethers, epoxides ans sulphur containing compounds and various thermodynamic properties.
MMEC	B.SC NON MED 3 SEM	Chemistry Practical – III	To develop the chemical synthetic and process technological skills. At the end of course, the students will have an expertise in advanced titrimetric methods of analysis, qualitative organic analysis, organic preparations and a silled hand in physical instruments.
MMEC	B.SC NON MED 3 SEM	IT Skills for Chemists	To develop practical hands in computers along with its theoretical knowledge. At the end of course, students will have enough knowledge to implement computers in chemistry.

MMEC	B.SC NON MED 3 SEM	Chemistry – III A	The course gives a thorough introduction to organometallic chemistry with a focus on the transition metals. The course starts with fundamental molecular properties and gradually develops this to practical applied catalysis. The application of organometallics in catalysis is highlighted with selected important industrial processes. Completion of the course will provide students a good overview of the fundamental principles of organotransition metal chemistry, knowledge about structure and bonding issues to understand the stability and reactivity of simple organometallic complexes and important applications of organometallic homogeneous catalysis in large and small scale production.
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MMEC	B.SC NON MED 4 SEM	Chemistry – IV	To understand the chemistry of transition elements, Lanthanoids and Actinoids, Coordination chemistry, Carbonyl group chemistry, Chemical equilibria and Solution Chemistry. At the end of course, students will have enough knowledge of transition and inner transition metal chemistry, Carbonyl group chemistry including name reactions, Equilibria and colligative properties in solution chemistry.
MMEC	B.SC NON MED 4 SEM	Chemistry Practical – IV	To provide a scientific skilled hand in quantitative analysis, preparative techniques and experimental skills in the topics like equilibria and colligative properties. The students will acquire practical skills in inorganic quantitative analysis, organic preparations, handling of instruments and practical skills in physical chemistry.
MMEC	B.SC NON MED 4 SEM	Basic Analytical Chemistry	This course on analytical chemistry intends to enlighten the students on topics like separation techniques of mixtures, soil analysis, water analysis, food analysis and cosmetic products analysis. This evokes a sense of environmental concern in students. In this introductory course, the students will acquire knowledge of the basic concepts of analytical chemistry and its applications.
MMEC	B.SC NON MED 4 SEM	Chemistry – IV A	To develop awareness among students on the topics like quantum chemistry and spectroscopy. Students will be able to acquire knowledge about the basic principles and applications of quantum technique in computational studies and molecular spectroscopy.
MMEC	B.SC NON MED 4 SEM	Chemistry Practical – IV A	To provide hands on training on analtical instruments such as UV/Vis spectrophotometer and Colourimeter. On successful completion of the course, the students will be able to work on spectrophotometer and colourimeter. They will aquire knowledge to develop analytical methods and their applications.

MMEC	B.SC NON MED 5 SEM	Chemistry-V	The course intends to enlighten the students on the chemistry of acids and bases, nitrogen containing organic compounds, polynuclear hydrocarbons and electrochemistry. The students will acquire a knowledge about the general inorganic chemistry, a few organic compounds and electrochemistry.
MMEC	B.SC NON MED 5 SEM	Chemistry Practical – V	To provide a skilled practical hand in quantitative analysis, qualitative organic analysis and experimental skills in potentiometric titrations. The students will acquire practical skills in quantitative and qualitative analysis and titrations.
MMEC	B.SC NON MED 5 SEM	Analytical Clinical Biochemistry	This course on analytical clinical biochemistry intends to enlighten the students on the knowledge of various biomolecules supporting life processes and their laboratory testing. Completion of the course will provide students enough information and testing modes of the carbohydrates, proteins, lipids, enzymes, DNA and RNA.
MMEC	B.SC NON MED 5 SEM	Chemistry – V A	This course on organic chemistry intends to make students get an idea about various natural products like alkaloids, terpenes alongwith dyes, polymers and different synthetic drugs and pharmaceuticals. In this course, the students will acquire knowledge about the chemistry of natural products, dyes, polymers and medicinal organic chemistry.
MMEC	B.SC NON MED 5 SEM	Chemistry Practical – V A	To provide hands on extraction and isolation of plant pigments and food other products and preparation of polymers, dyes and pharmaceuticals. On successful completion of this practical course, the students will be able to perform synthetic, extractive and qualitative operations.
MMEC	B.SC NON MED 6 SEM	Chemistry-VI	The course intends to enlighten the students on principles involved in qualitative inorganic analysis, heterocyclic chemistry and the topics like phase equilibria and kinetics. The students will be able to apply qualitative analysis towards samples and have a knowledge about the chemistry of heterocyclic compounds and a few essential topics in physical chemistry.
MMEC	B.SC NON MED 6 SEM	Chemistry Practical – VI	To provide a skilled hand in qualitative analysis, preparative techniques and experimental skills in the topics like phase equilibria and kinetics. The students will acquire practical skills in inorganic , organic and physical chemistry.
MMEC	B.SC NON MED 6 SEM	Pesticide Chemistry	The course intends to impart knowledge about the chemistry and importance of pesticides. The students will be able to discuss and prepare pesticides.

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MMEC	B.SC NON MED 6 SEM	Chemistry – VI A	To impart knowledge of inorganic polymers, biological importance of elements , concepts of conductance and photochemistry. After this course the students will acquire knowledge of polymers, importance of trace and essential elements, conductance and various photochemical processes.
MMEC	B.SC NON MED 6 SEM	Chemistry Practical – VI A	To improve knowledge of students to the expertise level by doing evaluation and practices. The students will acquire expert practical skills in dealing with the instruments.
MMEC	MSC CHEMISTRY 1 SEM	Inorganic Chemistry - I	This paper helps to impart knowledge of molecular symmetry, Group Theory, Electronic Structure, Spectra Spin, Magnetism of Transition Metal Complexes, Metal-Ligand Bonding and Metal π-complexes.
MMEC	MSC CHEMISTRY 1 SEM	Organic Chemistry - I	This paper helps to impart advanced knowledge of nature of bonding in Organic molecules,reactive Intermediates, reaction mechanism, structure and reactivity, aliphatic nucleophilic substitution and aliphatic electrophilic substitution of organic compounds.
MMEC	MSC CHEMISTRY 1 SEM	Physical Chemistry - I	This paper helps to impart knowledge of advanced electrochemistry, classical and statistical thermodynamics. And to acquire knowledge of the quantum chemical description of chemical bonding, reactivity and their applications in molecular spectroscopy and inorganic chemistry.
MMEC	MSC CHEMISTRY 1 SEM	Bio-Science	This paper helps to introduce structure, function and organization of various bio-molecules present in the living cell./ To study Vectors, Matrices and Determinants, Logarithm, Graphical Representation of Equations, Partial Differentiation, Differential Calculus .
MMEC	MSC CHEMISTRY 1 SEM	Inorganic Chemistry Practical I	This paper helps to study the synthesis of inorganic complexes and their characterization with instrumental techniques.
MMEC	MSC CHEMISTRY 1 SEM	Organic Chemistry Practical I	This paper aims to develop experimental skills of various separation and purification techniques in organic chemistry

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MMEC	MSC CHEMISTRY 1 SEM	Physical Chemistry Practical I	This practical helps students to have hand-on experiences of techniques for verifying physical and chemical properties.
MMEC	MSC CHEMISTRY 2 SEM	Inorganic Chemistry II	This paper explain the importance Chemistry of Lanthanides and Actinides, Metal ions in biology, Molecular mechanism of ion transport across membrane, Ionophores, Photosynthesis, Photo system I and Photo system II, nitrogen fixation, oxygen uptake proteins, cytochromes, and ferrodoxins
MMEC	MSC CHEMISTRY 2 SEM	Organic Chemistry II	This paper impart knowledge of mechanisms of Aromatic Electrophilic substitution, Aromatic Nucleophilic substitution, Free Radicals, Elimination Reaction, Neighbouring group participation, Carbocation rearrangement, Addition to Carbon-Carbon Multiple Bond, Addition to Carbon-Heteroatom Multiple Bond in organic chemistry.
MMEC	MSC CHEMISTRY 2 SEM	Physical Chemistry II	THe main objective of this paper to impart good knowledge of electrochemistry, chemical kinetics, Quantum machenics, and UV,IR and Raman spectroscopy.
MMEC	MSC CHEMISTRY 2 SEM	Spectroscopy and its Application in Organic Chemistry	This paper helps the students to hacve sound knowledge of spectroscopic techniques (UV,IR,NMR, C^{13} and Mass) for structural analysis of organic compounds.
MMEC	MSC CHEMISTRY 2 SEM	Inorganic Chemistry Practical II	This practical teaches the synthesis of inorganic complexes and
MMEC	MSC CHEMISTRY 2 SEM	Organic Chemistry Practical II	This practical helps the students to hacve sound knowledge of laboratory techniques for organic synthesis and characterization.
MMEC	MSC CHEMISTRY 2 SEM	Physical Chemistry Practical II	This lab covers different techiniques of titration viz.; conductometry: Potentiometry/ pH metry Viscosity, Chemical Kinetics, Spectrophotometry and Calorimetry.

MMEC	B.SC. PHY (HONS) 1 SEM	Mechanics	This course describes conservation laws, motion under inverse square force, special theory relativity and mechanics of collisions.
MMEC	B.SC. PHY (HONS) 1 SEM	Mechanics Lab	This course covers experiments related to mechanics: moment of inertia of a fly-wheel, determination of Young's pendulum, determine the height of a building using a Sextant, the value of g using Bar Pendulum.
MMEC	B.SC. PHY (HONS) 1	Mathematical	This course includes Vector calculus, Vector integration, Orthogonal and curvilinear coordinates, Dirac Delta function and its

	SEM	Physics-I	properties.
MMEC	B.SC. PHY (HONS) 2SEM	Electricity, Magnetism and Electromagnetic Theory	This course comprises vector calculus, Coulomb's law and electric field, electric potential and electric current, magnetic field and electromagnetic induction and electromagnetic theory.
MMEC	B.SC. PHY (HONS) 2SEM	Electricity, Magnetism and Electromagnetic Theory Lab	This course incorporates experiments related to electricity and magnetism: Study the variation of magnetic field with distance along the axis of Circular coil carrying current, To find frequency of AC mains using sonometer, compare capacitances of two capacitors using De-Sauty bridge.
MMEC	B.SC. PHY (HONS) 2SEM	Analog Systems and Applications	This course includes semiconductor devices, two terminal devices and their applications, bipolar junction transistor and operational amplifiers.
MMEC	B.SC. PHY (HONS) 3 SEM	Thermal Physics and Statistical Mechanics	This course comprises of Entropy and Carnot's cycle, Maxwell thermodynamics relationships and their applications, basic ideas of statistical physics, Bose Einstein and Fermi- Dirac statistics.
MMEC	B.SC. PHY (HONS) 3 SEM	Thermal Physics and Statistical Mechanics Lab	This course includes experiments related with thermal physics and statistical physics.
MMEC	B.SC. PHY (HONS) 3 SEM	Digital Systems and Applications	This course constitutes of digital circuits, Boolean algebra, integrated circuits, shift registers and counters.
MMEC	B.SC. PHY (HONS) 3 SEM	Renewable Energy and Energy Harvesting (SEC-1)	This course includes fossil fuels and alternate sources of energy, solar energy, wind energy harvesting, ocean energy, hydro energy, piezoelectric energy harvesting and electromagnetic energy harvesting.
MMEC	B.SC. PHY (HONS) 4 SEM	Waves and Optics	This course includes superposition of harmonic oscillator, sound, ultrasonic waves, Interference by division of wave-front, interference by division of amplitude, diffraction and polarization.
MMEC	B.SC. PHY (HONS) 4	Waves and Optics	This course includes experiments related to interference, diffraction and polarization.

	SEM	Lab	
MMEC	B.SC. PHY (HONS) 4 SEM	Computational Physics (SEC-2)	It deals with Fortran programming, subscripted variable and simulation.
MMEC	B.SC. PHY (HONS) 4 SEM	Atomic Spectroscopy	It inculcates the understanding of Theory, hydrogen fine structure, helium atom spectrum and hyper fine structure of spectral lines.
MMEC	B.SC. PHY (HONS) 5SEM	Elements of Modern Physics	This course includes Foundation, black body radiation, Photoelectric effect, Schrodinger equation, conditions for physical acceptability of wave functions, Quantum theory of hydrogen atom, Lasers, Nuclear Properties, Radioactivity. Fission and fusion.
MMEC	B.SC. PHY (HONS) 5SEM	Elements of Modern Physics Lab	This course covers experiments related to optics and nuclear physics: To find the value of Planck's constant and photo electric work function of a material of the cathode using Photo electric cell, To study the double slit interference by He-Ne laser, To verify Stefan's law of blackbody radiation, find the value of e/m of an electron by Thomson method using bar magnetic, To Find half-life period of a given radioactive substance using a GM counter etc.
MMEC	B.SC. PHY (HONS) 5SEM	Basic Instrumentation Skills (SEC-3)	This course comprises of basics of measurement, and measurements with electronic voltmeter, cathode ray oscilloscope and digital instruments.
MMEC	B.SC. PHY (HONS) 5SEM	Quantum Mechanics and Applications	It deals with orbital and spin angular momentum and Schrödinger wave equation.
MMEC	B.SC. PHY (HONS) 5SEM	Mathematical Physics-I	This course includes Fourier series, frobenius method and special function, theory of errors and partial differential equations.

MMEC	B.SC. PHY (HONS) 6 SEM	Solid State Physics and Electronics	This course includes Crystal structure, crystal diffraction and reciprocal lattice, free electron theory and band theory, superconductivity.
MMEC	B.SC. PHY (HONS) 6 SEM	Solid State Physics and Electronics Lab	This course includes experiments of electronics and solid state physics: To find resistivity and band gap of a semiconductor using Four Probe method, Zener Diode voltage regulation characteristics, To study voltage regulation and ripple factor of a half-wave rectifier and full-wave rectifier etc.
MMEC	B.SC. PHY (HONS) 6 SEM	Radiation Safety (SEC-4)	This course includes interaction of radiation with matter, interaction of charged particles, radiation quantities and their units, radiation detection and radiation safety management.
MMEC	B.SC. PHY (HONS) 6 SEM	Electromagnetic Theory	This course comprises of Maxwell equations, EM wave propagation in unbounded media, EM wave in bounded media, wave guides and optical fibers.
MMEC	B.SC. PHY (HONS) 6 SEM	Nuclear and Particle Physics	It deals with General Properties of Nuclei, Nuclear Models, Liquid drop model approach, semi empirical mass formula and significance of its various terms, condition of nuclear stability, two nucleon separation energies, Radioactivity decay, Nuclear Reactions and Particle physics.
MMEC	M.SC. PHYSICS 1 SEM	Classical Mechanics	Classical mechanics introduces the concept of Lagrangian, Hamiltonian formalism and canonical transformation.
MMEC	M.SC. PHYSICS 1 SEM	Mathematical Physics-I	Mathematical Physics deals with problems of Linear algebra, complex variables, special functions and Laplace transform.
MMEC	M.SC. PHYSICS 1 SEM	Quantum Mechanics-I	The branch of mechanics that deals with mathematical description of the motion and interaction of subatomic particles, incorporating the concepts of quantization of energy, wave-particle duality & the uncertainty principle .
MMEC	M.SC. PHYSICS 1 SEM	Nuclear Physics	Provides an overview of nuclear properties and their measurements, nuclear forces, nuclear reactions and radiation detectors.
MMEC	M.SC. PHYSICS 1 SEM	Electronics-I	Provide overview of the principles of diode as circuit element, amplifiers, small signal electronics, power amplifiers, thyristors and other devices, operational amplifier and its applications.
MMEC	M.SC. PHYSICS 1 SEM	Practical-I	Provide exposure about analog electronics through experimental observations, analysis and interpretation of experimental data.

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MMEC	M.SC. PHYSICS 2 SEM	Electrodynamics	Study of phenomenon associated with charged bodies in motion and varying magnetic and electric fields , in which we use the concept of electrostatics ,electromagnetic and Maxwell equations.
MMEC	M.SC. PHYSICS 2 SEM	Mathematical Physics-II	Students deal with gamma and beta functions, partial differential equations in physical problems, fourier series and transform and - probability theory and random variables and explore with real life problems.
MMEC	M.SC. PHYSICS 2 SEM	Quantum Mechanics-II	Students will study the various Approximation methods for quantum mechanical problems.
MMEC	M.SC. PHYSICS 2 SEM	Nuclear and Particle Physics	It provide the information about radioactive decays,subatomic particles , including atomic constituents such as mesons, baryons and neutrino which produced by radioactive and scattering processes.
MMEC	M.SC. PHYSICS 2 SEM	Laser and Fiber Optics	It provide the information of laser system and its types and also deals with the transmission characteristics of optical fiber and connections.
MMEC	M.SC. PHYSICS 2 SEM	Practical-II	Student will study the experiments of using different type of laser to measure the wavelengths
MMEC	M.SC. PHYSICS 3 SEM	Atomic & Molecular Physics	Provide the study of isolated, separated ions and atoms ,along with electron arrangement and excitation.Molecular physicists investigate molecules that have several atoms.
MMEC	M.SC. PHYSICS 3 SEM	Condensed Matter Physics	It provides the information of crystallography, X-ray diffraction,thermal properties and superconductivity .It deals with the physical properties of condensed phase of matter.
MMEC	M.SC. PHYSICS 3 SEM	Computational Techniques & Programming-I	This course introduces programming language and numerical methods.
MMEC	M.SC. PHYSICS 3 SEM	Electronics-II	Electronics-II covers Logic Circuits, Circuit Analysis and Design, Data Processing Circuits and Number Systems, Flip Flops, Shift Registers and counters.
MMEC	M.SC. PHYSICS 3 SEM	Polymer Physics	Provides brief history of the development of synthetic polymers, chains and crystallinity, some physical techniques for studying polymers, electrical and optical properties.

MMEC	M.SC. PHYSICS 3 SEM	Practical-III (Part I & II)	Part –I provide exposure to students to observe and explore with the experiments related to condensed matter physics and quantum physics. Part II provides the practical training to write and execute program in FORTRAN.
MMEC	M.SC. PHYSICS 4 SEM	Statistical Mechanics and Thermodynamics	This course is intended to provide a firm foundation of macroscopic system, ensembles, classical,Quantum statistics, their applications and statistical thermodynamics.
MMEC	M.SC. PHYSICS 4 SEM	Experimental Techniques in Nuclear Physics	This syllabus describes the various accelerators, particle induced X-ray emission spectrometry, X-ray fluorescence spectrometry and Neutron activation analysis.
MMEC	M.SC. PHYSICS 4 SEM	Computational Techniques & Programming-II	It deals with numerical differentiation and integration by programming and also provide simulation of physics problem by using random numbers and Monte-Carlo technique: algorithm development and programming.
MMEC	M.SC. PHYSICS 4 SEM	Properties of Solids	It provides the information of magnetic, dielectric, optical behavior of solids and deals with the free electrons in metal.
MMEC	M.SC. PHYSICS 4 SEM	Physics of Nano-materials	This course describes classification of Nano-materials, properties of Nano-particles, particle size and surface structure determination.
MMEC	M.SC. PHYSICS 4 SEM	Practicals(Part-I , Part -II)/ Dissertation	Practical or Dissertation is optional to the students. Dissertation work involves integration and implementation of knowledge and skills acquired during the program.
MMEC	M.SC. PHYSICS 4 SEM		Part –I provide exposure to students to observe and explore with the experiments related to condensed matter physics and quantum physics. Part II provides the practical training to write and execute program in FORTRAN.

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MMEC	M.TECH. BIO-TECH 1 SEM	Genomics and Proteomics	Subject Genomics, proteomics and their applications deals with a rapidly evolving scientific area that introduces students into genomes, proteomes and databases that store various data about genes, proteins, genomes and proteomes. The main objective is to organize the large amount of information about genomics, proteomics and bioinformatics and offer basic knowledge of genome sequencing, major differences between prokaryotic and eukaryotic genomes, basic proteomics and its applications, basics in bioinformatics, comparative and evolutionary genomics and applications.
MMEC	M.TECH. BIO-TECH 1 SEM	Biomaterial Technology	The objective of the Course is to understand the potential use of biomaterials in diverse medical applications. By the end of the course, students should be able to: 1. understand how to design a biocompatible and biodegradable biomaterial 2. Understand the bulk and surface properties of a biomaterial 3. Current applications of polymeric materials in Biomedical field.
MMEC	M.TECH. BIO-TECH 1 SEM	Biophysical and Bioanalytical Techniques Laboratory	To develop the practical skills of the application of basic and advanced techniques employed in quantitative and qualitative analysis of biomolecules.
MMEC	M.TECH. BIO-TECH 1 SEM	Advances in Bioprocess Engineering	The bioprocess engineering program thoroughly prepares students for working in the emerging bioprocessing industry to produce energy and related chemical products from renewable resources. Students are anticipated to master a variety of subjects that are normally found in a chemical engineering program and supplement those studies with advanced material specific to bioprocess engineering. The program focuses on the use of sustainable renewable biomass to replace petroleum in chemicals, pharmaceuticals, energy and industrial products in a sustainable manner.
MMEC	M.TECH. BIO-TECH 1 SEM	Biostatistics and Research Methodology	The course develops appreciation of statistics in modern biological science, collection of biological data and its statistical analysis. Research methodology helps to carry out research work.
MMEC	M.TECH. BIO-TECH 1 SEM	Biodiversity and Bioresource Technology	The Biodiversity and Bioresource Technology deals with identification of microorganisms, preservation, utilization, conservation and legal management of bioresources with the aim of using biotechnology to explore novel high value products. The course is anticipated to provide theoretical knowledge about 1. Taxonomy of microorganisms, biodiversity, Natural product chemistry, production of commercially valuable bio-products, Enzyme discovery, Recombinant expression systems and Biodiversity and ecology of plant, animal and microorganisms.

MMEC	M.TECH. BIO-TECH 2SEM	Molecular Mechanism of Gene Expression & Regulation	This course is designed to impart knowledge of molecular genetics, which is one of the fundamental requirements for the biotechnology. This course is designed to make the student understand the various mechanisms, which regulate the biological processes at genetic level including transcriptional and post transcriptional regulation of gene.
MMEC	M.TECH. BIO-TECH 2SEM	Molecular Immunology & Immuno Technology	To give molecular concept and principles of immune system, technological aspect and advanced techniques for developing diagnostics.
MMEC	M.TECH. BIO-TECH 2SEM	Genetic Engineering Practical	The goal of the course is to impart practical knowledge to 1. analyze the flow of genetic information in the living organisms using the basic concepts of genetics, genetic material, genetic code, genotype and phenotype 2. to design experiments leading to cloning of selected DNA fragments and choose the appropriate technique to study basic molecular processes.
MMEC	M.TECH. BIO-TECH 2SEM	Advances in Bio-Analytical Techniques	This course is introduced to bridge the gap between academia, research and industry. This course begins with a review of basic bioanalytical techniques and an introduction to general terminologies. This course contains Biophysical and Bioanalytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas including, Biotechnology, life science, chemical science, material science and environmental science. The primary objectives of this course are
MMEC	M.TECH. BIO-TECH 2SEM	Environmental Biotechnology	Environmental Biotechnology aims at focusing the relation of environment in improving the quality of life. The course emphasizes the application of biotechnology to the management of environmental problems, role of biotechnology in increasing plant and animal productions through biological insecticides, herbicide resistance, mineral cycling, conservations of genetic resources and biological nitrogen–fixation. The course highlights the use of biological processes in pollution control, bioremediation of toxicants, treatment of domestic and industrial waste and ethical issues related with the release of genetically modified organisms.

MMEC	M.TECH. BIO-TECH 2SEM	Tissue Culture Practical	The objective of this course is to demonstrate all techniques and technologies of plant tissue culture to the students in which they learn preparation of nutrient media, establishment of axenic tissue cultures of important and horticultural, medicinal and ornamental plants. Emphasis lies on establishment of callus cultures, suspensions cultures, and cell line selection. Students are demonstrated up-scaling a tissue culture process to bioreactor level for the production of phytopharmaceuticals through cell culture technology.
MMEC	M.TECH. BIO-TECH 3 SEM	Advances in Animal Biotechnology	The course aims at imparting knowledge of transgenic plant, animals and their production, Embryonic stem cell and their applications, Gene transfer methods, Use of transgenic organism in biotechnology.
MMEC	M.TECH. BIO-TECH 3 SEM	Environmental Biotechnology Practical	The aim of the course is 1. to understand and explain the practical importance of molecular approaches in environmental Microbiology and Biotechnology.2. describe the principles and techniques underpinning the application of biosciences to the environment; 3. to describe biotechnological solutions to address environmental issues including pollution, mineral resource winning, renewable energy and water recycling; 4. to undertake a range of practical approaches relevant to environmental microbiology and biotechnology and be able to record, report and discuss data.
MMEC	M.TECH. BIO-TECH 4 SEM	Industrial Training	Dissertation On—Campus / Structured Industrial Training Course, off—Campus
MMEC	B.SC. BIO TECH 1ST	Biochemistry and Metabolism	The objective of this course is to identify the classes of biomolecules, describe how fats and amino acids are metabolized and can be used for fuel, describe the structure of DNA, and explain how it carries genetic information in its base sequence. By the end of the course, the students should be able to demonstrate advanced knowledge and understanding in the core areas of biochemistry.
MMEC	B.SC. BIO TECH 1ST	Cell Biology	The students will acquire a fundamental understanding of the major concepts in cell biology and the experimental approaches taken in their study. The students should be able to write clear descriptions of cell biology topics, based on the course material, textbook and review articles. Students should be able to understand the basic research assignment of a cell biology topic .Students should be able to find the relevant topics according to their requirements by accessing and reviewing text books and internet tools. Students should be able to gather the information, discuss the latest findings in cell biology and communicate these to others. Students should be able to design, perform and analyze simple experiments in cell biology. Students should have knowledge of the role of science and in particular cell biology in research, education and even in society.

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MMEC	B.SC. BIO TECH 1ST	English	The course is designed to help the students to improve their skills as writers. It may include description, narration, and personal elements, they should demonstrate skills in analysis, argumentation, assertion with evidence, and synthesis. It will also increase their focus on diction and spelling, punctuation and functional grammar in direct relation to students' own writing.
MMEC	B.SC. BIO TECH 1ST	Biotechnology and Human WelfareBiotechnology and Human Welfare	The aim of this course is to provide the students with basic knowledge of biotechnology. Students will learn the use of biotechnology in agriculture, industry, environment and forensic science. Students get familiar with the basic biotechnological techniques like DNA fingerprinting and how they are used for human welfare.
MMEC	B.SC. BIO TECH 1ST	Biochemistry and Metabolism Lab	The objective of this lab is to provide the hands on experience about the testing of carbohydrates and proteins, to study enzyme activity, separation of amino acids, and to learn about spectrophotometer, calorimeter and various other instruments.
MMEC	B.SC. BIO TECH 1ST	Cell Biology Lab	The aim of this course is to introduce the basic techniques of cell biology. Students will learn to study the effect of temperature and organic solvents on semi permeable membranes, plasmolysis and de-plasmolysis, cell fractionation, structure of prokaryotic and eukaryotic cells, Microtomy, and cell division in onion root tip/ insect gonads.
MMEC	B.SC. BIO TECH 2 SEM	Mammalian Physiology	This course aims to provide an understanding of essential concepts in physiology such as the importance of homeostasis, various ways by which cells communicate, ways of monitoring of both the internal and the external environment; the existence of resting membrane potential; initiation and propagation of action potential. Therefore, the understanding of various physiological reactions that are occurring at cellular level may help the students to understand the biology behind the disease initiation and progression. Which will further help them to think innovatively to design novel strategies for the treatment of pathological disorders.
MMEC	B.SC. BIO TECH 2 SEM	Microbial and Plant Physiology	Objectives of the course is 1. To illustrate knowledge of nutritional classification of microorganisms and metabolite transport in microorganisms. 2. To deliver molecular understanding of metabolic processes such photosynthesis and nitrogen assimilation. 3. To familiarize the students with basic concept of plant growth regulators and plant physiological processes including seed dormancy, photoperiodism and vernalization.

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MMEC	B.SC. BIO TECH 2 SEM	Environmental Science	The program focuses on science methodology and applied analysis. Students will study about the natural and human environment from an interdisciplinary systems perspective. Students should be able to locate and comprehend relationships between the natural, social and cultural environment. Another goal is to nurture the curiosity and creativity of the child particularly in relation to the natural environment and finally to develop an awareness about environmental issues.
MMEC	B.SC. BIO TECH 2 SEM	Entrepreneurship Development	The objective of this course is to prepare students for self-employment or career opportunities in small businesses including nonprofit organizations. It develops students ability in evaluating small business ideas and market opportunities, technical and management skills, broad accounting skills, and understanding the resources necessary to start a business.
MMEC	B.SC. BIO TECH 2 SEM	Mammalian physiology lab	The objective of this lab is to provide the students with some basic practical skills of determining blood groups, counting immune cells and RBC's, determining hemoglobin, and to develop an ability to summarize, integrate and organize information and relate it to disease outcomes.
MMEC	B.SC. BIO TECH 2 SEM	Microbial and Plant Physiology lab	The aim of this course is to demonstrate the students about the separation of photosynthetic pigments by paper chromatography, to study the effect of temperature and pH on microbes, to plot the growth curve of Aspergillus niger by radial growth measurements, preparation of root nodules from a leguminous plant, to plot a growth curve and to familiarize the students with the basic concept of plant growth regulators and photoperiodism.
MMEC	B.SC. BIO TECH 3 SEM	Genetics	The students through this course should have acquired a fundamental understanding of the major concepts in genetics and the experimental approaches taken in their study. The students should be able to write clear descriptions of genetics topics including classical and modern genetics, cell cycle, mutations, DNA repetitive sequences, sex inherited traits, maternal effects, based on the course material, textbook and review articles. Also students should be able to understand the basic research assignment of a genetics topic
MMEC	B.SC. BIO TECH 3 SEM	General Microbiology	The objective of the course is 1. to familiarize the students with basic concept and scope of microbiology, diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means.2. to introduce the fundamental characteristics of various microorganisms including bacteria, fungi, algae and protozoa.3. to develop a heightened sense of understanding in students about the microbial diversity, cultivation and maintenance microorganisms and principles of microbial nutrition.4. to introduce the students about the role of microbiology in environmental and food science.

MMEC	B.SC. BIO TECH 3 SEM	Chemistry I	The major objectives of this course are:1. The students will be able to master a broad set of chemical knowledge concerning the fundamentals in the basic areas of the discipline (organic, inorganic, analytical, physical and biological chemistry).2. They will be able to solve problems competently by identifying the essential parts of a problem and formulating a strategy for solving the problem. They will be able to rationally estimate the solution to a problem, apply appropriate techniques to arrive at a solution, test the correctness of the solution, and interpret their results.
MMEC	B.SC. BIO TECH 3 SEM	Enzymology	Main objective of this course is 1. To familiarize the students with basics of enzymology, mechanism of action of enzymes, structure of enzymes, enzyme kinetics and basic methods of studying enzymes, 2. To teach the methods of enzyme production and purification, classification of enzymes, application of immobilized and free enzymes in different industrial processes and to explain the effect of inhibiters on the structure and action of enzymes, 3. to appreciate how individual reactions are controlled and integrated into the metabolic pathways of the cell. Acquired theoretical will enable students to find appropriate employment in different development, scientific-research laboratories, or to continue their further studies in biochemistry or related disciplines.
MMEC	B.SC. BIO TECH 3 SEM	Biosafety and Bioethics	The objectives of this course are to define biosafety and bioethics in the context of modern biotechnology, demonstrate good laboratory procedures and practices, describe the standard operating procedures for biotechnology research and assign Biosafety levels, and to justify the design of confinement facilities at different Biosafety levels. Also students will be able to discuss the social and ethical issues related to plant and animal biotechnology, and the relevance of intellectual property rights to modern biotechnological innovations.
MMEC	B.SC. BIO TECH 3 SEM	General Microbiology Lab	The aim of this course is to demonstrate students about the principle, construction and working of instruments in microbiology, Preparation of culture media, preparation of agar plates, agar slants and deep tubes, Pure culture techniques, Standard plate count technique, Staining techniques, Enumeration of microorganism - total & viable count, Identification of yeast, Identification of the common molds and pathogenic fungi and Water Microbiological testing.

MMEC	B.SC. BIO TECH 3 SEM	Chemistry Lab	The objectives of this course is to provide hands on skills about the determination of Calcium and Magnesium hardness of water using EDTA solution, determination of alkalinity of water sample, determination of dissolved oxygen (DO) in the given water sample, to find the melting & eutectic point for a two component system by using method of cooling curve, determination of viscosity of lubricant by Red Wood viscometer (No. 1 & No.2),to determine flash point & fire point of an oil by Pensky -Marten's flash point apparatus, to prepare Phenol-formaldehyde and Urea formaldehyde resin, to find out saponification number of an oil, estimation of calcium in lime stone and dolomite.
MMEC	B.SC. BIO TECH 4 SEM	Molecular Biology	Students should acquire fundamental understanding of the major concepts in molecular biology and the experimental approaches taken in their study. The students should be able to write clear descriptions of molecular biology topics as DNA replication, recombination, damage & repair, based on the course material, textbook and review articles. Students should be able to know the molecular mechanism of gene expression and regulation such as transcription, operon system, RNA processing, translation, post-translational modifications in prokaryotes & eukaryotes. Students should be able to design, perform and analyze simple experiments in molecular biology. Students should have knowledge of the role of science and in particular molecular biology in research, education and even in society.
MMEC	B.SC. BIO TECH 4 SEM	Immunology	The course aims at imparting knowledge on immune system, cells and organs involved and vaccines made thereof. They will be able to clearly state the role of immune system, compare innate versus adaptive immune system, compare humoral versus cell mediated immune responses, be able to distinguish and characterize antibody isotypes, understand the role of cytokines in immunity and immune cell activation; understand the significance the Major Histocompatibility Complex in terms of immune response and transplantation; be able to describe lymphocyte development and the expression of their receptors; be able to provide an overview of the interaction between the immune system and pathogens.

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MMEC	B.SC. BIO TECH 4 SEM	Chemistry-2	Students have to cover the following topics in order to be aware of the advancements in chemistry: Fundamentals: Measurements: units, uncertainty, Dimensional analysis, problem solving. Atomic theory, Chemical equations: balancing, stoichiometry, net ionic equations. Thermochemistry; enthalphy, Hess's law, enthalpy of formation, calorimetry, Laws of thermodynamics.Structure and Bonding: Light and spectroscopy,Bohr model versus Quantum. Mechanical model:Orbitals, quantum numbers, periodic table, Periodic trends,Electronegativity; ionic versus covalent compounds, Lewis structures, formal charge, resonance, VSEPR, hybridization, molecular orbital theory.States of Matter: Gas laws Kinetic molecular theory, Chemical Equilibrium: Dynamic equilibrium; homogeneous versus heterogeneous equilibria, Equilibrium constant and related calculations.
MMEC	B.SC. BIO TECH 4 SEM	Developmental Biology	Objectives of the course is to make aware about the vertebrate animal development with focus on initiation and construction of an organism and the underlying molecular and genetic basis. Students will acquire fundamental knowledge of animal embryonic development--that is how an egg develops into an adult. Students will also learn how genes function to control phenotype of an organism. Graduate students are required to take extra work to meet the requirement, such as discussion and presentation of related-literatures.
MMEC	B.SC. BIO TECH 4 SEM	Molecular Diagnostics	Objectives of the course is to 1. apply knowledge of cellular structure and function, especially DNA and RNA, to molecular diagnostic procedures.2. Gain a thorough working knowledge of nucleic acid extraction, resolution and detection.3. Gain a solid foundation in the most commonly utilized molecular diagnostic testing protocols. Apply the knowledge of molecular testing to the most commonly performed applications in the clinical laboratory such as: nucleic acid extraction, resolution and detection, analysis and characterization of nucleic acids and proteins, nucleic acid amplification and DNA sequencing.
MMEC	B.SC. BIO TECH 4 SEM	Molecular Biology Practical	The aim of the course is to introduce basic methods of molecular biology. Student will learn isolation and purification of DNA from prokaryotes and eukaryotes. Students will learn agarose gel electrophoresis, plasmid DNA isolation and quantification of DNA using spectrophotometer, restriction digestion, preparation of competent cells.The practical course also includes practical exercises in modern experimental techniques and also training in literature search and the use of Internet. Selected methods and procedures will be demonstrated and presented

MMEC	B.SC. BIO TECH 4 SEM	Immunology & Molecular Diagnostics Lab	The objectives of the course is to identify the important parameters in the design of a laboratory to conduct the most commonly-used molecular diagnostics protocols; to identify the important parameters in the design of a quality system for molecular analyses; to become proficient with the techniques required in order to perform the most commonly-used molecular diagnostics protocols; to identify the important parameters in the design of a molecular diagnostic test; to identify the components of a well-controlled diagnostic test and to use critical thinking skills to trouble shoot problems as they occur and determine possible causes.
MMEC	B.SC. BIO TECH 5 SEM	Industrial Fermentation	The student should be able to understand the basics of bioprocess technology and microbial biotechnology. Students should be able to have knowledge of various types of fermenter including air-lift fermenter and cyclone column fermenter. Student should have knowledge of kinetics of fermentation processes. Student should be able to execute the improvement and application of industrial microorganisms as well. Moreover student will be able to develop practical approach for the subject and will be able to work in related industries.
MMEC	B.SC. BIO TECH 5 SEM	Recombinant DNA Technology	The learner will be able to understand basic concepts in Recombinant DNA Technology including genetic manipulation of organisms by incorporating DNA sequences from different sources into a single recombinant molecule. This revolutionary technology has opened up several applications in plant genomics and clinical research. Also student would be able to utilize the knowledge on creation of a genomic library.
MMEC	B.SC. BIO TECH 5 SEM	Bioinformatics	The students will be able to describe the contents and properties of the most important bioinformatics databases, perform text- and sequence-based searches, and analyze and discuss the results in light of molecular biological knowledge.
MMEC	B.SC. BIO TECH 5 SEM	Biostatistics	1. The course focuses on descriptive and inferential statistics as applied to medical practice.
MMEC	B.SC. BIO TECH 5 SEM		2. This course covers statistical methods(measures of central tendency and measures of dispersion) commonly used by biostatisticians and their application in current research problems.

MMEC	B.SC. BIO TECH 5 SEM		3. The course starts with descriptive measures and probability concepts. Conditional probability and Bayes theory are given due emphasis to compute validity indicators for clinical and laboratory tests, i.e. sensitivity, specificity and predictive values for single and multiple tests.
MMEC	B.SC. BIO TECH 5 SEM		4. The students are trained to draw statistical inferences by two main methods these are: Estimation and Hypothesis testing.
MMEC	B.SC. BIO TECH 5 SEM		5. The course covers both parametric and non-parametric statistics. The course will cover t-test for independent means and t-test for non-independent means, the use of Chi-Square statistics tests, regression statistics, and the analysis of variance (ANOVA), use of the arithmetic and geometric prediction involving population data. Chi-square variants are discussed with relevant clinical examples.
MMEC	B.SC. BIO TECH 5 SEM	Bioinformatics Lab	The aim is to provide practical training in bioinformatics methods including accessing the major public sequence databases, use of the different computational tools to find sequences, analysis of protein and nucleic acid sequences by various software packages. It also provides a step by step, theoretical and practical introduction to the development of useful tools for automation of complex computer jobs, and making these tools accessible on the network from a Web browser.
MMEC	B.SC. BIO TECH 5 SEM	Industrial Fermentations Lab	The student should be able to perform various experiments related to fermentation and further to understand the basics of bioprocess technology and microbial biotechnology along with bioreactor design, their operation and instrumentation. Students should be able to have knowledge of various types of fermenters including air-lift fermenter and cyclone column fermenter and to execute the improvement and application of industrial microorganisms. Student should be able to have knowledge of industrial enzymes, fermentative products, alcoholic beverages and antibiotic production.
MMEC	B.SC. BIO TECH. 6 SEM	Bio analytical Tools	This course is introduced to bridge the gap between academics, research and industry. This course begins with a review of basic bio analytical technique and an introduction to general terminologies. This course contains bio analytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas including, life science, chemical science, material science and environmental science.

MMEC	B.SC. BIO TECH. 6 SEM	Genomics and Proteomics	The subject genomics and proteomics deals with a rapidly evolving scientific area that aims at imparting knowledge on genomes, proteomes, sequencing tools and databases that store various data about genes, prteins, genomes and proteomes. The main objective is to explain the methods applied in science, what practical advantages and limitations they have and what challenges they help to address.
MMEC	B.SC. BIO TECH. 6 SEM	Plant Biotechnology	Objectives of the course is to introduce students to the principles, practices and application of plant tissue culture and transformation in science, agriculture and industry.
			To acquaint students with experimental design and analysis of plant biotechnology experiments.
			To give students hands-on experience and training in representative plant tissue culture and genetic engineering techniques.
			To expose students to issues and challenges encountered in the area of plant biotechnology.
MMEC	B.SC. BIO TECH. 6 SEM	Environmental Biotechnology	The course focuses on the utilization of microbial processes in waste and water treatment, and bioremediation. Topics included are microbial energy metabolism, microbial growth kinetics and elementary chemostat theory, relevant microbiological processes, microbial ecology, approaches for studying microbial communities, and basic principles in bioremediation and biological water and waste treatment.
MMEC	B.SC. BIO TECH. 6 SEM	Environmental Biotechnology Lab	Practical and Experimental aspects of the course focus on the utilization of microbial processes in waste and water treatment, and bioremediation. Topics included are microbial energy metabolism, microbial growth kinetics and elementary chemostat theory, relevant microbiological processes, microbial ecology, approaches for studying microbial communities, and basic principles in bioremediation and biological water and waste treatment.
MMEC	B.SC. BIO TECH. 6 SEM	Bio analytical Tools Lab	Practical and Experimental aspects of this course is introduced to bridge the gap between academics, research and industry. This course begins with a review of basic bio analytical technique and an introduction to general terminologies. This course contains bio analytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas including, life science, chemical science, material science and environmental science.

MMEC	M.SC. BIO TECH 1SEM	Concepts in Molecular Biology and Biotechnology	The course is aimed at providing introduction to Biotechnology considering biological system with respect to nature, behavior and functioning of the cell, energy concept & material exchange in the body. The course will also explain structure & functions of gene, cloning & expression & application of recombinant DNA technology.
MMEC	M.SC. BIO TECH 1SEM	Biochemistry	Medical Biochemistry is the language of Biomedical Sciences. This course is introduced at the cellular and molecular level and focuses upon homeostasis in blood, Bio-macromolecules, Biosynthesis of genetic molecules. Energy yielding and energy requiring processes. Genetic information flow. Metabolism of Biomolecules. This would help going for higher level activities, appreciation of biochemical and Biomedical problems, evaluation and therapy.
MMEC	M.SC. BIO TECH 1SEM	Biotechnology Laboratory-I	To expose the students to experimental methods of Biotechnology, this will integrate theoretical knowledge and concepts to practical experience. Students will learn operation of scientific equipments for collecting data and analysis of collected data quantitatively.
MMEC	M.SC. BIO TECH 1SEM	Microbial Biotechnology	The course introduces and delineates various aspects of pure and applied microbiology. It mainly dwells upon the basic principles of microbiology and fermentation technology, which involve various strategies for strain selection and improvement, media formulation, sterilization, inoculum development, various fermentor configurations and modes of operation.
MMEC	M.SC. BIO TECH 1SEM	Biostatistics and Research Methodology	The course develops appreciation of statistics in modern biological science, collection of biological data and its statistical analysis. Research methodology helps to carry out research work.
MMEC	M.SC. BIO TECH 1SEM	Tools and Techniques in Biotechnology	To develop the skills of the application of basic and advanced techniques employed in quantitative and qualitative analysis of biomolecules.
MMEC	M.SC. BIO TECH 1SEM	Microbial Biotechnology (Practical)	To develop the practical skills of the application of microbes employed in biotechnology.
MMEC	M.SC. BIO TECH 1SEM	Biophysical and Bioanalytical Techniques	To develop the practical skills of the application of basic and advanced techniques employed in quantitative and qualitative analysis of biomolecules.

		Laboratory	
MMEC	M.SC. BIO TECH 2 SEM	Environmental Biotechnology	Environmental Biotechnology aims at focusing the relation of environment in improving the quality of life. The course emphasizes the application of biotechnology to the management of environmental problems, role of biotechnology in increasing plant and animal productions through biological insecticides, herbicide resistance, mineral cycling, conservations of genetic resources and biological nitrogen–fixation. The course highlights the use of biological processes in pollution control, bioremediation of toxicants, treatment of domestic and industrial waste and ethical issues related with the release of genetically modified organisms.
MMEC	M.SC. BIO TECH 2 SEM	Molecular Immunology	To give molecular concept and principle of immune system, Technological aspect and techniques for developing diagnostics , Antigenic determinants, Molecular organization of MHC-Protein, Transplantation rejection, T-Cell identification , Organization and expression of Immunoglobulin, Immunofluorescence, Preparation of serum globulins.
MMEC	M.SC. BIO TECH 2 SEM	Genetic Engineering practical	To impart practical knowledge of various aspects of plasmids, Probes, Site directed mutagenesis, Application of genetic engineering. Genetic transformation and transfection methods. Construction of DNA libraries, Probes, Identification of clones, Gene cloning, Site directed mutagenesis, Application of recombinant DNA technology.
MMEC	M.SC. BIO TECH 2 SEM	Genetic Engineering	To impart knowledge of various aspects of plasmids, Probes, Site directed mutagenesis, Application of genetic engineering. Genetic transformation and transfection methods. Construction of DNA libraries, Probes, Identification of clones, Gene cloning, Site directed mutagenesis, Application of recombinant DNA technology.
MMEC	M.SC. BIO TECH 2 SEM	Development Biology and Stem Cell Technology	Aim of the course is to impart knowledge on advanced study of stem cells, properties of stem cells, Stem cell niches, isolation and characterization of stem cells, and potential application of stem cells in health care.
MMEC	M.SC. BIO TECH 3 SEM	Transgenic Animal and Plant Biotechnology	The course aims at imparting knowledge of transgenic plant, animals and their production, Embryonic stem cell and their applications, Gene transfer methods, Gene expression and regulation, Use of transgenic organism in biotechnology.

MMEC	M.SC. BIO TECH 3 SEM	Tissue Culture Techniques Practical	The course is designed to: 1. provide knowledge and understanding of plant and animal tissue culture techniques, the basic principles and application of tissue, cell and protoplast culture, recombinant DNA technology and genetic transformation of plants and their application to plant improvement 2.to gain experience with tissue culture methodologies, recombinant DNA technology and genetic transformation techniques.
MMEC	M.SC. BIO TECH 3 SEM	Concepts in Pharmaceutical Science	The aim of this course is to expose Biotechnology Students to modern developments in the Pharmaceutical industry. There has been an association between biotechnological and pharmaceutical industry. Special emphasis is given to exposing students to these exciting areas in modern biology.
MMEC	M.SC. BIO TECH 3 SEM	Proteomics and Genomics	The course aims at imparting knowledge on gnome & proteome sequencing tools, databases, sequence comparisons from different organisms, Comparison of expression profiles.
MMEC	M.SC. BIO TECH 4 SEM	Industrial Training	Dissertation On—Campus / Structured Industrial Training Course, off—Campus
MMEC	M.Sc. Microbiology 1 SEM	Fundamentals of Microbiology	The objective of the course is 1. to familiarize the students with basic concept and scope of microbiology, diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means.2. to introduce the fundamental characteristics of various microorganisms including bacteria, fungi, algae and protozoa.3. to develop a heightened sense of understanding in students about the microbial diversity, cultivation and maintenance microorganisms and principles of microbial nutrition.4. to introduce the students about the role of microbiology in environmental and food science.
MMEC	M.Sc. Microbiology 1 SEM	Bacteriology, Phycology, Mycology and Virology	The aim of this course 1. to impart knowledge to the students on basic principles of clinical microbiology 2. to develop a knowledge of microbial organisms and their relevance to infectious diseases 3. to understand the principles of prevention and treatment of pathogenic microorganism infection in humans.
MMEC	M.Sc. Microbiology 1 SEM	Microbial Physiology and Metabolism	The objective of the course is 1. to study the structure, function, energy metabolism, growth and regulatory mechanisms of microorganisms 2. to learn the microorganisms involved for metabolic processes common to all living things 3. to emphasize the incredible metabolic diversity exhibited by microorganisms.

MMEC	M.Sc. Microbiology 1 SEM	Cellular Microbiology	The student will acquire basic knowledge on the complexity and harmony of the cell and understand the mechanism of cell- cell communication and molecules that control cell cycle. He also learn the concept of molecular cell signalling and oncogenes.
MMEC	M.Sc. Microbiology 1 SEM	Laboratory course based on Basic Microbiology	The aim of this course is to demonstrate students about the principle, construction and working of instruments in microbiology, Preparation of culture media, preparation of agar plates, agar slants and deep tubes, Pure culture techniques, Standard plate count technique, Staining techniques, Enumeration of microorganism - total & viable count, Identification of yeast, Identification of the common molds and pathogenic fungi and Water Microbiological testing.
MMEC	M.Sc. Microbiology 1 SEM	Laboratory course based on Microbial Physiology & Cellular Microbiology	The objective of this course is to train students practically in basic and applied methods of biochemistry. The course involves demonstration and on-hand training of various analytical techniques used to assay biochemical molecules in soil and living systems.
MMEC	M.Sc. Microbiology 2 SEM	Medical Microbiology	The objective of the present course is to study the fundamental mechanism of disease process and give a strong foundation about pathology and the host defense mechanism.
MMEC	M.Sc. Microbiology 2 SEM	Immunology	The aim to teach immunology and immune-technology to the students for their better understanding of immune system, types and mechanism of immunity, immune responses, their tolerance and suppression as well as tools and techniques involved in diagnosis and identification of immune related diseases.
MMEC	M.Sc. Microbiology 2 SEM	Elements of Molecular Biology	The objective of the course is to provide a clear understanding of DNA (genetic material) so that they can manipulate it and understand basic tools and techniques involved in its manipulation. Strong foundation in molecular biology enables the students to familiarize themselves with Genetic engineering technology.
MMEC	M.Sc. Microbiology 2 SEM	Microbial Genetics	The aim of the course is 1. to make familiar with the concept of genetics in microbes 2. to learn the principle of genetic transfers and gene expression.
MMEC	M.Sc. Microbiology 2 SEM	Laboratory course based on Medical Microbiology & Immunology	The main purpose of this lab is 1. to acquaint the students with basic cell biology and immunology laboratory techniques. 2. to study antigen antibody interaction. 3. to study cell types and staining techniques

MMEC	M.Sc. Microbiology 2 SEM	Laboratory course based on Molecular Biology & Microbial Genetics	The main aim of this lab 1. to train students to isolate, analyze, manipulate and amplify nucleic acids 2. to get students familiarize with cDNA synthesis, gene cloning, expression and analysis of cloned genes.
MMEC	M.Sc. Microbiology 3 SEM	Food Microbiology	The main aim of the course is 1. to boost the Knowledge of food safety and its scope in quality control of food 2. to understand the basic techniques involved in ensuring food quality and to know the quality of milk and milk products.
MMEC	M.Sc. Microbiology 3 SEM	Agricultural and Environmental Microbiology	The main aim of the course is 1. to study about various plant diseases and subsequent control. 2. to apply bio-fertilizers and bio-control agents as a means for sustainable agriculture. 3. to learn the basic principles of environmental microbiology and be able to apply these principles to understand and solve problems in water quality and bioremediation. 4. to become familiar with current research in environmental microbiology.
MMEC	M.Sc. Microbiology 3 SEM	Microbial Biotechnology and Industrial Microbiology	The student should be able to understand the basics of bioprocess technology and microbial biotechnology. Students should be able to have knowledge of various types of fermenter including air-lift fermenter and cyclone column fermenter. Student should have knowledge of kinetics of fermentation processes. Student should be able to execute the improvement and application of industrial microorganisms as well. Moreover, student will be able to develop practical approach for the subject and will be able to work in related industries.
MMEC	M.Sc. Microbiology 3 SEM	Recombinant DNA Technology	This course provides a platform for students to gain a theoretical understanding of molecular biology, cell biology, genetic engineering/biotechnology and their application through lectures.
MMEC	M.Sc. Microbiology 3 SEM	Biostatistics and Computers	1. The course focuses on descriptive and inferential statistics as applied to medical practice.
			2. This course covers statistical methods (measures of central tendency and measures of dispersion) commonly used by biostatisticians and their application in current research problems.
			3. The course starts with descriptive measures and probability concepts. Conditional probability and Bayes theory are given due emphasis to compute validity indicators for clinical and laboratory tests, i.e. sensitivity, specificity and predictive values for single and multiple tests.

			4. The students are trained to draw statistical inferences by two main methods these are: Estimation and Hypothesis testing.
			5. The course covers both parametric and non-parametric statistics. The course will cover t-test for independent means and t-test for non-independent means, the use of Chi-Square statistics tests, regression statistics, and the analysis of variance (ANOVA), use of the arithmetic and geometric prediction involving population data. Chi-square variants are discussed with relevant clinical examples
MMEC	M.Sc. Microbiology 3 SEM	Laboratory course based on Applied Microbiology	The main objective is 1.to describe the main steps and processes used to produce biological products in Pharmaceutical industry.
MMEC	M.Sc. Microbiology 3 SEM		2. to understand ethical issues in production microbiology, such as standards of laboratory and in-plant behaviour and etiquette.
MMEC	M.Sc. Microbiology 3 SEM	Laboratory course based on Microbial Biotechnology	The student should be able to perform various experiments related to fermentation and further to understand the basics of bioprocess technology and microbial biotechnology along with bioreactor design, their operation and instrumentation. Students should be able to have knowledge of various types of fermenters including air-lift fermenter and cyclone column fermenter and to execute the improvement and application of industrial microorganisms. Student should be able to have knowledge of industrial enzymes, fermentative products, alcoholic beverages and antibiotic production.
MMEC	M.Sc. Microbiology 4 SEM	Industrial Training	Dissertation to carry out research in an industrial environment or to work on molecules having industrial applications
MMEC	M.SC.BOTANY 1 SEM	Phycology	The botanical discipline concerned with the study of algae is called Phycology. Course include study on systematics, ecology, morphology, cytology, physiology, biochemistry, cell biology, molecular biology, genetics of phycology. It also includes fundamental research and development of techniques and practical applications in different areas as algal and cyanobacterial biotechnology and genetic engineering, culture collections, commercially useful micro-algae and their products.

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MMEC	M.SC.BOTANY 1 SEM	Mycology	Mycology is a branch of science which involves the study of fungi. The objectives of this course are to: introduce student history and definition of mycology; to know fungal classification and morphology,know the economics importance of fungi; structure and life cycle, genetics, growth and nutrition; and provide students with opportunities to develop basic methods in mycological studies including interactions between plant and fungal pathogens. It also includes the study of relevance of fungi to microbiology, agriculture and humans.
MMEC	M.SC.BOTANY 1 SEM	Microbiology	The objective of this course is to familiarize the students with the concepts of microorganisms including prokaryotic and eukaryotic cells. It includes the study of the general principles for microbial growth, evolution and classification. Descriptions of different prokaryotic, eukaryotic and other life forms like bacteria, microscopic fungi (yeasts and molds), protozoans, microscopic algae, prions and viruses. Basic bacterial laboratory techniques. The natural ecology of microorganisms: balance of living organisms in the global environment. Commercial benefits of microorganisms. The human use of microorganisms and how microorganisms function in disease: microorganisms as part of our lives, such as vinegar, wine, sauerkraut, pickles, beer, cheese, and yoghurt; association of microorganisms with diseases, infections.
MMEC	M.SC.BOTANY 1 SEM	Plant Ecology	This course will introduce students to ecology as a scientific discipline with emphasis on plants & ecosystems. During the course, students should be familiar with ecological principles related to how plant populations & communities interact with their environments at local, regional, & global scales. The labs emphasize the ability to recognize common plants, vegetation types & ecosystems of the region, & introduce students to hypothesis testing through field experiments.The course will also introduce students to major conceptual issues and areas of current research in plant ecology.
MMEC	M.SC.BOTANY 1 SEM	Cytogenetics	The purpose of the course is to provide a knowledge of cytogenetics, study includes plant DNA organization in chromosome structure, principles and technologies of cytogenetics, plant genomic DNA structure and function, transcriptome, DNA sequencing technologies/applications, basic tools for nucleotide sequence analysis. The course will also introduce students to plant chromosome structures, inheritance, and the basic genomic tools to analyze plant genomes, the importance of chromosomal variations in structure and number, Terminology and literature of Cytogenetics;. chromosome behavior as the mechanism for observed genetic segregation and breeding behavior; physical, chemical, and biological techniques used to examine the structure and action of chromosomes; chromosome staining and banding techniques; In situ hybridization, organization of genetic material chromosome structure.

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MMEC	M.SC.BOTANY 2 SEM	Bryophytes, Pteridophytes and Gymnosperms	To understand the salient features of Bryophytes, Pteridophytes and Gymnosperms. To study the structure and reproduction of various genera mentioned in the syllabus. To study about the classification and thallusorganisation in this divisions and their evolution and their importance.In pteridophytes we discuss about the classification and the range of structure and reproduction of ferns and economic importance of pteridophytes. The objectives is also to study about the fossils of pteridophytes.In gymnosperms the study about the classification of gymnosperms and their fossils. The comparative studies of various families of gymnosperms and economic importance of gymnosperms.
MMEC	M.SC.BOTANY 2 SEM	Biostatistics & Computer Application	Introduction to Biostatistics provides an introduction to selected important topics in biostatistical concepts and reasoning. This course represents an introduction to the field and provides a survey of data and data types. Specific topics include tools for describing central tendency and variability in data; methods for performing inference on population means and proportions via sample data; statistical hypothesis testing and its application to group comparisons; issues of power and sample size in study designs; and random sample and other study types. While there are some formulae and computational elements to the course, the emphasis is on interpretation and concepts. Students will be able to Demonstrate a well-developed understanding of a theoretical and conceptual framework for quantitative reasoning, such as aspects of mathematics, statistics and logicSolve problems quantitatively using appropriate arithmetical, algebraic, or statistical methods, Create and interpret visual representations of quantitative information, such as graphs or charts, Understand and critically assess data collection and its representation
MMEC	M.SC.BOTANY 2 SEM	Plant Physiology	Course deals with a variety of physiological processes occurring in plants. For most students this course will serve as background for other more advanced plant science courses. Thus, the following specific objectives are intended To understand plant structures in the context of physiological function plants, To understand plant water relations, i.e. how plants acquire, utilize, and regulate the flow ofwater between plant and environment, To understand the mineral nutrients plants require, and how they are obtained, metabolized,and transported, To understand the physiological details of photosynthesis and respiration, and how they areorganized and regulated in plants, To understand plant growth and development, and its regulation by hormones and theenvironment.

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MMEC	M.SC.BOTANY 2 SEM	Plant Biochemistry and Biotechnology	This course is designed to expose the students to the basics and productive advancements in the arena of plant biochemistry and biotechnology with an emphasis to horticultural crops.Understanding the basics of plant biochemistry is the core of biotechnology which is involved in the manipulation of the crop plants that meet the needs of today's people. This course helps to understand the basics of biochemical principles and protocols used in genetic improvement of horticultural crops besides state-of-the-art biotechnological approaches. While preparing the course materials, it was kept in mind that completion of this course should enable the student to understand and undertake any biotech strategy that involves the manipulation of horticultural crop for a trait of interest.
MMEC	M.SC.BOTANY 2 SEM	Plant Taxonomy Practical	Introduction to plant taxonomy including principles of systematic botany, nomenclature, and classification, and emphasizing identification of major plant families. Students will work with common local ferns, lycophytes, gymnosperms, and flowering plants, with a focus on learning to recognize the major groups of plants anywhere in the world. Learning objectives
			Understand principles of plant systematics, nomenclature, and classification.
			Become proficient in plant identification skills, including the use of technical keys.
			Learn to recognize major plant families in the field.
			Learn to use and understand phylogenetic trees.
			Gain a basic understanding of botanical vocabulary and terminology.
			Learn about major themes and trends in plant evolution.

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MMEC	M.SC.BOTANY 2 SEM	Plant Physiology and Biochemistry Practical	The course explores the physiological processes pertinent to plants, it enhance the knowledge of the students in biological molecules, photosynthesis, respiration, transport, growth, flowering plant, growth substances and the physiological aspects of crop yield. The practical aspect of the course focuses on carrying out simple tests to identify some of the common biochemicals (qualitative analysis) in plants and to measure their amounts (quantitative analysis), to practically study and be able to explain the different physiological activities necessary for growth and development of plants. Determine the underlining physiological activities that explain the characteristics of plant materials observed when still attached onto the parent plant, after harvesting and during storage. The understanding of the rationale behind the practical procedures will enhance the student's ability to design their own procedures if necessary as they advance to higher levels
MMEC	M.SC.BOTANY 3 SEM	Environmental Management	Understand environmental management system (EMS) definitions, concepts, and guidelines and requirements of the ISO 14001 standard, Understand the stages of EMS implementation, learn best practice techniques, apply environmental-management principles to achieve continual improvement in an organization, To provide a basic understanding of varioustoolsand techniques such life cycle assessment, environmental audits, evaluation of environmental performance for environmental decision-making.
MMEC	M.SC.BOTANY 3 SEM	Angiosperms	This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. Students should ne bale to explain why angiosperms are the dominant form of plant life in most terrestrial ecosystems, describe the main parts of a flower and their purpose, Detail the life cycle of an angiosperm, Discuss the two main groups of flowering plants.

MMEC	M.SC.BOTANY 3 SEM	Plant Pathology	This course is intended for students in their 2nd year that are interested in learning about principles of plant pathology, diseases that affect plants, microbiology and microbial and plant interactions. In this course students will learn principles of plant pathology through lectures and demonstrations and exercises in laboratory. Students will gain knowledge of mycology and select diseases caused by fungi within Ascomycota, Basidiomycota and the fungal-like Oomycota. Diseases caused by bacteria, nematodes, viruses, parasitic plants and abiotic damage are also examined. Lectures will include information concerning the history and importance of plant pathology, mycology, bacteriology, nematology, virology, infection process, genetics of host and microorganism interactions, epidemiology of diseases and disease control strategies.
MMEC	M.SC.BOTANY 4 SEM	Industrial Training	Dissertation On—Campus to expose students towards industrial research
			Structured Industrial Training course (Off campus)
MMEC	M.TECH. CIVIL 1 SEM	Environmental Chemistry & Microbiology	To understand the atmospheric and water chemistry, biochemical effects of heavy metals and the role of microorganisms in biogeochemical cycles and bioremediation process.
MMEC	M.TECH. CIVIL 1 SEM	Unit Processes & Operations	Able to understand various processes and operations involved in wastewater treatment and design aspects of various treatment units.
MMEC	M.TECH. CIVIL 1 SEM	Fluid Mechanics	Introduce to the fundamental of fluid flow characteristics, its measurements techniques in various substantial fluid flows and its application in Civil Engineering.
MMEC	M.TECH. CIVIL 1 SEM	Environmental Hydraulics Lab	Acquaint with the fluid measurement apparatus and basic fluid mechanics principles through the practical approach.
MMEC	M.TECH. CIVIL 1 SEM	Microbiology-Lab	Able to isolate bacteria and fungi from soil, estimation of the number E-coli bacteria in wastewater, gram staining of lactobacillus bacteria from curd and gram staining of yeast.
MMEC	M.TECH. CIVIL 1 SEM	Environmental Ecology	To understand the structural and functional aspects of ecosystem, dynamics of population ecology, significance and conservation strategies of biodiversity.

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MMEC	M.TECH. CIVIL 1 SEM	Environmental Systems & Modelling	To understand various mathematical modelling and optimization technique, various theories pertain to decision analysis and economic aspect of system engineering.
MMEC	M.TECH. CIVIL 1 SEM	Air Quality Modelling	To understand the meteorological aspects of atmosphere, atmospheric diffusion of pollutants, their analysis and modeling and the air pollution effects on human health.
MMEC	M.TECH. CIVIL 2 SEM	Air Pollution & Control	To be able to identify different sources of air pollution, understand their causes, effects and provide practical solutions for air pollution control.
MMEC	M.TECH. CIVIL 2 SEM	Environmental Pollution & Management	To be able to summarize the various sources of water, noise, thermal pollution and offer technologies for prevention and control.
MMEC	M.TECH. CIVIL 2 SEM	Solid and Hazardous Waste Management	To be able to characterize, quantify solid waste and design proper solid waste management scheme including the collection, storage, transport and disposal of solid waste.
MMEC	M.TECH. CIVIL 2 SEM	IWW-Lab (Industrial wastewater)	To be able to characterize physio-chemical parameters of industrial wastes; identify the level of treatment required, suggest treatment units and evaluate the performance of existing effluent treatment plants (ETP's).
MMEC	M.TECH. CIVIL 2 SEM	Water Resources Planning & Management	To be able to understand issues pertaining to water resource management; use techniques, skills, and modern modeling tools to design water resource system components.
MMEC	M.TECH. CIVIL 2 SEM	Ground Water Engineering	To able to understand groundwater aquifers; flow modeling, methods for groundwater extraction and artificial recharge of groundwater.
MMEC	M.TECH. CIVIL 2 SEM	Advance Wastewater Treatment	To be able to devise engineered systems for waste water treatment based on advanced treatment using microbial activity; and access reliability and effectiveness of decentralized waste water treatment systems.

MMEC	M.TECH. CIVIL 2 SEM	Industrial Waste Management	To be well- versed with the various tools for clean processes- reuse, recycle, recovery, source reduction, raw material substitution, toxic use reduction and process modifications and to offer treatment of industrial effluents.
MMEC	M.TECH. CIVIL 3 SEM	Environment Impact Assessments	To study the basic concepts of EIA and methodologies used for EIA; environmental auditing and various environmental Acts
MMEC	M.TECH. CIVIL 3 SEM	Environmental Issues & Instrumentation	To study various environmental issues and problems, instrumentation principles and working of instruments used in environmental analysis
MMEC	M.TECH. CIVIL 3 SEM	Numerical Methods	To study Eigen value, linear & non-linear equations, finite differences, numerical differentiation & integration, initial & boundary value and variation or dispersion
MMEC	M.TECH. CIVIL 3 SEM	Computational Lab	To study computing techniques and numerical methods used in environmental engineering application and modeling; solute transportation & pipe networking and application of artificial intelligence
MMEC	M.TECH. CIVIL 3 SEM	Synopsis on Dissertation	Planning and execution of appropriate engineering projects. These investigations may be assigned on an individual or a team basis and in most cases will involve experimental work.
MMEC	M.TECH. CIVIL 3 SEM	Project Engineering and Management	To study concepts of project formulation, management, costing and appraisal, design and construction process.
MMEC	M.TECH. CIVIL 3 SEM	Environmental Remote Sensing	To study principles of Remote Sensing and Geographical Information System, application of RS and GIS in Water resources, Land resources, Forestry, Geological application and Urban studies.
MMEC	M.TECH. CIVIL 3 SEM	Energy Systems and Environment	To study fundamental concepts of energy and energy conversion systems, energy management strategies and alternate source of energy.
MMEC	M.TECH. CIVIL 4 SEM	Dissertation	Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, design, formulation and solution.

MMEC	M. TECH. ME 1 SEM	Flexible Manufacturing Systems	The course will cover the practical integration of individual pieces of automation and various levels of electronic control to create stand-alone automated fabrication and assembly systems. The learner will integrate a variety of manufacturing equipment to create, program and operate an automated manufacturing cell and an automated material handling cell (AMHC). Students will evaluate the requirements of implementing an FMS.
MMEC	M. TECH. ME 1 SEM	Robotics	The course will consist of lectures including principles of engineering, physics, electronics, mechanics, and computer programming.
MMEC	M. TECH. ME 1 SEM	Machine Tool Engineering	This course is a practical application of knowledge pertaining to the safe set-up and operation of standard metal cutting machine tools, the correct and safe selection of cutting tools, R.P.M., feed rates and machining processes.
MMEC	M. TECH. ME 1 SEM	CNC Lab	This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.
MMEC	M. TECH. ME 2 SEM	Computer Control of Machine Tools	Emphasizes advanced calculations and machining operations on conventional lathes, milling machines, and surface grinders and their accessories. Introduces the basics of CNC programming and machining.
MMEC	M. TECH. ME 2 SEM	Finite Element Method	The finite element method and its applications to engineering problems: truss and frame structures, heat conduction, and linear elasticity; use of application software; overview of advanced topics such as structural dynamics, fluid flow, and nonlinear structural analysis.
MMEC	M. TECH. ME 2 SEM	Tribology	Tribology is an interdisciplinary course which deals with fundamentals of surface contact, friction, wear and lubrication. The course includes description and modeling of engineering surfaces, popular surface contact theories, major modes of friction, wear, lubrication and adhesion.
MMEC	M. TECH. ME 2 SEM	Tribology Lab	This course will help students understanding different types of wear. Students will learn to measure the pressure profile, frictional torque and power transmission of lubrication.
MMEC	M. TECH. ME 3 SEM	Mechatronics	This course is an introduction to designing mechatronic systems, which require integration of the mechanical and electrical engineering disciplines within a unified framework.
MMEC	M. TECH. ME 3 SEM	Seminar	This course helps students to improve oral and written communication skills and to set the stage for future recruitment by potential

			employers.
MMEC	M. TECH. ME 4 SEM	Dissertation:	Emphasizes on off-the-shelf research to create new knowledge and explore future challenges. The researcher is expected to identify the research gaps, formulate objectives, and develop methodologies for finding solutions to real life problems.
MMEC	M.TECH. EE 1 SEM	Advanced Power System Analysis	This course covers methods of network modelling by graph theory and algorithmic approach, representation of three phase network elements, Kron reduction technique, Schemes of ordering, short circuit studies using Z bus, load flow equations, Gauss-Seidel and Newton-Raphson methods, fast decoupled methods, AC-DC load flow problems, transient stability solution using modified Euler's method, sparsity techniques and state estimate of an AC network.
MMEC	M.TECH. EE 1 SEM	Power Electronics Devices	This course deals with the Operating characteristics of power semiconductor devices such as Power Diode, Bipolar Junction Transistors, IGBTs, MOSFETs, Thyristors, DIAC, TRIAC, GTO etc. SCR rating and Commutation and also fundamentals of power converter circuits as phase-controlled rectifiers and AC Regulators.It also deals with the Practical issues in the design and operation of converters and fundamentals of power converter circuits as choppers.
MMEC	M.TECH. EE 1 SEM	Microprocessor & Digital Signal Processors	This course describes different signal classes and identify the relevant spectral representation and also explain and apply properties of discrete time signal processing systems and Fourier series properties to compute the spectrum of a signal and the difference among various transforms like Fourier, Laplace, Z, Discrete Fourie, discrete time signal processing system and calculate associated transfer functions and also help to understand the concept of sampling and reconstruction processes and determine the relevant parameters in specific applications, also to deduce and determine how the discrete and fast Fourier transform can be applied for computation of signal spectra and in filtering operations.
MMEC	M.TECH. EE 1 SEM	Digital control System	This course introduces the fundamental concepts of Control systems and mathematical modelling of the system and also time response and frequency response of the system. It also gives the knowledge of the basics of stability analysis of the system, of state variable analysis, conventional PID controller and some control components like synchros, dc-ac techogenerator, servomotor, magnetic amplifier, stepper motor
MMEC	M.TECH. EE 1 SEM	System Modelling & Optimization	This course gives an idea about the Model decision making problems using major modelling formalisms of operations research, including propositional logic, constraints, linear programs and also able to evaluate the computational performance of search, satisfaction, optimization and learning algorithms.

MMEC	M.TECH. EE 2 SEM	Power Apparatus & Machines	Students will be able to study the equivalent circuit and mathematical representation of Transformer, speed control methods of D.C motors, equivalent circuit and mathematical representation of AC machines and also study of speed control methods of induction and synchronous machine.
MMEC	M.TECH. EE 2 SEM	Information Security	This course deals with the study of the security systems in computer networks and various types of attacks in computers and networks and also idea about the various encryption and decryption techniques and speed various security systems in computer networks.
MMEC	M.TECH. EE 2 SEM	Electric Drives	This deals with the basic knowledge of the electrical drive systems and also the knowledge about stability control circuits in rotating electrical machines and also to make the students familiar with the computer approaches for speed controls of electrical machines.
MMEC	M.TECH. EE 2 SEM	AC CONTROLLER	It gives the idea about the fundamentals of power converter circuits, inverters, cycloconverte AC voltage regulator and the Performance characteristics Practical issues in the design and operation of converters and Harmonic mitigation techniques.
MMEC	M.TECH. EE 2 SEM	Power System Operation & Control	It gives an overview of power system operations and control and principal analytical aspects of power system operations, optimization and optimal power flow, Economic Operation of Power System, Automatic Generation Control, Load Frequency Control, Economic Sharing of Loads between Different Plants Coordination between LFC and Economic Dispatch and Resource scheduling and unit commitment, loadforecasting, Load modelling and role of reactive power in system operations and Reactive Compensation
MMEC	M.TECH. EE 3 SEM	Computer Aided Design Of Electrical Machines	It helps to provide the basic knowledge to the students about designing of transformers & rotating electrical machines, knowledge about cooling & heating in electrical machines and to make the students familiar with the computer approaches for designing of electric apparatus.
MMEC	M.TECH. EE 3 SEM	Power system dynamics & stability	This course covers methods of network modelling by graph theory and algorithmic approach, representation of three phase network elements, short circuit studies, load flow equations, fast decoupled methods, transient stability.
MMEC	M.TECH. EE 3 SEM	Intelligent Control	To understand basic significance of artificial intelligence in the area of decision making, recognition, similarity matching etc and also the concepts of artificial neural network and its models, various learning algorithms in supervised and unsupervised mode, fuzzy logic and fuzzy logic system and to study the concept of genetic algorithms and genetic operators, hybrid structure ANN-GA, ANN-fuzzy, GA-Fuzzy

MMEC	M.TECH. EE 4 SEM	Dissertation Work	Emphasizes on off-the-shelf research to create new knowledge and explore future challenges. The researcher is expected to identify the research gaps, formulate objectives, and develop methodologies for finding solutions to real life problems.
MMEC	M.TECH. CSE 1 SEM	Programming Paradigms	Able to apply and develop in-depth knowledge of functional, logic, and object-oriented programming paradigms. Understand design/implementation issues involved with variable allocation and binding, control flow, data types, subroutines, parameter passing etc.
MMEC	M.TECH. CSE 1 SEM	Advanced Data Structures & Algorithms	It helps in understanding the concept of high level Static & Dynamic memory management, data types, algorithms and basic data structures such as arrays, linked lists, stacks and queues.
MMEC	M.TECH. CSE 1 SEM	Mathematical Concepts for Computer Science	Able to apply knowledge of Statistics to solve various problems & mathematical concepts such as sets, relations, functions etc. Also describes the language accepted by automata or generated by a regular expression or a context-free grammar.
MMEC	M.TECH. CSE 1 SEM	Advanced Operating Systems	Able to understand the difference between different types of Advanced operating systems, virtual machines and their structure of implementation and applications. The main focus is on UNIX File system including advanced file processing and practice pipelining and I/O redirecting.
MMEC	M.TECH. CSE 1 SEM	Advanced Computer Architecture	To have a detailed knowledge of the Advanced structure and operation of a digital computer & discuss in detail the operation of the arithmetic unit including the algorithms & implementation of fixed-point and floating-point addition, subtraction, multiplication & division.
MMEC	M.TECH. CSE 1 SEM	Programming Paradigms Lab	Students will be able to work practically over various programming paradigms like imperative, object-oriented, functional and logical.
MMEC	M.TECH. CSE 1 SEM	Advanced Data Structures Lab	It helps to apply various data structures like array, linked list, stack, queue, trees and graphs in projects.
MMEC	M.TECH. CSE 2 SEM	Advanced Computer Networks	To Study High level computer network which includes Cisco, packet tracer, boson Simulators perspective. It helps us to study different technical and connecting devices.
MMEC	M.TECH. CSE 2 SEM	Elective I(A)	Simulation modeling is a versatile technique well suited for the study of some complex problems, to tackle previously untouched,

			often apparently unmanageable problems.
MMEC	M.TECH. CSE 2 SEM	Elective I(B)	Able to learn the high level distributed computing differences between concurrent, networked, distributed, and mobile, Resource allocation and deadlock detection and avoidance techniques.
MMEC	M.TECH. CSE 2 SEM	Elective I(C)	The ultimate goal of a multi-objective optimization algorithm is to identify solutions in the optimal set. Therefore, a practical approach to multi-objective optimization is to investigate a set of solutions that represent the Pareto optimal set as well as possible.
MMEC	M.TECH. CSE 2 SEM	Elective II(A)	The Aim of Fault tolerance is to maintain the working in case of failure of the system or some of its components. . If its operating quality decreases at all, the decrease is proportional to the severity of the failure, as compared to a naively designed system in which even a small failure can cause total breakdown.

MMEC	M.TECH. CSE 2 SEM	Elective II(B)	An integrated user-machine system for providing information to support operations, management and decision making functions in an organization. The system utilizes computerized and manual procedures; models for analysis, planning, control and decision making; and a database.
MMEC	M.TECH. CSE 2 SEM	Elective II(C)	Enables to apply various concepts of object oriented programming in the development of large scale and efficient software systems.
MMEC	M.TECH. CSE 2 SEM	Object Oriented Software System Design	In ubiquitous computing, the main objective is to provide users the ability to access services and resources. Ubiquitous computing is recent paradigms with a goal to provide computing and communication services anytime and everywhere
MMEC	M.TECH. CSE 2 SEM	Elective III(B)	It describes how to develop project by the use of Software Engineering & also the ability to gather and specify requirements of the software projects. It Provide design software requirements with existing tools.
MMEC	M.TECH. CSE 2 SEM	Software Project Management	It enables to identify and use the elements and principles of design in multimedia & also identify terminology associated with the concepts, techniques, and processes used throughout the multimedia environment.
MMEC	M.TECH. CSE 2 SEM	Multimedia Technology	In Pervasive computing, the main objective is to provide users the ability to access services and resources all the time and irrespective to their location.

MMEC	M.TECH. CSE 2 SEM	Advanced Computer Network Lab	Able to Implement various routing protocols. Working over networking and inter – networking devices. Able to understand client – server programming using TCP and UDP sockets.
MMEC	M.TECH. CSE 2 SEM	Genetic Algorithms Lab	Students will be able to apply and implement various Genetic Algorithms concepts like cross-over, mutation over various application and research oriented programs.
MMEC	M.TECH. CSE 3 SEM	Elective –IV(A)	Discuss the characteristics and attributes of mobile computing and m-commerce & Describe the drivers of mobile computing. Understand the technologies that support mobile computing & Describe wireless standards and transmission networks.
MMEC	M.TECH. CSE 3 SEM	Elective –IV(B)	Help to understand why information systems are so important today for business and management & Evaluate the role of the major types of information systems in a business environment and their relationship to each other & Assess the impact of the Internet and Internet technology on business electronic commerce and electronic business.
MMEC	M.TECH. CSE 3 SEM	Elective –IV(C)	It describes the high level concepts of java Programming which includes Servlets, syntax, idioms, patterns, and styles and to become comfortable with object oriented programming & also to write programs using object-based techniques including classes, objects and inheritance. To develop applets & to create java server pages.
MMEC	M.TECH. CSE 3 SEM	Elective-V (A)	Able to understand the routing concept of mobile Ad Hoc network & also to understand the reliable and unreliable communication in mobile ad hoc network. Creates the security mechanism for mobile Ad Hoc network & understand the solutions to improve the quality of service in mobile Ad Hoc network.

MMEC	M.TECH. CSE 3 SEM	Elective –V(B)	The goal is to introduce the basics of computer networks and internet programming. Also describes the multi-tier application development and RPC technologies including: RMI, CORBA, EJB, and Web Services.
MMEC	M.TECH. CSE 3 SEM	Elective –V(C)	It provides a comprehensive foundation to Artificial Neural Networks and Machine Leaning with applications to Pattern Recognition and Data Mining. Learning processes: supervised and unsupervised, deterministic and statistical. Clustering, Least-Mean-square, back propagation.
MMEC	M.TECH. CSE 3 SEM	Elective –Vi(A)	Identify factors driving the need for network security & types of attacks. Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack.F
MMEC	M.TECH. CSE 3 SEM	Elective- Vi(B)	It introduces the basic concepts and techniques for processing signals on a computer. It covers digital filter design, transform-domain processing and importance of Signal Processors.
MMEC		Elective –V(C)	It describes the differences between the general computing system and the embedded system. Also recognize the classification of embedded systems. It became aware of interrupts, hyper threading and software optimization.
MMEC	M.TECH. CSE 3 SEM	Network Programming Lab	It enables to use network programming concepts to develop and implement distributed applications, to develop and implement next generation protocols required for emerging applications models and evaluate performance of networking systems.
		Project	Student will undergo a research-oriented project in a particular research area which will help them for performing further research

			activities.
MMEC	M.TECH. CSE 4 SEM	Dissertation & Comprehensive Viva- Voce	Master the critical ideas of computational thinking and algorithmic approaches for problem solving. Demonstrate broad knowledge of a particular research field. Critically analyze published research in the particular interested area..
MMEC	M.TECH. ECE 1 SEM	Advanced Optical Communication	This course makes familiarization with optical fibers, their structures and working. The various optical sources, the optical amplifier & their applications.
MMEC	M.TECH. ECE 1 SEM	Advanced Digital Signal Processing	This course is used to understand the meaning and implications of the properties of systems and signals, understand the Transform domain and its significance and problems related to computational complexity.
			The design of linear digital filters FIR and IIR using different techniques and their associated structures, concept of Multi-rate signal processing & its Applications.
MMEC	M.TECH. ECE 1 SEM	Data Communication Networks	This course develops an understanding of modern digital networks, data communication technologies and how to use them to: Implement, Operate, Manage networks.
MMEC	M.TECH. ECE 1 SEM	Advanced Optical Communication Lab	This Lab provides information about various types of fibers, setting up of fiber optical links for digital and analog transmission and study of fiber connectorisation kit.
MMEC	M.TECH. ECE 1 SEM	Advanced Digital Signal Processing Lab	This Lab deals with practical implementation of properties of systems and signals, Transform domain and its significance and problems related to computational complexity using MatLab software.
MMEC	M.TECH. ECE 2 SEM	Multimedia Communication System	Introduction to fundamental concepts of Multimedia communication and to understand various audio/video coding techniques.
MMEC	M.TECH. ECE 2 SEM	Satellite Communication	Introduction to fundamental concepts of Evolution and Growth of Satellite Communication, Space Segment, Earth Segment, Space Link, Satellite Applications.

MMEC	M.TECH. ECE 2 SEM	Optical Networks	Develop an understanding of Three Generation of Digital Transport Network, Architecture of Optical Transport Networks (OTNs), WDM Networks, Network Topologies and Protection Schemes, Multi Protocol Label Switching (MPLS) in Optical Networks.
MMEC	M.TECH. ECE 2 SEM	Advanced Communication Lab	This lab provides students the concept of modulation and demodulation of various analog and digital modulation techniques using MATLAB.
MMEC	M.TECH. ECE 2 SEM	Simulation Lab-I	Enable the students to model, simulate and test the Electronics & Instrumentation based design and provide a design flexibility using graphical programming language.
MMEC	M.TECH. ECE 3 SEM	Digital Image Processing	This course provides the fundamentals of Digital Image Processing system and also the principles of image acquisition system and imaging technologies used in various fields.
MMEC	M.TECH. ECE 3 SEM	Research Seminar	Involves delivery of seminar by student on any current and advanced topic in technology related to the field of Electronics and Communication Engineering.
MMEC	M.TECH. ECE 3 SEM	Project	The Project involves integration and implementation of knowledge and skills acquired during the degree program. It involves group work with hands on experience on some live projects in the field of Electronics and Communication Engineering.
MMEC	M.TECH. ECE 3 SEM	Simulation Lab-II	Design and analyze various modulation schemes using Vissim software.
MMEC	M.TECH. ECE 4 SEM	Dissertation	The candidate has to demonstrate a technical presentation of their selected project topic using three steps: Problem formulation, work methodology and results.
MMIM	DBM 1 SEM	English (Part-I)	The aim of the course is to develop a higher degree of proficiency in Listening, Speaking, Reading and Writing English.
MMIM	DBM 1 SEM	Introduction to Accounting	To familiarize the students with accounting as an information system & to acquaint the students with basic concepts of accounting and accounting standards.
MMIM	DBM 1 SEM	Business Economics	Understanding of some basic economic concepts and developing economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
MMIM	DBM 1 SEM	Principles of Management	This Course is meant to acquaint the students with the principles of Management as are applicable in business.

MMIM	DBM 1 SEM	Business and Commerce	To develop in students an understanding of the processes of business and its environment.
MMIM	DBM 2 SEM	English (Part-II)	The aim of the course is to develop a higher degree of proficiency in Listening, Speaking, Reading and Writing English.
MMIM	DBM 2 SEM	Business Environment	The objective of the course is to provide the student with a background of various environment factors that have major repercussions on business and sharpen their mind to watch and update the changes that occur constantly in this sphere.
MMIM	DBM 2 SEM	Organizational Behavior	This paper will help the students to develop a better work-related understanding about themselves and other people. It can also help expand the students? potential for career success in the dynamic, shifting, complex, and challenging new workplaces of today and tomorrow.
MMIM	DBM 2 SEM	Business Mathematics	Students will be able to define relevant terms, discuss the importance of mathematical concepts in business decision-making and to interpret all results.
MMIM	DBM 2 SEM	Fundamentals of Computers	The Objective of the course is to familiarize the student with the computers and how it can be effectively used in business.
MMIM	DBM 3 SEM	Business Communication	To develop effective business communication skills among the students so as to enable students to interact interpersonally as well as in large groups.
MMIM	DBM 3 SEM	Disaster Management	The course on Disaster Management is directed towards providing insights to the students about the different types of disasters and how the students as youth of the nation can help themselves and the society at the time of disasters.
MMIM	DBM 3 SEM	Advanced Financial Accounting	To familiarize the students with financial records / statements and principles underlying them and to develop their skills in understanding and appreciating financial accounting information.
MMIM	DBM 3 SEM	Human Resource Management (Part 1)	The objective of this course is to help the participants to understand the conceptual framework of human resource management.

MMIM	DBM 3 SEM	Computer Applications in Management	The objective of this course is to acquaint the management students with the computing resources of an organization and their usage to enhance their personal efficiency so that they can understand how computers may be used to enhance organizational effectiveness.
MMIM	DBM 3 SEM	Seminar Presentation	The objective of the seminar is to increase the presentation skills among the students.
MMIM	DBM 4 SEM	Company Law	The objective of this course is to familiarize the students with the different forms of ownership, their legal entities with special focus on how a company is formed.
MMIM	DBM 4 SEM	Basics of Entrepreneurship	The objective of this course is to develop a basic understanding of the entrepreneurial development and the process of setting up of new ventures and their management.
MMIM	DBM 4 SEM	Marketing Management	The objective of this course is to help the participants to understand the conceptual framework of marketing management. It also intends to expose the participants to the various decisions the marketing manager are required to take under various environmental conditions.
MMIM	DBM 4 SEM	Cost Accounting	To familiarize the students with cost records / statements and principles underlying them and to develop their skills in understanding and appreciating cost information.
MMIM	DBM 4 SEM	E- Commerce and Cyber Laws	To acquaint the students with the concepts and applications of electronic commerce.
MMIM	DBM 4 SEM	Seminar Presentation	The objective of the seminar is to increase the presentation skills among the students.
MMIM	DBM 5 SEM	Entrepreneurship Development	The objective of this course is to develop a basic understanding of the entrepreneurial development and the process of setting up of new ventures and their management.
MMIM	DBM 5 SEM	International Business	The objective of this course is to give students a basis for understanding the unique aspects of the international business environment.
MMIM	DBM 5 SEM	Human Resource Management (Part-	The objective of this course is to help the participants to understand the conceptual framework of human resource management.

MMIM	DBM 5 SEM	Marketing Research	The objective of this course is to help the participants to understand the conceptual framework of Marketing research
MMIM	DBM 5 SEM	Corporate Legal Environment	The objective of this course is to familiarise the students with the basics of legal environment of business, the evolution of legal system and the sources of commercial law as well as the issue in corporate legal governance in India.
MMIM	DBM 5 SEM	Functional Viva	The viva helps in investigate the awareness levels among the students.
MMIM	DBM 6 SEM	Customer Relationship Management	The objective of this course is to introduce students to the concepts and methods of customer relationship management (CRM). The course will have a hands-on, methodological orientation.
MMIM	DBM 6 SEM	Consumer Behavior	The objective of this course is to bring up the hidden issues of Consumer Behaviour to horn the skills of effective decision-making in the students.
MMIM	DBM 6 SEM	Business Ethics	To Sensitize the Student on the various Ethical aspects concerning the Functioning of Business Enterprises, within the Organizations and in their Relationship with the External World.
MMIM	DBM 6 SEM	Retail Management	The objective of this course is to help the participants to understand the conceptual framework of Retail management.
MMIM	DBM 6 SEM	Taxation Laws	The objective of this course is to help the participants to understand the conceptual framework of taxation laws.
MMIM	DBM 6 SEM	Dissertation Report	Dissertation helps to create skill that is grounded in the cognitive domain. It involves learning, comprehension, application and synthesis of new knowledge to promote the interest of research among the students.
MMIM	B.COM (HONS) 1 SEM	Environmental Studies	The subject gives a direct contact with nature and the knowledge of it. The subject gives students an ample scope for application. They will get some real-time knowledge and skill which required when they are actually dealing with environmental problems and the possible solutions.
MMIM	B.COM (HONS) 1 SEM	Financial Accounting	The objective of this paper is to help students to acquire conceptual knowledge of thefinancial accounting and to impart skills for recording various kinds of business transactions.

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MMIM	B.COM (HONS) 1 SEM	Business Organisation and Management	The course aims to provide basic knowledge to the students about the organisation and management of a business enterprise.
MMIM	B.COM (HONS) 1 SEM	Principles of Micro Economics	The purpose of this course is to provide a basic understanding of the principles of microeconomics among the students. At its core, the study of economics deals with the choices and decisions that have to be made in order to manage scarce resources available to us from this course, students will learn how and why these decisions are made and how they affect one another in the economy.
MMIM	B.COM (HONS) 1 SEM	English	To teach as a major language of international communication in the present world scenario. This course would equip the students with excellent communication skill in diverse applications of English language functionally.
MMIM	B.COM (HONS) 2 SEM	Foreign Language	Teaching a foreign language like French enhances the chances of employ ability as it is the language spoken in five continents across the world as well as official language of several organizations like NATO, UNESCO, UNO, etc.
MMIM	B.COM (HONS) 2 SEM	Business Law	The objective of the course is to impart basic knowledge of the important business laws along with relevant case law.
MMIM	B.COM (HONS) 2 SEM	Business Mathematics and Statistics	The objective of this course is to familiarize students with the applications of Mathematicsand statistical techniques in business decisions process.
MMIM	B.COM (HONS) 2 SEM	Principles of Macro Economics	The course aims at providing the student with knowledge of basic concepts of the macro economics. The modern tools of macro-economic analysis are discussed and the policy framework is elaborated, including the open economy.
MMIM	B.COM (HONS) 2 SEM	Fundamentals of Entrepreneurship	The course aims to acquaint the students with challenges of starting new ventures and enable then to investigate, understand and internalize the process of setting up a business.
MMIM	B.COM (HONS) 3 SEM	Company Law	The objective of the course is to impart basic knowledge of the provisions of the companies Act 2013 and the Depositories Act, 1996. Case studies involving issues in corporate laws are required to be discussed.
MMIM	B.COM (HONS) 3 SEM	Income Tax	To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961 and the relevant Rules & Regulations.

MMIM	B.COM (HONS) 3 SEM	Indian Economy	This course seeks to enable the student to grasp the major economic problems in India and their solution.
MMIM	B.COM (HONS) 3 SEM	Banking and Insurance	To impart knowledge about the basic principles of the banking and insurance.
MMIM	B.COM (HONS) 3 SEM	Disaster Management	To provide adequate theoretical knowledge about Disaster Management with focus from traditional response based management to structured skill based management and understanding the whole cycle of disaster management.
MMIM	B.COM (HONS) 4 SEM	Indirect Taxes	To provide basic knowledge and equip students with application of principles and provisions of Service Tax, VAT, Central Excise, and Customs Laws.
MMIM	B.COM (HONS) 4 SEM	Corporate Accounting	To help the students to acquire the conceptual knowledge of the corporate accounting and to learn the techniques of preparing the financial statements.
MMIM	B.COM (HONS) 4 SEM	Human Resource Management	The objective of the course is to acquaint students with the techniques and principles to manage human resources of an organisation.
MMIM	B.COM (HONS) 4 SEM	.E-Commerce	To enable the students to become familiar with the mechanism for conducting business transactions through electronic means.
MMIM	B.COM (HONS) 4 SEM	Research Methodology	The objective of this paper is to help students to acquire conceptual knowledge of research and to apply those skills in the business entity.
MMIM	B.COM (HONS) 5 SEM	Auditing and Corporate Governance	To provide knowledge of auditing principles, procedures and techniques in accordance with current legal requirements and professional standards and to give an overview of the principles of Corporate Governance and Corporate Social Responsibility.
MMIM	B.COM (HONS) 5 SEM	Cost Accounting	To acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting book keeping systems.
MMIM	B.COM (HONS) 5 SEM	Principles of Marketing	The objective of this course is to provide basic knowledge of concepts, principles, tools and techniques of marketing.

MMIM	B.COM (HONS) 5 SEM	Computer Applications in Business	This course seeks to enhance the skills needed for computerized accounting system and to enable the students to develop simple accounting applications.
MMIM	B.COM (HONS) 5 SEM	Financial Analysis and Reporting	To familiarize the students with the concepts , tools and practices of financial management and to learn about the decisions and processes of financial management in a business firm.
MMIM	B.COM (HONS) 6 SEM	Fundamentals of Financial Management	To familiarize the students with the principles and practices of financial management.
MMIM	B.COM (HONS) 6 SEM	Business Communication	To develop or improve student's ability to use clear , concise language , to select an appropriate format and to write the professional business documents, ability to compose English sentences and mechanics.
MMIM	B.COM (HONS) 6 SEM	Personal Selling and Salesmanship	The purpose of this course is to familiarize the students with the fundamentals of personal selling and the selling process. They will be able to understand selling as a career and what it takes to be a successful salesman.
MMIM	B.COM (HONS) 6 SEM	Dissertation	It helps to create skill that is grounded in the cognitive domain. It involves learning, comprehension, application and synthesis of new knowledge to promote the interest of research among the students.
MMIM	BBA 1 SEM	Management Foundation	The objective of this course is to develop an understanding of the basic concepts of business and various functional areas of management.
MMIM	BBA 1 SEM	Business Environment	This course aims at acquainting the students with the emerging issues in business at the national & international level in the light of the policies of liberalization & globalization.
MMIM	BBA 1 SEM	English	To teach as a major language of international communication in the present world scenario. This course would equip the students with excellent communication skill in diverse applications of English language functionally.
MMIM	BBA 1 SEM	Introduction to Business Accounting	The objective of this course is to provide a theoretical framework as well as business applications of various accounting methods in management

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MMIM	BBA 1 SEM	Basic Mathematics	The objective of this course is to enable the students to have such minimum knowledge of Mathematics as is applicable to business and economic situations.
MMIM	BBA 1 SEM	Computer Fundamentals	The objective of this course is to provide an introductory foundation of Computers to the students.
MMIM	BBA 2 SEM	Micro Economics	This Course is meant to acquaint the students with the principles of Micro Economics as are applicable in business.
MMIM	BBA 2 SEM	Business Organisation	The Objective of this paper is to impart to the students an understanding of business concepts with a view to prepare them to face emerging challenge of managing business.
MMIM	BBA 2 SEM	Behavioural Techniques in Management	This paper will help the students to develop a better work-related understanding about themselves and other people. It can also help expand the student'spotential for career success in the dynamic, shifting, complex, and challenging new workplaces of today and tomorrow.
MMIM	BBA 2 SEM	Financial Accounting	The objective of this course is to provide a theoretical framework as well as business applications of various accounting methods in management.
MMIM	BBA 2 SEM	Quantitative Methods for business and management	Students will be expected to be able to define relevant terms, discuss the importance of statistical and mathematical concepts in business decision-making and to interpret all results.
MMIM	BBA 2 SEM	Basics of Information Technology	The syllabus aims to develop an awareness of the importance and applications of information technology in business processes.
MMIM	BBA 3 SEM	Fundamentals of Marketing	The objective of this course is to help students to understand the concept of marketing & its applications.
MMIM	BBA 3 SEM	Accounting for Managers	To develop skills for using accounting information for management decision making

MMIM	BBA 3 SEM	Human Resource Management	To develop an understanding of the basic concepts of human resource and various functional areas of HR.
MMIM	BBA 3 SEM	Global Business Management	The main objective of this paper develops an understanding of the worldwide developments and foundations for international business and the cultural context for managing in an overseas environment.
MMIM	BBA 3 SEM	Macro Economics	This Course is meant to acquaint the students with the principles of macro Economics as are applicable in business.
MMIM	BBA 3 SEM	Communication Skills and Personality Development	To equip students with necessary communication skills in order to make effective presentations and for development of leadership and other personality skills
MMIM	BBA 4 SEM	Research Methodology	To equip the students with the basic understanding of the research methodology and to provide an insight into the application of modern analytical tools.
MMIM	BBA 4 SEM	International Business	To develop an understanding on the basic of International Business for gaining information about international business in various functional areas.
MMIM	BBA 4 SEM	Disaster Management	To provide adequate theoretical knowledge about Disaster Management with focus from traditional response based management to structured skill based management and understanding the whole cycle of disaster management, i.e., Prevention, Preparedness, Mitigation, Response, Relief and Rehabilitation.
MMIM	BBA 4 SEM	Foreign Language	The study of a foreign language helps in developing young graduates into global citizens. The knowledge of an additional language like French is an added advantage and gives excellent and increased opportunities, especially in the field of business management, information technology, hospitality, tourism and fashion industry and any multi- national companies and organizations
MMIM	BBA 4 SEM	Legal Framework of Business and Management	To acquaint the students with the various business laws prevailing in our country.
MMIM	BBA 4 SEM	Fundamentals of Cyber & Information	This course provides an overview of Cyber & Information Security. Students will be exposed to the spectrum of security activities, methods, methodologies, and procedures with emphasis on practical aspects of Cyber and Information Security.

		Security	
MMIM	BBA 5 SEM	Entrepreneurship Development	The objective of this course is to develop a basic understanding of the entrepreneurial development and the process of setting up of new ventures and their management.
MMIM	BBA 5 SEM	Strategic Management	The objective of this course is to provide theoretical framework as well as business applications of various strategies used by the corporate.
MMIM	BBA 5 SEM	E-Commerce	To enable the student to become familiar with the mechanism for conducting business transactions through electronic means.
MMIM	BBA 5 SEM	Foreign Language	The study of a foreign language helps in developing young graduates into global citizens. The knowledge of an additional language like French is an added advantage and gives excellent and increased opportunities, especially in the field of business management, information technology, hospitality, tourism and fashion industry and any multi- national companies and organizations
MMIM	BBA 6 SEM	Global Corporate Social Responsibility and Sustainability Management	The main objective of this paper is to develop an understanding in students about the growing importance of global corporate social responsibility and sustainability and study its impact on business.
MMIM	BBA 6 SEM	Business Value and Ethics	To Sensitize the Student on the various Ethical Aspects concerning the Functioning of Business Enterprises, within the Organizations and in their Relationship with the External World.
MMIM	BBA 6 SEM	Management Information System	The purpose of this course is to introduce the concepts of management Information systems and their use.

MMIM	BBA 6 SEM	Foreign Language	Teaching a foreign language like French enhances the chances of employ ability as it is the language spoken in five continents across the world as well as official language of several organizations like NATO, UNESCO, UNO, etc. Learning a foreign language augments one's interpersonal skills by developing the ability to interpret, discuss, interact and also enhances social and professional adaptability.
MMIM	BBA 6 SEM	Business Research project	This paper is considered as a special course involving application of knowledge in solving ,analyzing ,exploring a real life situation and difficult problem.
MMIM	MBA 1 SEM	Principles and Practices of management	To provide an understanding of the functions & tasks of Management. The emphasis of the course is to help students develop toolkit of useful skills, strategies & approaches drawn from principles and practices of management.
MMIM	MBA 1 SEM	Managerial Economics	The main objective of this paper is to develop an understanding in students about the applicability of microeconomics for business decision.
MMIM	MBA 1 SEM	Business Environment	The main objective of this paper is to acquaint students about the emerging trends in business environment.
MMIM	MBA 1 SEM	Accounting for Managers	To acquire an understanding of the principles used to prepare financial statement. To acquire the skill necessary to read, interpret and perform calculations for the accounting reports involved in cost control and profit planning to learn how to read and understand financial statements and to observe the effects of routine business transactions on them.
MMIM	MBA 1 SEM	Business Communication	To enhance both verbal & written communication skills required for various managerial activities. The course attempts to provide adequate exposure to the students in the different types of communication across functional areas of an organization.
MMIM	MBA 1 SEM	Quantitative Techniques for Decision Making	The objective of this course is to provide a theoretical framework as well as business applications of various quantitative techniques for management decisions. It aims to understand the applications of various statistical tools with emphasis on their practical applications to business scenarios.
MMIM	MBA 1 SEM	Computer Applications in Management	The objective of this course is to acquaint the management students with the computing resources of an organization and their usage to enhance their personal efficiency so that they can understand how computers may be used to enhance organizational effectiveness.

MAHARISHI MARKANDESHWAR (DEEMED TO BE UNIVERSITY)
Mullana, Ambala, Haryana,133207
(Established under section 3 of the UGC Act, 1956
(NAAC Accredited Grade 'A++')

MMIM	MBA 1 SEM	Industrial Research Project	The objective is to promote the research aptitude among the students.
MMIM	MBA 2 SEM	Marketing management	This course seeks to introduce participants to the basic concepts, tools and techniques in marketing management and provide them with the opportunities to utilize and apply these marketing concepts, tools and techniques to analyze and solve marketing problems and to make marketing decisions.
MMIM	MBA 2 SEM	Operations Research	The Objectives of this course is to impart knowledge to students about the important tools, techniques and methods of Operations Research with their business applications.
MMIM	MBA 2 SEM	Business Research Methodology	To develop understanding of tools and techniques used for business research methodology from a user's perspective and a researcher's perspective. The practical aspects of research methodology will be emphasized. This will help to prepare students for their summer training in which students are usually assigned projects that involve use of research methodology. It will also help them in preparation of other assigned research projects.
MMIM	MBA 2 SEM	Organisation Behaviour	To provide an understanding of the behavioral patterns of human beings at individual & group levels. The emphasis of the course is to help students develop toolkit of useful skills, strategies & approaches drawn from OB
MMIM	MBA 2 SEM	Financial management	To provide a strong conceptual foundation for corporate finance and develop the analytical skills by associating the tools and techniques.
MMIM	MBA 2 SEM	Human Resource Management	The objectives of this course is to sensitize students to the various facets of managing people and to create an understanding of the various policies and practices of human resource management.
MMIM	MBA 2 SEM	Productions & Operation Management	The objective of this course is to familiarize the student with the basics of Production and Operations Management. This function is concerned with production of goods and providing services in cost-effective manner in accordance with the existing and perceived demand for the existing and potential customers
MMIM	MBA 2 SEM	Industrial Research Project	The objective is to promote the research aptitude among the students.
MMIM	MBA 3 SEM	Strategic Management	To provide an in depth understanding of the concepts, role and practices of Strategic Management in the changing Business Environment as well as practical exposure.

MMIM	MBA 3 SEM	Advance Business research Methods	This course is designed to inculcate all new and existing dimensions of managerial analysis to enhance practical knowledge for all applied subjects of Management Studies through advance Statistical and Mathematical and computers software.
MMIM	MBA 3 SEM	Industrial Behaviour	The objective is to study the industrial behaviour and learn the behavioural issues of the employees in the industry.
MMIM	MBA 4 SEM	Entrepreneurship Development	This course introduces key concepts that an entrepreneurial aspirant will need to first understand before being able to evaluate and then manage opportunities in modern times.
MMIM	MBA 4 SEM	Business law	This course is designed to provide the student with an overview of Indian Business laws and an understanding of basic legal terminology. The major emphasis is on contract law, since contracts are the of all commercial transactions.
MMIM	MBA 4 SEM	Final Research project	The objective is to promote the research aptitude among the students.
MMCTBM	BCA 1 SEM	Computer Fundamental & Basics of C Language	To provide the basic knowledge of computer and basic concepts of C programming language including variable declarations, control structures, Arrays and Strings.

MMCTBM	BCA 1 SEM	Basic Softwares	To provide a solid understanding of the principles and techniques involved in word processors, spreadsheets and powerpoint presentations.
MMCTBM	BCA 1 SEM	Digital Electronics	To provide descriptions of number system, Boolean algebra, computer circuits, logic design and implementation.
MMCTBM	BCA 1 SEM	Communication Skills in English	Develop skills for speaking fluency in everyday situations by focusing on some essential grammar, vocabulary and pronunciation skills & Emphasizes on the base setting for the speaking skills
MMCTBM	BCA 1 SEM	Software Lab.–I, C	Impart practical exposure by practicing basic concepts of C Language to understand how we develop small program in C.
MMCTBM	BCA 1 SEM	Software Lab.–II, MS-Office	Impart practical exposure by practicing the principles and techniques involved in word processors, spreadsheets and powerpoint presentations.
MMCTBM	BCA 1 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 1 SEM	Environmental Studies	Provide basic introduction of environment and its various components and impart knowledge about the need, various policies and methods to protect environment.
MMCTBM	BCA 2 SEM	Object Oriented Programming Using C++	To provide a solid understanding of the principles and techniques involved in C++ Language including Graphics, Pointers and File Handling.
MMCTBM	BCA 2 SEM	Data Structures	Introduction to the basic concepts of data structures and implementation in C programming language.
MMCTBM	BCA 2 SEM	Introduction to IT	To provide the basic concepts of Information Technology and their applications.
MMCTBM	BCA 2 SEM	Computer System and Architecture	Provide descriptions of computer architecture involving instruction set architecture design, micro architecture design, logic design, and implementation.
MMCTBM	BCA 2 SEM	System Analysis and Design	To impart knowledge of the practice of system analysis and design concepts, for designing and developing systems with real life examples.
MMCTBM	BCA 2 SEM	Software Lab.–III,	Impart practical exposure by practicing advanced concepts of C++ Language to understand how we develop large program in C++.

		Advanced C++	
MMCTBM	BCA 2 SEM	Software Lab.–IV, Data Structure	Impart practical exposure by practicing the principles and techniques involved in data structures including stack, queues, linked list, trees and graphs.
MMCTBM	BCA 2 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 3 SEM	Object Oriented Programming using C++	Introduction to the basic concept of the object oriented programming using C++ programming languages.
MMCTBM	BCA 3 SEM	Principles of Internet and Web Design	Impart knowledge of learning basic concepts of web and web development, to understand how people develop web based application using HTML.
MMCTBM	BCA 3 SEM	Mathematical Foundation	Provide an introduction to basics mathematical concepts.
MMCTBM	BCA 3 SEM	Operating Systems	Learning the system software that manages computer hardware and software resources and provides common services for computer programs.
MMCTBM	BCA 3 SEM	Software Engineering	To impart knowledge of the practice of software engineering, for designing and developing systems with real life examples.
MMCTBM	BCA 3 SEM	Software Lab.–V, C++	Impart practical exposure by practicing OOPS concepts by C++ Language to understand how we develop object oriented program using C++.
MMCTBM	BCA 3 SEM	Software Lab.–VI, HTML	Impart practical exposure by practicing the principles and techniques involved in HTML.
MMCTBM	BCA 3 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 3 SEM	Disaster Management	To impart knowledge of the practice of disaster management & their technique with real life examples.

MMCTBM	BCA 3 SEM	Project	Aims at generating new knowledge by carrying out group work of practical importance in the field of computer applications.
MMCTBM	BCA 4 SEM	Core Java	Introduction to the basic concept of the object oriented programming using Java programming language.
MMCTBM	BCA 4 SEM	Database Management System	Impart knowledge on users and programmers with a systematic way to create, retrieve, update and manage data.
MMCTBM	BCA 4 SEM	Discrete Mathematical Structures	Provide an introduction to basics graph theory and provide information about group, subgroups, finite fields, partial order set.
MMCTBM	BCA 4 SEM	System Programming	Learning the system software that manages computer hardware and software resources and provides common services for computer programs.
MMCTBM	BCA 4 SEM	Disaster Management	To impart knowledge of the practice of disaster management & their technique with real life examples.
MMCTBM	BCA 4 SEM	Software Lab.–VII, Java	Impart practical exposure by practicing object oriented concepts by Java Language.
MMCTBM	BCA 4 SEM	Software Lab.–VIII, SQL	Impart practical exposure by practicing the principles and techniques involved in SQL.
MMCTBM	BCA 4 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 5 SEM	Multimedia and its Applications	Integration of digital video and audio capabilities in computer systems, encoding and data interchange formats, mechanisms for digital multimedia, video and audio networking and communication.
MMCTBM	BCA 5 SEM	Data Communication and Networking	Impart knowledge on the data communication and networking tools and techniques by understanding various existing wired and wireless networking model and protocols.

MMCTBM	BCA 5 SEM	System Simulation	Impart understanding about system simulation that are designed to control and work with real life applications.
MMCTBM	BCA 5 SEM	Computer Oriented Optimization Techniques	Impart knowledge on modeling techniques, linear programming and duality theory by implementing the transportation, assignment, dynamic, integer and nonlinear programming with various existing models for optimization.
MMCTBM	BCA 5 SEM	E-Commerce	To impart knowledge & practice of E-Commerce & their techniques with real life examples.
MMCTBM	BCA 5 SEM	Personality Development	Develop skills for developing personality & Emphasizes on the base setting for the speaking skills.
MMCTBM	BCA 5 SEM	Software Lab.–IX, Multimedia	Impart practical exposure on the making of good multimedia such that we may improve experience.
MMCTBM	BCA 5 SEM	Software Lab.–X, Networks	Simulating the physical layer basics, network protocol algorithms, error handling, flow control, multihop routing network reliability, timing, advanced network protocols and infrastructure, applications of high-performance networks.
MMCTBM	BCA 5 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 6 SEM	Open Source Programming Using PHP	Impart knowledge of technologies which are free of cost and have best utility value in making computer based solutions for business domain.
MMCTBM	BCA 6 SEM	Numerical Analysis & Statistical Methods	Impart knowledge on the numerical analysis and statistical methods and techniques by understanding various models.
MMCTBM	BCA 6 SEM	Cyber Security	Introduction to the practice of defending cyber information from unauthorized access, use, disclosure, disruption, modification, perusal, inspection, recording or destruction.
MMCTBM	BCA 6 SEM	Software Project Management	Impart knowledge on modeling & software project management techniques with various existing models for implementations.

MMCTBM	BCA 6 SEM	Cloud Computing	Impart knowledge of various computing paradigms related to cloud computing, models and services provided by the cloud.
MMCTBM	BCA 6 SEM	Software Lab.–XI, PHP	Providing hand on experience to technologies which are free of cost and have best utility value in making computer based solutions for business domain.
MMCTBM	BCA 6 SEM	Software Lab.–XII, NASM	Impart practical exposure on the numerical analysis and statistical methods and techniques by understanding various models.
MMCTBM	BCA 6 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	BCA 6 SEM	Project	Aims at generating new knowledge by carrying out group work of practical importance in the field of computer applications.
MMCTBM	MCA 1 SEM	Computer Fundamentals & Web Design	To provide the basic knowledge of computer and Impart knowledge of learning basic concepts of web and web development, to understand how people develop web based application using HTML.
MMCTBM	MCA 1 SEM	Programming in C	To provide the basic knowledge of C programming language including variable declarations, control structures, Arrays and Strings, pointers, functions and file handling.
MMCTBM	MCA 1 SEM	Discrete Mathematical Structure	Provide an introduction to basics graph theory and provide information about group, subgroups, finite fields, partial order set.
MMCTBM	MCA 1 SEM	Computer Organization	To provide descriptions of number system, Boolean algebra, computer circuits, logic design and implementation.
MMCTBM	MCA 1 SEM	Software Engineering	To impart knowledge of the practice of software engineering, for designing and developing systems with real life examples.
MMCTBM	MCA 1 SEM	Software Lab.–I, HTML	Impart practical exposure by practicing the principles and techniques involved in HTML.
MMCTBM	MCA 1 SEM	Software Lab.–II, C	Impart practical exposure by practicing concepts of C Language to understand how we develop program in C.

MMCTBM	MCA 1 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	MCA 2 SEM	Data Structures	Introduction to the basic concepts of data structures and implementation in C programming language.
MMCTBM	MCA 2 SEM	Object Oriented Programming and C++	Introduction to the basic concept of the object oriented programming using C++ programming languages.
MMCTBM	MCA 2 SEM	Operating Systems	Learning the system software that manages computer hardware and software resources and provides common services for computer programs.
MMCTBM	MCA 2 SEM	Computer Networks	Impart knowledge on the networking tools and techniques by understanding various existing wired and wireless networking model and protocols.
MMCTBM	MCA 2 SEM	System Simulation	Impart understanding about system simulation that are designed to control and work with real life applications.
MMCTBM	MCA 2 SEM	Software Lab.–III, Multimedia	Impart practical exposure on the making of good multimedia such that we may improve experience.
MMCTBM	MCA 2 SEM	Software Lab.–IV, C++	Impart practical exposure by practicing OOPS concepts by C++ Language to understand how we develop object oriented program using C++.
MMCTBM	MCA 2 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	MCA 3 SEM	Java Programming	Introduction to the basic concept of the object oriented programming using Java programming language.
MMCTBM	MCA 3 SEM	Advanced Database System	Impart knowledge of advanced concepts of database and provide information to the users and programmers with a systematic way to create, retrieve, update and manage data.
MMCTBM	MCA 3 SEM	Linux & Shell Programming	Provide an introduction to Linux & Shell programming .
MMCTBM	MCA 3 SEM	Advanced Computer	Provide descriptions of advanced computer architecture involving instruction set, superscalar & VLIW architecture, pipelining

		Architecture	processing and implementation.
MMCTBM	MCA 3 SEM	Business Intelligence and its Applications	To impart knowledge of the basics of business intelligence, data integration, multi-dimensional data modeling and enterprise reporting.
MMCTBM	MCA 3 SEM	Software Lab.–V, Java	Impart practical exposure by practicing object oriented concepts by Java Language.
MMCTBM	MCA 3 SEM	Software Lab.–VI, SQL	Impart practical exposure by practicing the principles and techniques involved in SQL.
MMCTBM	MCA 3 SEM	Software Lab.–VII, Linux	Impart practical exposure by practicing shell programming by Linux.
MMCTBM	MCA 3 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	MCA 4 SEM	Cloud Computing	Introduction to the basic concept of Cloud Computing, virtualization, public cloud, Cloud security concerns and multi-cloud management.
MMCTBM	MCA 4 SEM	Mobile Application Development	Providing exposure to design, develop and execute android applications using android studio and mobile phones, to enable android connectivity with mobile devices
MMCTBM	MCA 4 SEM	Python Programming	Python Programming is intended for students who wish to learn the Python programming language.
MMCTBM	MCA 4 SEM	Big Data and Analytics	Impart knowledge about Big Data & Streams concepts using Hadoop & Hadoop Eco System.
MMCTBM	MCA 4 SEM	Computer Graphics	Impart knowledge on computer graphics fundamentals and discussion on scan conversion algorithm, 2D and 3D transformation and other techniques.

MMCTBM	MCA 4 SEM	Principles of Programming Languages	Applied to model complex systems and understanding principles of programming languages.
MMCTBM	MCA 4 SEM	Software Quality Assurance & Testing	Impart understanding about software testing tools, to make high quality software by utilizing current market strategies used in the software industry to achieve quality.
MMCTBM	MCA 4 SEM	Internet and Intranet Engineering	
MMCTBM	MCA 4 SEM	Compiler Construction	An in-depth study of the programming languages compilation process. The course encompasses various topics on language structures, grammars, and parsing techniques.
MMCTBM	MCA 4 SEM	Software Lab.–VIII, Cloud Computing	Impart practical exposure by practicing how we set a cloud and transfer the data to a cloud.
MMCTBM	MCA 4 SEM	Software Lab.–IX, Android	Impart practical exposure to design, develop and execute android applications using android studio and mobile phones, to enable android connectivity with mobile devices.
MMCTBM	MCA 4 SEM	Software Lab.–X, (Python)	Impart practical exposure by practicing the elected programming language concepts.
MMCTBM	MCA 4 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	MCA 4 SEM	Project	Aims at generating new knowledge by carrying out group work of practical importance in the field of computer applications
MMCTBM	MCA 5 SEM	IOS Programming using Objective C	Impart practical exposure to design, develop and execute iOS mobile applications using Objective-C.

MMCTBM	MCA 5 SEM	Open Source Technologies	Impart practical exposure to design, develop and execute Web applications using open source technologies like PHP, JSP, Java script and other web technologies.
MMCTBM	MCA 5 SEM	Computer Graphics	Impart knowledge on computer graphics fundamentals and discussion on scan conversion algorithm, 2D and 3D transformation and other techniques.
MMCTBM	MCA 5 SEM	Cyber Crime and Information Security	Introduction to the practice of defending cyber information from unauthorized access, use, disclosure, disruption, modification, perusal, inspection, recording or destruction. Provide descriptions of security attacks, cryptography, IP security, web security and firewall design principles.
MMCTBM	MCA 5 SEM	Compiler Construction	An in-depth study of the programming languages compilation process. The course encompasses various topics on language structures, grammars, and parsing techniques.
MMCTBM	MCA 5 SEM	Artificial Intelligence	Provide understanding about computers and computer software that are capable of intelligent behavior.
MMCTBM	MCA 5 SEM	Agile Software Development	Develop understanding about parameters for the agile software quality and development.
MMCTBM	MCA 5 SEM	Data Warehousing and Data Mining	Focuses on the possibility to integrate data from multiple databases, which can give new insights into the data.
MMCTBM	MCA 5 SEM	Search Engine Optimization	Introduces the process of maximizing the number of visitors to a particular website by ensuring that the site appears high on the list of results.
MMCTBM	MCA 5 SEM	Design and Analysis of Algorithms	Introduction to several fundamental principles of algorithm design, divide-and-conquer methods, graph algorithms, practical data structures , randomized algorithms, and more.

MMCTBM	MCA 5 SEM	Ad-hoc Network	This course is high end course which have study of the advance level of the protocols and procedure used in Ad-hoc network.
MMCTBM	MCA 5 SEM	S/w Lab.-XI, Objective-C	Impart practical exposure to design, develop and execute iOS mobile applications using Objective-C.
MMCTBM	MCA 5 SEM	S/w Lab.-XII, Open Source	Impart practical exposure to design, develop and execute Web applications using open source technologies.
MMCTBM	MCA 5 SEM	Seminar	Develop presentation & communication skills by focusing on some latest technologies.
MMCTBM	MCA 5 SEM	Minor Project	Design and develop a minor project by using latest technologies as per allocation.
MMCTBM	MCA 6 SEM	Project Work	Project work involves integration and implementation of knowledge and skills acquired during the degree program. Aims at generating new knowledge by carrying out group work of practical importance in the field of computer applications
MMCTBM (HM)	BHM 1 SEM	Food Production Foundation –I:-	Covering topics in food preparation standards, meal production planning and food production technology,
MMCTBM (HM)	BHM 1 SEM	Food & Beverage Service Foundation – I	The study of food & Beverages items & their service style students can familiar with all food service & customer handling.
MMCTBM (HM)	BHM 1 SEM	Accommodation & Front Office Operations Foundations –I	All the concept of room reservation, customer handling & Personnel grooming
MMCTBM (HM)	BHM 1 SEM	Environmental science	The subject build the knowledge of environmental aspect related to the industries
MMCTBM (HM)	BHM 1 SEM	Applications of Computers in Hospitality &	Full description of software in computer for reservation and other programme.

		Tourism	
MMCTBM (HM)	BHM 1 SEM	Fundamentals of Management	Study of all management concept & student can learn Management skill.
MMCTBM (HM)	BHM 2 SEM	Food Production Foundation –II:-	Some topics such as culinary arts or food preparation, may be covered, Food preparation fundamentals, Safety and sanitation, quantity production
MMCTBM (HM)	BHM 2 SEM	Food & Beverage Service Foundation – II	The study of the development of artificial foodstuffs. Includes the substitution of one type of food for another.
MMCTBM (HM)	BHM 2 SEM	Accommodation & Front Office Operations Foundations –II	All the concept of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	BHM 2 SEM	Communication	Students can improve communication & vocabulary and obtain effective speaking skill
MMCTBM (HM)	BHM 2 SEM	Foreign Language Skill – I (French)	The subject give the knowledge of French language & students can learn how to speak French
MMCTBM (HM)	BHM 2 SEM	Basics of Nutrition	The study of the maintenance and promotion of health through the clean and sanitary handling of food.
MMCTBM (HM)	BHM 3 SEM	Introduction to Indian Cookery	Full Knowledge of all culinary terms of food & their preparation
MMCTBM (HM)	BHM 3 SEM	Food & Beverage Service Operations	The study of food products and their preparation to attract consumers
MMCTBM	BHM 3 SEM	Accommodation & Front Office	This help to developed knowledge of all concepts of room reservation, customer handling & Personnel grooming.

(HM)		Operations	
MMCTBM (HM)	BHM 3 SEM	Accounting Skills for Hospitality	The study of all accounting fundamentals & their skill used in Hotel Reservation Handling
MMCTBM (HM)	BHM 3 SEM	Elective 1	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 3 SEM	Elective 2	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 4 SEM	Practice School	Student needs to undergo 22 weeks industrial exposure to gain practical skills
MMCTBM (HM)	BHM 5 SEM	Personality Skills For Hospitality	Help to improve grooming ,personality skill for the industry
MMCTBM (HM)	BHM 5 SEM	a. Regional Cuisines of India -I	Study of all regional cuisines & their preparation.
MMCTBM (HM)	BHM 5 SEM	b. Food & Beverage Service Management -I	The study of food products and their preparation to attract consumers
MMCTBM (HM)	BHM 5 SEM	c. Accommodation Management-I	This help to developed knowledge of all concept of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	BHM 5 SEM	Hospitality Marketing	The marketing concept is the philosophy that firms should analyze the needs of their customers and then make decisions to satisfy those needs, better than the competition
MMCTBM (HM)	BHM 5 SEM	Hospitality Laws	Hospitality law is a legal and social practice related to the treatment of a person's guests or those who patronize a place of business.

MMCTBM (HM)	BHM 5 SEM	Elective 1	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 5 SEM	Elective 2	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 6 SEM	Skill Enhancement for Media & Journalism in Hospitality	Develop the skill related to media & journalism in Hotel industries
MMCTBM (HM)	BHM 6 SEM	a. Regional Cuisines of India -II	Study of all regional cuisines & their preparation.
MMCTBM (HM)	BHM 6 SEM	b. Food & Beverage Service Management -II	The study of food & Beverages items & their service style students can familiar with all food service & customer handling
MMCTBM (HM)	BHM 6 SEM	c. Food & Beverage Service Management –II	This help to developed knowledge of all concepts of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	BHM 6 SEM	Project Report	Students have to make a project report on a selected topic related to Hotel Industry & present.
MMCTBM (HM)	BHM 6 SEM	Researching for Hospitality & Tourism Management	The concepts of 'tourism' and 'hospitality' need to be defined and put into clear perspective for the benefit of curriculum developers and more importantly for the young entrants aspiring to make a career in the hospitality industry.
MMCTBM (HM)	BHM 6 SEM	Elective 1	Student need to choose a elective subject from the list available

MMCTBM (HM)	BHM 6 SEM	Elective 2	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 7 SEM	Communication & Soft Skills in Hospitality	Students can improve communication & vocabulary and obtain effective speaking skill
MMCTBM (HM)	BHM 7 SEM	Human Resource Management	The term used to describe formal systems devised for the management. The responsibilities of a human resource manager fall into three major areas: staffing, employee compensation and benefits.
MMCTBM (HM)	BHM 7 SEM	Safety, Security & Travel Documentation	"Safety" is applied to glazing used to reduce the risk of accident by impact, fracture, shattering, or in a fire.
MMCTBM (HM)	BHM 7 SEM	Elective 1	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 7 SEM	Elective 2	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 7 SEM	Elective 3	Student need to choose a elective subject from the list available
MMCTBM (HM)	BHM 8 SEM	Industrial Training	22 Weeks Industrial Training of Students for the Industry exposure
MMCTBM (HM)	B.SC(HCM) 1 SEM	Food Production Foundation –I	Covering topics in food preparation standards, meal production planning and food production technology, .
MMCTBM (HM)	B.SC(HCM) 1 SEM	Food & Beverage Service Foundation –I	The study of food & Beverages items & their service style students can familiar with all food service & customer handling.

MMCTBM (HM)	B.SC(HCM) 1 SEM	Accommodation & Front Office Operations Foundations –I	All the concept of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	B.SC(HCM) 1 SEM	Environmental science	The subject build the knowledge of environmental aspect related to the industries
MMCTBM (HM)	B.SC(HCM) 1 SEM	Applications of Computers in Hospitality & Tourism	Full description of software in computer for reservation and other programme.
MMCTBM (HM)	B.SC(HCM) 1 SEM	Fundamentals of Management	Study of all management concept & student can learn Management skill.
MMCTBM (HM)	B.SC(HCM) 2 SEM	Food Production Foundation –II	Some topics such as culinary arts or food preparation, may be covered, Food preparation fundamentals, Safety and sanitation, quantity production
MMCTBM (HM)	B.SC(HCM) 2 SEM	Food & Beverage Service Foundation – II	The study of the development of artificial foodstuffs. Includes the substitution of one type of food for another.
MMCTBM (HM)	B.SC(HCM) 2 SEM	Accommodation & Front Office Operations Foundations –II	All the concept of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	B.SC(HCM) 2 SEM	Communication	Students can improve communication & vocabulary and obtain effective speaking skill
MMCTBM (HM)	B.SC(HCM) 2 SEM	Foreign Language Skill – I (French)	The subject give the knowledge of French language & students can learn how to speak French

MMCTBM (HM)	B.SC(HCM) 2 SEM	Basics of Nutrition	The study of the maintenance and promotion of health through the clean and sanitary handling of food.
MMCTBM (HM)	B.SC(HCM) 3 SEM	Practice School	Student needs to undergo 22 weeks industrial exposure to gain practical skills
MMCTBM (HM)	B.SC(HCM) 4 SEM	Introduction to Indian Cookery	Full Knowledge of all culinary terms of food & their preparation
MMCTBM (HM)	B.SC(HCM) 4 SEM	Food & Beverage Service Operations	The study of food products and their preparation to attract consumers
MMCTBM (HM)	B.SC(HCM) 4 SEM	Accommodation & Front Office Operations	This help to developed knowledge of all concept of room reservation, customer handling & Personnel grooming.
MMCTBM (HM)	B.SC(HCM) 4 SEM	Accounting Skills for Hospitality	The study of all accounting fundamentals & their skill used in Hotel Reservation Handling
MMCTBM (HM)	B.SC(HCM) 4 SEM	Project Report	Students have to make a project report on a selected topic related to Hotel Industry & present.
MMCTBM (HM)	B.SC(HCM) 4 SEM	Elective	Student need to choose a elective subject from the list available
MMCTBM (HM)	B.SC(HCM) 5 SEM	Communication & Soft Skills in Hospitality	Students can improve communication & vocabulary and obtain effective speaking skill
MMCTBM (HM)	B.SC(HCM) 5 SEM	Human Resource Management	The term used to describe formal systems devised for the management. The responsibilities of a human resource manager fall into three major areas: staffing, employee compensation and benefits.
MMCTBM (HM)	B.SC(HCM) 5 SEM	Safety, Security & Travel	Safety" is applied to glazing used to reduce the risk of accident by impact, fracture, shattering, or in a fire.

		Documentation	
MMCTBM (HM)	B.SC(HCM) 5 SEM	Elective 1	Student need to choose a elective subject from the list available
MMCTBM (HM)	B.SC(HCM) 5 SEM	Elective 2	Student need to choose a elective subject from the list available
MMCTBM (HM)	B.SC(HCM) 5 SEM	Elective 3	Student need to choose a elective subject from the list available
MMCTBM (HM)	B.SC(HCM) 6 SEM	Industrial Training	22 Weeks Industrial Training of Students for the Industry exposure
MMCTBM (HM)	B.SC(FST) 1	Fundamentals of Food Technology	Develop knowledge and understanding on food and its related functions.
MMCTBM (HM)	B.SC(FST) 1	Principles of Food Science	Demonstrates how the laws of science are at work in producing, processing, preparing, preserving, and metabolizing food
MMCTBM (HM)	B.SC(FST) 1	English Communication	Improve professional *communication* in *English* for successful business interactions
MMCTBM (HM)	B.SC(FST) 1	Food Processing and Preservation	Demonstrates various processing techniques in food used for food preservation
MMCTBM (HM)	B.SC(FST) 1	Fundamentals of Food Technology Practical	Develop practical knowledge and understanding on food and its related functions.
MMCTBM (HM)	B.SC(FST) 1	Principles of Food Science Practical	Demonstrates how the laws of science are at work in producing, processing, preparing, preserving, and metabolizing food practically

MMCTBM (HM)	B.SC(FST) 2	Technology of Food Preservation	Imparts knowledge on number of techniques used to prevent *food* from spoiling
MMCTBM (HM)	B.SC(FST) 2	Food Processing Technology	Includes a set of physical, chemical or microbiological methods and techniques used to transmute raw ingredients into food and its transformation into other forms in food processing industry
MMCTBM (HM)	B.SC(FST) 2	Environmental Science	an interdisciplinary academic field that integrates physical, biological and information sciences to the study of the environment
MMCTBM (HM)	B.SC(FST) 2	Food Microbiology and Food Safety	Range of emerging *microbiological* issues in *food safety*, from chronic effects of various microbes to use of microbial cultures in food processing
MMCTBM (HM)	B.SC(FST) 2	Technology of Food Preservation Practical	Imparts practical knowledge on number of techniques used to prevent *food* from spoiling
MMCTBM (HM)	B.SC(FST) 2	Food Processing Technology Practical	physical, chemical or microbiological methods and techniques used to transmute raw ingredients into food and its transformation into other forms
MMCTBM (HM)	B.SC(FST) 3	Food and Nutrition	Science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism
MMCTBM (HM)	B.SC(FST) 3	Technology of Fruits, Vegetables and Plantation Crops-	To impart basic knowledge of:
MMCTBM (HM)			1. different methods of fruits and vegetable processing.
MMCTBM (HM)			2. processing of various spices, tea, coffee and cocoa
MMCTBM (HM)	B.SC(FST) 3	Technology of Dairy and Sea Food	Knowledge about the need and importance of dairy and fishery industry,

MMCTBM (HM)	B.SC(FST) 3	Entrepreneurship Development-	Develops knowledge on Meaning, Needs and Importance of Entrepreneurship
MMCTBM (HM)	B.SC(FST) 3	Food Engineering and Packaging-	acquaint with fundamentals of food engineering and its process & develop an understanding of different food packaging materials and packaging design and techniques used for various foods
MMCTBM (HM)	B.SC(FST) 3	Food and Nutrition Practical-	Practical identification of sources of various nutrients and development of various foods accordingly
MMCTBM (HM)	B.SC(FST) 3	Technology of Fruits, Vegetables and Plantation Crops Practical-	Practical knowledge on fruits and vegetable processing
MMCTBM (HM)	B.SC(FST) 4	Technology of Cereals, Pulses and Oilseeds	Develops knowledge on technology of milling of various cereals & To impart technical knowhow of pulses and oilseeds refining
MMCTBM (HM)	B.SC(FST) 4	Food Microbiology	Knowledge on the important genera of microorganisms associated with food and their characteristics & understanding on the role of microbes in fermentation, spoilage and food borne diseases
MMCTBM (HM)	B.SC(FST) 4	Technology of Meat, Poultry and Egg-	Understanding of need and importance of livestock, egg and poultry industry; structure, composition and nutritional quality of animal products & processing and preservation of animal foods

MMCTBM (HM)	B.SC(FST) 4	Sensory Evaluation of Food-	Gives Introduction and importance of taste, odour, color & flavors in food
MMCTBM (HM)	B.SC(FST) 4	Technology of Cereals, Pulses and Oilseeds Practical-	Develops practical knowledge on technology of milling of various cereals & To impart technical knowhow of pulses and oilseeds refining
MMCTBM (HM)	B.SC(FST) 4	Food Microbiology Practical-	Practical techniques of culturing microorganisms and study of their morphology and structure
MMCTBM (HM)	B.SC(FST) 5	Food Engineering	Understanding the principle of Unit operation and fundamentals of food engineering
MMCTBM (HM)	B.SC(FST) 5	Food Chemistry-I	Understanding the functional aspects of food components and to study their role in food processing
MMCTBM (HM)	B.SC(FST) 5	Nutraceutical and Functional Foods	Develop comprehensive understanding of different nutraceuticals and functional foods & their potential in promoting human health
MMCTBM (HM)	B.SC(FST) 5	Food Quality Management-	Helps to learn about quality management in food production chain; physical, chemical contaminants in foods;& latest trends and techniques in food science
MMCTBM (HM)	B.SC(FST) 5	Food Engineering Practical-	Practical understanding of the principle of Unit operation and fundamentals of food engineering
MMCTBM (HM)	B.SC(FST) 5	Food Chemistry-I Practical-	Understanding the principle of Unit operation and fundamentals of food engineering practically
MMCTBM (HM)	B.SC(FST) 6	Food Chemistry-II-	Imparts knowledge on the chemistry of food components and their interactions

MMCTBM (HM)	B.SC(FST) 6	Food Quality and Sensory Evaluation	Understanding the sensory evaluation of foods and quality attributes of food & the gestation, olfactory, texture and color based evaluation of food
MMCTBM (HM)	B.SC(FST) 6	Bakery Technology-	Helps to understand the fundamentals of baking & learn the technologies behind bakery products
MMCTBM (HM)	B.SC(FST) 6	Food Packaging-	imparts comprehensive overview of the scientific and technical aspects of food packaging
MMCTBM (HM)	B.SC(FST) 6	Food Chemistry-II Practical-	Imparts practical knowledge on the chemistry of food components and their interactions
MMCTBM (HM)	B.SC(FST) 6	Food Quality and Sensory Evaluation Practical	Sensory evaluation of foods and quality attributes of food & the gestation, olfactory, texture and color based evaluation of food
MMCTBM (HM)	M.SC (D&N) 1	Fundamentals of Dietetics	Introduction to fields of nutrition, dietetics, and food service administration. Educational requirements and role of the dietitian in varied settings
MMCTBM (HM)	M.SC (D&N) 1	Human Nutrition-I	Basics for and use of nutrient recommendations and dietary guidelines; digestion, metabolism, use and interrelationships of foods and nutrients
MMCTBM (HM)	M.SC (D&N) 1	Food Science-	Demonstrates how the laws of science are at work in producing, processing, preparing, preserving, and metabolizing food
MMCTBM (HM)	M.SC (D&N) 1	Life cycle Nutrition –	Nutritional requirements, challenges, community nutrition programs, and eating patterns throughout the life span
MMCTBM (HM)	M.SC (D&N) 1	Nutritional Biochemistry-	Introduction to the structure and cellular reactions of the primary constituents of living cells; for students with limited preparation in organic chemistry
MMCTBM (HM)	M.SC (D&N) 1	Human Physiology-	Normal functions of organ systems in humans; fulfills physiology requirements for biology, human development and nutritional sciences, physical education majors, and is recommended as pre professional for medical or allied health fields

MMCTBM (HM)	M.SC (D&N) 1	Computer Application	Study the various aspects of computer and its applications
MMCTBM (HM)	M.SC (D&N) 1	Industrial visit	A visit to related field for creating a work picture in the mind of the students before started their carrier in the same field
MMCTBM (HM)	M.SC (D&N) 1	Seminar Presentation	to improve the presentation skills of the students and to build up the confidence to express their views
MMCTBM (HM)	M.SC (D&N) 2	Clinical and therapeutic nutrition –I	Alterations in nutritional requirements and metabolism that accompany disease states; application of nutrition care process to nutrition-related diseases
MMCTBM (HM)	M.SC (D&N) 2	Human Nutrition –II	Integrated study of human nutrient physiology and metabolism. Biochemical and physiologic basis for role of nutrition in health and disease; nutritional implications of metabolic disorders
MMCTBM (HM)	M.SC (D&N) 2	Community nutrition-I	Apply nutrition concepts in public health setting; disease prevention and health promotion; analyze related programs and legislation with nutrition components; program planning strategies.
MMCTBM (HM)	M.SC (D&N) 2	Food analysis	Investigate interplay between food composition, chemical and physical interactions in food preparation.
MMCTBM (HM)	M.SC (D&N) 2	Food service management	Basic principles of food service management as applied to commercial and noncommercial food service organizations. Impact of current social, economic, technological and political factors on food service operations. Foodservice facility design
MMCTBM (HM)	M.SC (D&N) 2	Food microbiology-	Demonstrates how the laws of science are at work in producing, processing, preparing, preserving, and metabolizing food
MMCTBM (HM)	M.SC (D&N) 2	Research methodology	Introduction of foundational research knowledge and skills. Learn and demonstrate theory-based program planning for group presentations, emphasizing effective communication in different delivery systems
MMCTBM (HM)	M.SC (D&N) 2	Seminar presentation	to improve the presentation skills of the students and to build up the confidence to express their views

MMCTBM (HM)	M.SC (D&N) 3	Clinical and Therapeutic Nutrition –II	Alterations in nutritional requirements and metabolism that accompany disease states; application of nutrition care process to nutrition-related diseases
MMCTBM (HM)	M.SC (D&N) 3	Food Safety , Sanitation and Hygiene	Describe food safety regulations; the causes and prevention of food borne illnesses; the principles of Hazard Analysis Critical Control Points (HACCP); general food-handling and storage procedures; the procedures for maintaining workplace sanitation and personal hygiene
MMCTBM (HM)	M.SC (D&N) 3	Community nutrition-II	Apply nutrition concepts in public health setting; disease prevention and health promotion; analyze related programs and legislation with nutrition components; program planning strategies.
MMCTBM (HM)	M.SC (D&N) 3	Hospital food service	food safety, sanitation (HACCP), recipe standardization, nutritional analysis, financial controls, inventory management, time and temperature relationships, food delivery, and promotions from a management perspective
MMCTBM (HM)	M.SC (D&N) 3	Hospital Management & Patient counseling	provides relevant information to support effective decision making for patient & ways to counsel to help the patient to better manage the health problem
MMCTBM (HM)	M.SC (D&N) 3	Training in Food Industry:	Industrial Training of Students for the Industry exposure
MMCTBM (HM)	M.SC (D&N) 3	Report preparation and presentation	Report & Presentation of Industrial Training

MMCTBM (HM)	DIP (FOOD PRD) 1	Basic Food Production-I	to learn the basic skills of cooking food
MMCTBM (HM)	DIP (FOOD PRD) 1	Introduction to Basic Cookery-I	Identification and uses of basic ingredients used in cookery
MMCTBM (HM)	DIP (FOOD PRD) 1	Personality & Communication Development	to develop the grooming and communication skills of the students so that they can present their selves in a better professional way
MMCTBM (HM)	DIP (FOOD PRD) 1	Commodities	to know the different products and cooking agents used in cooking food
MMCTBM (HM)	DIP (FOOD PRD) 1	Introduction to Computers	Learn the basic skills of operating a computer
MMCTBM (HM)	DIP (FOOD PRD) 1	Industrial Visit	A visit to related field for creating a work picture in the mind of the students before started their carrier in the same field
MMCTBM (HM)	DIP (FOOD PRD) 2	Indian Cookery –II	to know the famous food, ingredients used and different cooking styles of Indian cuisine
MMCTBM (HM)	DIP (FOOD PRD) 2	Cold Kitchen-II	to learn making cold food preparations
MMCTBM (HM)	DIP (FOOD PRD) 2	Kitchen Management	learn the criteria followed for managing a kitchen area
MMCTBM (HM)	DIP (FOOD PRD) 2	Basics of Nutrition	to know the basic nutrients and their benefits for human being
MMCTBM (HM)	DIP (FOOD PRD) 2	Advanced Communication Skills	enhance the professional skills of the students

MMCTBM (HM)	DIP (FOOD PRD) 2	Seminar & Presentation	to improve the presentation skills of the students and to build up the confidence to express their views
MMCTBM (HM)	DIP (FOOD PRD) 2	Advanced Food Production	to know the new changes in cooking styles and presentation
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Basics of Bakery	to learn the basic skills of baking
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Introduction to Confectionery	Know the basic products used in confectionary
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Personality & Communication Development	to develop the grooming and communication skills of the students so that they can present their selves in a better professional way
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Commodities	to know the different products and cooking agents used in cooking food
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Introduction to Computers	Learn the basic skills of operating a computer
MMCTBM (HM)	DIP (BAKERY IN CON) 1	Industrial Visit	A visit to related field for creating a work picture in the mind of the students before started their carrier in the same field
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Advanced Confectionary	Learn the advance techniques of confectionary desserts preparations
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Chocolate and Sugar Cookery	Learn the different types of chocolate and sugar work
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Kitchen Management	learn the criteria followed for managing a kitchen area

MMCTBM (HM)	DIP (BAKERY IN CON) 2	Basics of Nutrition	to know the basic nutrients and their benefits for human being
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Advanced Communication Skills	enhance the professional skills of the students
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Seminar & Presentation	to improve the presentation skills of the students and to build up the confidence to express their views
MMCTBM (HM)	DIP (BAKERY IN CON) 2	Advanced Food Production	to know the new changes in cooking styles and presentation
MMCTBM (HM)	DIP IN RDM 1	Introduction to Hotel Industry	Study of Hotel & their history
MMCTBM (HM)	DIP IN RDM 1	Professional Etiquettes and Manners	Study of professionalism & grooming standards ,etiquettes for the industry
MMCTBM (HM)	DIP IN RDM 1	Front Office Operations	The Front Office is truly the welcome the guest, carry their luggage, help them register give them their room keys and mail.
MMCTBM (HM)	DIP IN RDM 1	Accommodation Operations	The basic concept of housekeeping has started from keeping of a domestic house clean and has gradually come to maintaining high standard of cleanliness and maintenance of commercial levels
MMCTBM (HM)	DIP IN RDM 1	Introduction to Computers	Basic knowledge of Computer &Full description of software in computer for reservation and other programme.
MMCTBM (HM)	DIP IN RDM 1	Industrial Visit	A visit to related field for creating a work picture in the mind of the students before started their carrier in the same field
MMCTBM (HM)	DIP IN RDM 2	Hotel Safety & Security	Safety" is applied to glazing used to reduce the risk of accident by impact, fracture, shattering, or in a fire.

MMCTBM (HM)	DIP IN RDM 2	Facilities Design and Management	Facility management is a professional management discipline focused upon the efficient and effective delivery of support services for the organisations that it serves
MMCTBM (HM)	DIP IN RDM 2	Front Office Management	Professional management discipline focused upon the Front Office Department
MMCTBM (HM)	DIP IN RDM 2	Accommodation Management	All the concept of room decor, customer handling & interiors.
MMCTBM (HM)	DIP IN RDM 2	Hygiene and Sanitation	The study of the maintenance and promotion of health through the clean and sanitary handling of food.
MMCTBM (HM)	DIP IN RDM 2	Supervisory Management	The action of overseeing and managing employees in the workplace. Supervisory management is offered as a common course in many business
MMCTBM (HM)	DIP IN RDM 2	Seminar & Presentation	to improve the presentation skills of the students and to build up the confidence to express their views
MMCTBM (HM)	DIP IN HFN 1	Human Nutrition	Integrated study of human nutrient physiology and metabolism. Biochemical and physiologic basis for role of nutrition in health and disease; nutritional implications of metabolic disorders
MMCTBM (HM)	DIP IN HFN 1	Principles of exercise programming	Different types of exercise, Fitness Testing, Weight control and other special concepts and Physiological tools for testing and monitoring
MMCTBM (HM)	DIP IN HFN 1	Introduction to Health, Wellness & Fitness:	Components of fitness, obesity and Regulation of energy intake and expenditure, Foods selection and consumption pattern
MMCTBM (HM)	DIP IN HFN 1	Energy and fluid requirements:	Detailed study of the energy, Distribution of body water and Electrolyte balance
MMCTBM (HM)	DIP IN HFN 1	Nutrition in Health and Disease:	Alterations in nutritional requirements and metabolism that accompany disease states; application of nutrition care process to nutrition-related diseases

MMCTBM (HM)	DIP IN HFN 2	Nutrition for Sports and Exercise	Importance of micronutrients and macro nutrients for exercise, Dietary supplements and cryogenic aids
MMCTBM (HM)	DIP IN HFN 2	Weight Management, Rehabilitation and Fitness:	Evaluation of standard weight loss diet and Regulation of energy intake and expenditure
MMCTBM (HM)	DIP IN HFN 2	Psychology and Counseling:	Effective counseling methods & techniques, Importance of Counseling and Counselor
MMCTBM (HM)	DIP IN HFN 2	Training diets for performance and fitness:	Assessment of body fat by different method and types of Exercise, Aerobics, Yoga, Power Yoga, weight training, strength training, etc
MMCTBM (HM)	DIP IN HFN 2	Human Physiology:	Normal functions of organ systems in humans; fulfills physiology requirements for biology, human development and nutritional sciences
MMCTBM (HM)	DIP IN ATHM 1	Basics of Tourism	Introduction to Tourism, Elements of tourism, Tourism System, Tourism Motivators, Tourism Organizations and Trends, Inter Linkage between Geography and Tourism Industry, Inter Linkage between History and Tourism Industry
MMCTBM (HM)	DIP IN ATHM 1	Airlines Management	Introduction to Airline Agency Role and Its Functions, Management of Airlines, The control tower- Airport facilities and special passengers, Familiarization with OAG, Introduction to fare construction, One Way and Return Trip
MMCTBM (HM)	DIP IN ATHM 1	Foundation course in Front Office & Housekeeping Operations	Introduction to Front Office, Front Office Operations, Introduction to Housekeeping, Inter department co-ordination, Role and responsibilities Housekeeping Staff, Guest Room and Public Area Cleaning
MMCTBM (HM)	DIP IN ATHM 1	Tourism Products & Services	Accommodation Sector, Leading Hotel chains, Budget Hotels, Heritage Hotels, Introduction of transportation Industry in India, National parks and Wild Life Sanctuaries and Mountaineering, Trekking, Skiing, Skating, Water Bases sports

MMCTBM (HM)	DIP IN ATHM 1	Tourism Geography I	General introduction, states & capitals, India: a destination for all reasons & seasons, The Northern Mountains, The Central Plains, The Peninsula and The coastal plains and islands
MMCTBM (HM)	DIP IN ATHM 1	Soft Skills & Personality Development	Verbal Skills, Clarity and Diction, Non Verbal Skills, Facial Expression, Effective Listening, III Personality Development, Interview Preparations, preparation of Curriculum Vitae, dress codes for airline, preparing for an interview, types of testes
MMCTBM (HM)	DIP IN ATHM 1	Computer Applications	Components of a computer, Operating Systems , Introduction to Windows, Introduction to DBMS, Introduction to FOXPRO, Features of MS WORD, Editing Commands and Mail merge
MMCTBM (HM)	DIP IN ATHM 2	Automation in Tourism	Automation in the tourism industry, Importance of Information Technology in Tourism, Introduction to CRS, Ticketing process and Billing and settlement plan, A short introduction to Standard Traffic Documents (STD)
MMCTBM (HM)	DIP IN ATHM 2	Travel Agency & Tour Operations	Travel Agency & Tour Operations, Itinerary Planning, Types of Passport & Visa and Basic overview of FOREX
MMCTBM (HM)	DIP IN ATHM 2	Foundation course in Food & Beverage Service Operations	The Food & Beverage Service Industry, Food & Beverage Service Personnel, Attitudes & Attributes of Food & Beverage and Equipments Used in F & B Industry and Types of Food & Beverage Service
MMCTBM (HM)	DIP IN ATHM 2	Tourism Products of India	Natural Resources, Wildlife Sanctuaries, National Parks and Natural Reserves, Beaches and Islands, Popular Tourist Resources, Monuments, Pilgrimage Destinations: Hindu, Buddhist, Jain, Muslim, Muslim, Sikh, Saint, Fairs and Festivals
MMCTBM (HM)	DIP IN ATHM 2	Tourism Geography II	Brief introduction of continents, Asia, Americas: Other countries
MMCTBM (HM)	DIP IN ATHM 2	Safety, Security & Travel Documentation	Safety Security and Hotels, Safety Security and Tourist Destinations, Travel Documentation and Understanding VISA and Permits
MMCTBM (HM)	DIP IN ATHM 2	Basic French	Introduction to basic French, French grammar, Vocabulary & comprehension and concept of Conversations

MMCTBM (HM)	DIP IN ATHM 3	Industrial Training	6 months Industrial Training of Students for the Industry exposure
MMCP	B. PHARMACY 1 SEM	Human Anatomy and Physiology I	Impart fundamental knowledge on the structure and functions of the various systems of the human body
MMCP	B. PHARMACY 1 SEM	Pharmaceutical Analysis I	Deals with the fundamentals of analytical chemistry and principles of electrochemical analysis of drugs
MMCP	B. PHARMACY 1 SEM	Pharmaceutics I	Pharmacy with arts and science of preparing the different conventional dosage forms
MMCP	B. PHARMACY 1 SEM	Pharmaceutical Inorganic Chemistry	Monographs of inorganic drugs and pharmaceuticals
MMCP	B. PHARMACY 1 SEM	Communication skill	Prepare the young pharmacy student to interact effectively with doctors, nurses, dentists, physiotherapists and other health workers
MMCP	B. PHARMACY 1 SEM	Remedial Biology/ Remedial Mathematics	Learn and understand the components of living world, structure and functional
MMCP	B. PHARMACY 2 SEM	Human Anatomy and Physiology II	Designed to impart fundamental knowledge on the structure and functions of the various systems of the human body
MMCP	B. PHARMACY 2 SEM	Pharmaceutical Organic Chemistry I	Classification and nomenclature of simple organic compounds
MMCP	B. PHARMACY 2 SEM	Biochemistry	Understanding of the molecular levels of the chemical process associated with living cells.
MMCP	B. PHARMACY 2 SEM	Pathophysiology	Study of causes of diseases and reactions of the body to such disease producing causes
MMCP	B. PHARMACY 2 SEM	Computer Applications in Pharmacy	Subject deals with the introduction Database, Database Management system,computer application in clinical studies and use of databases

MMCP	B. PHARMACY 2 SEM	Environmental sciences	Scientific study of the environmental system andthe status of its inherent or induced changes on organisms
MMCP	B. PHARMACY 3 SEM	Pharmaceutical Organic Chemistry II	General methods of preparation and reactions of some organic compounds
MMCP	B. PHARMACY 3 SEM	Physical Pharmaceutics I	Principles involved in dosage forms/formulations
MMCP	B. PHARMACY 3 SEM	Pharmaceutical Microbiology	Study of all categories of microorganisms especially for the production of alcohol Antibiotics, vaccines, vitamins enzymes etc.
MMCP	B. PHARMACY 3 SEM	Pharmaceutical Engineering	Impart a fundamental knowledge on the art and scienceof various unit operations used in pharmaceutical industry
MMCP	B. PHARMACY 4 SEM	Pharmaceutical Organic Chemistry III	Knowledge on stereo-chemical aspects of organic compounds and organic reactions, important named reactions, chemistry of important hetero cyclic compounds
MMCP	B. PHARMACY 4 SEM	Medicinal Chemistry- I	Impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs.
MMCP	B. PHARMACY 4 SEM	Physical Pharmaceutics II	Physical and physicochemical properties, and principals involved in dosage forms/formulations.
MMCP	B. PHARMACY 4 SEM	Pharmacology I	Pharmacodynamics and pharmacokinetics of drugs
MMCP	B. PHARMACY 4 SEM	Pharmacognosy-I	Pharmacognosy and Phytochemistry I
			Fundamentals of Pharmacognosy
MMCP	B. PHARMACY 5 SEM	Medicinal Chemistry II	Emphasizes on structure activity relationships of drugs, importance of physicochemical properties and metabolism of drugs

MAHARISHI MARKANDESHWAR (DEEMED TO BE UNIVERSITY)
Mullana, Ambala, Haryana,133207
(Established under section 3 of the UGC Act, 1956
(NAAC Accredited Grade 'A++')

MMCP	B. PHARMACY 5 SEM	Formulative Pharmacy	Understand and appreciate the influence of pharmaceutical additives and various pharmaceutical dosage forms
MMCP	B. PHARMACY 5 SEM	Pharmacology II	Drugs acting on different systems of body
MMCP	B. PHARMACY 5 SEM	Pharmacognosy and Phytochemistry II	Knowledge of how thesecondary metabolites are produced in the crude drugs
MMCP	B. PHARMACY 5 SEM	Pharmaceutical Jurisprudence	Basic knowledge on important legislations related to the profession of pharmacy in India
MMCP	B. PHARMACY 6 SEM	Medicinal Chemistry III	Impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs
MMCP	B. PHARMACY 6 SEM	Pharmacology- III	Drugs acting on respiratory and gastrointestinal system, infectious diseases, immuno-pharmacology
MMCP	B. PHARMACY 6 SEM	Herbal Drug Technology	Knowledge of basic understanding of herbal drugindustry
MMCP	B. PHARMACY 6 SEM	Biopharmaceutics and Pharmacokinetics	Impart knowledge and skills of Biopharmaceutics and pharmacokinetics and their applications in pharmaceutical development
MMCP	B. PHARMACY 6 SEM	Pharmaceutical Biotechnology	Scientific application of biotechnology in the field of genetic engineering, medicine and fermentation technology
MMCP	B. PHARMACY 6 SEM	Quality Assurance	Deals with the various aspects of quality control and quality assurance aspects of pharmaceutical industries
MMCP	B. PHARMACY 7 SEM	Instrumental Methods of Analysis	Application of instrumental methods in qualitative and quantitative analysis of drugs
MMCP	B. PHARMACY 7 SEM	Industrial Pharmacy	Impart fundamental knowledge on pharmaceuticalproduct development and translation from laboratory to market

MMCP	B. PHARMACY 7 SEM	Pharmacy Practice	Successful practice of Hospital Pharmacy
MMCP	B. PHARMACY 7 SEM	Novel Drug Delivery System	Impart basic knowledge on the area of novel drug delivery systems.
MMCP	B. PHARMACY 8 SEM	Biostatistics and Research Methodology	Understand the applications of Biostatics in Pharmacy
MMCP	B. PHARMACY 8 SEM	Social and Preventive Pharmacy	Number of health issues and their challenges
MMCP	B. PHARMACY 8 SEM	Pharma Marketing Management – Elective	Knowledge and Know-how of marketing management groom the people for taking a challenging role in Sales and Product management
MMCP	B. PHARMACY 8 SEM	Pharmaceutical Regulatory Science – Elective	Impart the fundamental knowledge on the regulatory requirements for approval of new drugs
MMCP	B. PHARMACY 8 SEM	Pharmacovigilance – Elective	About development of pharmacovigilance as a science and basic terminologies used in pharmacovigilance
MMCP	B. PHARMACY 8 SEM	Quality Control and Standardization of Herbals – Elective	Various methods and guidelines for evaluation and standardization of herbs and herbal drugs
MMCP	B. PHARMACY 8 SEM	Computer Aided Drug Design – Elective	Knowledge of rational drug design process and various techniques used in rational drug design process
MMCP	B. PHARMACY 8 SEM	Cell and Molecular	Knowledge of cellular system and process of molecular biology system

		Biology – Elective	
MMCP	B. PHARMACY 8 SEM	Cosmetic Science – Elective	Knowledge of cosmetological products relative to pharmaceutical sciences
MMCP	B. PHARMACY 8 SEM	Advanced Instrumentation Techniques – Elective	Knowledge of different instrumental techniques used in pharmacy
MMCP	B. PHARMACY 8 SEM	Experimental Pharmacology – Elective	Knowledge of Preclinical and clinical Pharmacology
MMCP	MPHARMACOLOGY 1 SEM	Modern Pharmaceutical Analytical Techniques	This subject deals with various advanced analytical instrumental techniques for identification, characterization and quantification of drugs. Instruments dealt are NMR, Mass spectrometer, IR, HPLC, GC etc.
MMCP	MPHARMACOLOGY 1 SEM	Advanced Pharmacology-I	The subject is designed to strengthen the basic knowledge in the field of pharmacology and to impart recent advances in the drugs used for the treatment of various diseases. In addition, this subject helps the students to understand the concepts of drug action and mechanisms involved.
MMCP	MPHARMACOLOGY 1 SEM	Pharmacological and Toxicological Screening Methods-I	This subject is designed to impart the knowledge on preclinical evaluation of drugs and recent experimental techniques in the drug discovery and development.
MMCP	MPHARMACOLOGY 1 SEM	Cellular and Molecular Pharmacology	The subject imparts a fundamental knowledge on the structure and functions of cellular components and help to understand the interaction of these components with drugs.
MMCP	MPHARMACOLOGY 2 SEM	Advanced Pharmacology-II	The subject is designed to strengthen the basic knowledge in the field of pharmacology and to impart recent advances in the drugs used for the treatment of various diseases.

MMCP	MPHARMACOLOGY 2 SEM	Pharmacological and Toxicological Screening Methods-II	The subject imparts knowledge on the preclinical safety and toxicological evaluation of drug & new chemical entity.
MMCP	MPHARMACOLOGY 2 SEM	Principles of Drug Discovery	The subject imparts basic knowledge of drug discovery process. This information will make the student competent in drug discovery process.
MMCP	MPHARMACOLOGY 2 SEM	Experimental Pharmacology practical- II	This subject will provide a value addition and current requirement for the students in clinical research and pharmacovigilance.
MMCP	MPHARMACOLOGY 3 & 4 SEM	3rd & 4th Sem. Project-work	To allow the students to develop experimental skills in the core area of preclinical, clinical formulation development, phytochemical studies, analytical techniques , and quality audit of the product.
MMCP	M.PHARMA(PQA) 1 SEM	Modern Pharmaceutical Analytical Techniques	This subject deals with various advanced analytical instrumental techniques for identification, characterization and quantification of drugs. Instruments dealt are NMR, Mass spectrometer, IR, HPLC, GC etc.
MMCP	M.PHARMA(PQA) 1 SEM	Quality Management System	This course is designed to impart fundamental knowledge and concepts about various quality management principles and systems utilized in the manufacturing industry. It also aids in understanding the quality evaluation in the pharmaceutical industries.
MMCP	M.PHARMA(PQA) 1 SEM	Quality Control and Quality Assurance	This course is designed to impart fundamental knowledge and concepts about various quality management principles and systems utilized in the manufacturing industry. It also aids in understanding the quality evaluation in the pharmaceutical industries.
MMCP	M.PHARMA(PQA) 1 SEM	Product Development and Technology Transfer	This deal with technology transfer covers the activities associated with Drug Substance, Drug Product and analytical tests and methods, required following candidate drug selection to completion of technology transfer from R&D to the first receiving site and technology transfer related to post-marketing changes in manufacturing places.

MMCP	M.PHARMA(PQA) 2 SEM	Hazards and Safety Management	This course is designed to convey the knowledge necessary to understand issues related to different kinds of hazard and their management. Basic theoretical and practical discussions integrate the proficiency to handle the emergency situation in the pharmaceutical product development process and provides the principle based approach to solve the complex tribulations.
MMCP	M.PHARMA(PQA) 2 SEM	Pharmaceutical Validation	The main purpose of the subject is to understand about validation and how it can be applied to industry and thus improve the quality of the products. The subject covers the complete information about validation, types, methodology and application.
MMCP	M.PHARMA(PQA) 2 SEM	Audits and Regulatory Compliance	This course deals with the understanding and process for auditing in pharmaceutical industries.
MMCP	M.PHARMA(PQA) 2 SEM		This subject covers the methodology involved in the auditing process of different in pharmaceutical industries.
MMCP	M.PHARMA(PQA) 2 SEM	Pharmaceutical Manufacturing Technology	This course is designed to impart knowledge and skills necessary to train the students with the industrial activities during Pharmaceutical Manufacturing.
MMCP	M.PHARMA(PQA) 3 & 4 SEM	3rd & 4th Sem.Projectwork	To allow the students to develop experimental skills in the core area of preclinical, clinical formulation development, phytochemical studies, analytical techniques, and quality audit of the product.
MMCP	M.PHARMA(PHARMACO) 1 SEM	Modern Pharmaceutical Analytical Techniques	This subject deals with various advanced analytical instrumental techniques for identification, characterization and quantification of drugs. Instruments dealt are NMR, Mass spectrometer, IR, HPLC, GC etc.
MMCP	M.PHARMA(PHARMACO) 1 SEM	Modified Release Drug Delivery System	This course is designed to impart knowledge on the area of advances in novel drug delivery systems.
MMCP	M.PHARMA(PHARMACO) 1 SEM	Modern Pharmaceutics	Course designed to impart advanced knowledge and skills required to learn various aspects and concepts at pharmaceutical industries.

MMCP	M.PHARMA(PHARMACO) 1 SEM	Pharmaceutical Regulatory Affair	Course designed to impart advanced knowledge and skills required to learn the concept of generic drug and their development, various regulatory filings in different countries, different phases of clinical trials an submitting regulatory documents filing process of IND, NDA and ANDA.
MMCP	M.PHARMA(PHARMACO) 2 SEM	Molecular Pharmaceutics(Nano Tech and Targeted DDS)	This course is designed to impart knowledge on the area of advances in novel drug delivery systems.
MMCP	M.PHARMA(PHARMACO) 2 SEM	Advanced Biopharmaceutics &Pharmacokinetics	This course is designed to impart knowledge of the principles of biopharmaceutics and pharmacokinetics.
MMCP	M.PHARMA(PHARMACO) 2 SEM	Computer Aided Drug Delivery System	This course is designed to impart knowledge and skills necessary for computer applications in pharmaceutical research and development System.
MMCP	M.PHARMA(PHARMACO) 2 SEM	Cosmetic and Cosmeceuticals	This course is designed to impart knowledge and skills necessary for the fundamental need for cosmetic and cosmeceutical products.
MMCP	M.PHARMA(PHARMACO) 3 & 4 SEM	PROJECT WORK	To allow the students to develop experimental skills in the core area of preclinical, clinical formulation development, phytochemical studies, analytical techniques , and quality audit of the product.
MMCP	PHARMA D 1 YR	Human Anatomy and Physiology	This course is designed to impart a fundamental knowledge on the structure and functions of the human body
MMCP	PHARMA D 1 YR	Pharmaceutics	To develop the art and science of formulating different dosage forms
MMCP	PHARMA D 1 YR	Medicinal Biochemistry	Applied biochemistry deals with complete understanding of the molecular level of the chemical process associated with living cells.
MMCP	PHARMA D 1 YR	Pharmaceutical Organic Chemistry	To IUPAC names, organic reactions with mechanisms

MMCP	PHARMA D 1 YR	Pharmaceutical Inorganic Chemistry	Deals with fundamentals of Analytical chemistry and monographs
MMCP	PHARMA D 1 YR	Remedial Mathematics	This is an introductory course in mathematics.
MMCP	PHARMA D 1 YR	Remedial Biology	This is an introductory course in Biology, which gives detailed study of natural sources such as plant and animal origin
MMCP	PHARMA D 2ND YR	Pathophysiology	Designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions
MMCP	PHARMA D 2ND YR	Pharmaceutical Microbiology	Deals with the various aspects of microorganisms, its classification, morphology, laboratory cultivation identification and maintenance
MMCP	PHARMA D 2ND YR	Pharmacognosy & Phytopharmaceuticals	To make the student aware of medicinal uses of various naturally occurring drugs its history, sources, distribution, method of cultivation, active constituents, medicinal uses, identification tests, preservation methods, substitutes and adulterants.
MMCP	PHARMA D 2ND YR	Pharmacology-I	Provide an opportunity to learn about the drug with regard to classification, pharmacodynamic and pharmacokinetic aspects, adverse effects, uses, dose, route of administration, precautions, contraindications and interaction with other drugs
MMCP	PHARMA D 2ND YR	Community Pharmacy	To develop various skills such as dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counseling, health screening services for improved patient care in the community set up.
MMCP	PHARMA D 2ND YR	Pharmacotherapeutics-I	This course is designed to impart knowledge and skills necessary for contribution to quality use of medicines
MMCP	PHARMA D 3RD YR	Pharmacology-II	This subject will provide an opportunity to learn about the drug action on body and body response to drug.
MMCP	PHARMA D 3RD YR	Pharmaceutical Analysis	Theoretical aspects, instrumentation, interpretation of data/spectra and analytical skill for drugs testing
MMCP	PHARMA D 3RD YR	Pharmacotherapeutics-II	This course is designed to impart knowledge and skills necessary for contribution to quality use of medicine

MMCP	PHARMA D 3RD YR	Pharmaceutical Jurisprudence	Hospital postings in various departments designed to complement the lectures by providing practical clinical discussion
MMCP	PHARMA D 3RD YR	Medicinal Chemistry	Modern concept of rational drug design, Medicinal structure and its chemistry
MMCP	PHARMA D 3RD YR	Pharmaceutical Formulations	Subject deals with the formulation and evaluation of various pharmaceutical dosage forms
MMCP	PHARMA D 4TH YR	Pharmacotherapeutics-III	Enrich with patients therapeutic plan designing w.r.t. Standard treatment guideline.
MMCP	PHARMA D 4TH YR	Hospital Pharmacy	Transmit the cognition about various dosage forms and dispensing methodology.
MMCP	PHARMA D 4TH YR	Clinical Pharmacy	Monitor drug therapy of patient through medication chart review and clinical review
MMCP	PHARMA D 4TH YR	Biostatistics & Research Methodology	Scientific analytical skills development by using various statistic data
MMCP	PHARMA D 4TH YR	Biopharmaceutics& Pharmacokinetics	Drug's effectiveness and efficacy evaluation skill learning
MMCP	PHARMA D 4TH YR	Clinical Toxicology	Poisonous effect of excess dose of medication and its management learning
MMCP	PHARMA D 5TH YR	Clinical Research	Various Approaches to drug discovery and various phases of clinical trials
MMCP	PHARMA D 5TH YR	Pharmacoepidemiology and Pharmacoeconomics	Origin and evaluation of pharmacoepidemiology need for pharmacoepidemiology, aims and applications
MMCP	PHARMA D 5TH YR	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	Various clinical dosing calculations and its therapeutic monitoring

MMCP	PHARMA D 5TH YR	Clerkship (attending ward rounds on daily basis)	Clerkship is a phase of training wherein a student is expected to conduct actual practice of pharmacy and health care and acquires skills
MMCP	PHARMA D 5TH YR	Project work (six months)	Research task for better patient safety and to enhance quality of life
MMCP	PHARMA D 6TH YR	Internship or residency training including postings in specialty units. Student should independently provide the clinical pharmacy services to the allotted wards.	Six months in General Medicine department, Two months each in three other speciality departments
MMCP	PH.D	Ph.D in Faculty of Pharmaceutical Sciences	Emphasizes on research to generate innovative knowledge and investigate upcoming challenges. The researcher is expected to recognize the research gaps, create objectives, build up methodologies for finding solutions to real life problems.
MMCN(CO)	B.SC.NURSING 1 YR	Anatomy and Physiology	The course is designed to enable students to acquire knowledge of the normal structure and physiology of various human body systems and understand the alteration in anatomical structures and physiology in disease and practice of nursing
MMCN(CO)	B.SC.NURSING 1 YR	Nutrition	The course is designed to assess the students to acquire knowledge of nutrition for maintenance of optimum health at different stages of life and its applications in practice of nursing.
MMCN(CO)	B.SC.NURSING 1 YR		Biochemistry deals with normal biochemical compositions and functioning of human body.

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MMCN(CO)	B.SC.NURSING 1 YR	Nursing Foundation	It is aimed at helping the students to acquire knowledge, understanding and skills in techniques of nursing and practice them in supervised clinical settings.
MMCN(CO)	B.SC.NURSING 1 YR	Psychology	It is designed to acquire knowledge of fundamentals of psychology and develop an insight into behaviour of self and others and practice these for promoting mental health in nursing factors.
MMCN(CO)	B.SC.NURSING 1 YR	Sociology	This course introduce concept of sociology related to community and its relationship with health illness and nursing.
MMCN(CO)	B.SC.NURSING 1 YR	English	This course help the students to develop skills in reading, writing, listening and vocabulary.
MMCN(CO)	B.SC.NURSING 1 YR	Computer	This course is designed to develop basic understanding of uses of computer and its applications in nursing
MMCN(CO)	B.SC. NURSING 2 YR	Pharmacology, Pathology and Genetics	Pharmacology: This course enables the student to acquire understanding of drugs and their nursing implications.
MMCN(CO)	B.SC. NURSING 2 YR	Medical Surgical Nursing-I	This help the student to acquire knowledge and develop proficiency in caring for patients with medical surgical disorders related to the different systems of the body.
MMCN(CO)	B.SC. NURSING 2 YR	Communication and Education Technology	It is designed to enable the students to acquire an understanding of the principles and methods of communication.
MMCN(CO)	B.SC. NURSING 2 YR	Microbiology	This course is designed to enable the students to acquire the understanding of fundamentals of micro biology and identification of various micro-organisms.

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MMCN(CO)	B.SC. NURSING 2 YR	Community Health Nursing-I	This course is designed to enable students to appreciate the principles of promotion and maintenance of health.
MMCN(CO)	B.SC. NURSING 3 YR	Child Health Nursing	This course is designed for developing an understanding of the modern approach to child care, identification, prevention and nursing management of common health problems of neonates and children.
MMCN(CO)	B.SC. NURSING 3 YR	Mental Health Nursing	It help the student to develop an understanding of the modern approach to mental health, identification, prevention and nursing management of common mental health problems with special emphasis on therapeutic interventions for individuals, family and community.
MMCN(CO)	B.SC. NURSING 3 YR	Research and Statistics	This course help the student to develop an understanding of basic concept of research, analysis and utilization of research findings.
MMCN(CO)	B.SC. NURSING 3 YR	Medical Surgical Nursing-II	This helps the student to acquire knowledge and develop proficiency in caring for geriatric patients and patients with different oncological conditions.
MMCN(CO)	B.SC. NURSING 4 YR	Obstetrical and Gynecology	This course is designed for students to appreciate the concept and principles of midwifery and obstetrical nursing. It help the students to acquire knowledge and skills in rendering nursing care to normal and high risk pregnant women during antenatal, natal and postnatal period.
MMCN(CO)	B.SC. NURSING 4 YR	Nursing Management	This course enables the students to acquire understanding of management of clinical, professional responsibilities and contribution to the growth of profession.
MMCN(CO)	B.SC. NURSING 4 YR	Community Health Nursing-II	This course is designed to enable students to appreciate the principles of promotion and maintenance of health.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Nursing foundation	This course will help students develop an understanding of the philosophy, objectives and responsibilities of nursing as a profession. The purpose of the course is to orient to the current concepts involved in the practice of nursing and developments in the nursing profession.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Nutrition & dietetics	This course is designed to provide the students with a wide knowledge of dietetics in Indian setting that the practice of teaching optimum and realistic dietary planning can become an integral part of nursing practice.

MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Psychology	This course is designed to reorient and widen the student's knowledge of fundamentals of psychology. The student is offered an opportunity to apply the theoretical concepts in the clinical setting and thereby understand the psychodynamics of patient behaviour. This course would also help the student to develop an insight into her own behaviour.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Microbiology	This course reorients the students to the fundamentals of Microbiology and its various sub-divisions. It provides opportunities to gain skill in handling and use of microscope for identifying various micro-organisms. It also provides opportunities for safe handling of materials containing harmful bacteria and methods of destroying microorganisms.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Maternal nursing	This course is designed to widen the student's knowledge of obstetrics during pregnancy, labour and puerperium. It also helps to acquire knowledge and develop skill in rendering optimum nursing care to a child bearing mother in a hospital or community and help in the management of common gynecological problems.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Child health nursing	This course is aimed at developing an understanding of the modern approach to childcare, the common health problems of children and neonates in health and sickness.
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	Medical - surgical nursing	The purpose of this course is to widen the students' knowledge and develop proficiency in caring for patients with medical surgical problems. This course includes review of relevant anatomy and physiology, pathophysiology in medical surgical disorders and the nursing management of these conditions
MMCN(CO)	POST BASIC B.SC. NURSING 1 YR	English (college examination)	This course is designed to help the student understand and usage of English language required for their professional work.
MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Sociology	This course is to reorient students to sociology related to community and social institution in India and its relationship with health, illness and nursing
MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Community health nursing	The course enables the students to understand the national health care delivery system and to participate in the delivery of community health nursing
MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Mental health nursing	This course enables the students to recognize and appreciate the causes symptoms and process of abnormal human behavior. It also introduces the student to the present day treatment modalities in the light of psychological, social and cultural factors affecting human behavior. This course helps the student to learn principles of mental health and psychiatric nursing and to develop beginning skills in the management of the mentally ill in hospital and community

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MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Introduction to nursing education	This course introduces the students to principles and concepts of education curriculum development and methods and media of teaching. It also describes the steps in curriculum development and implementation of educational programmes in nursing
MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Introduction to nursing adminstration	This course is designed to give an opportunity to the student to gain an understanding of the principles of administration and its application to nursing service. It is also intended to assist the students to develop an understanding of professional leadership need.
MMCN(CO)	POST BASIC B.SC. NURSING 2 YR	Introduction to nursing research and statistics	The course is designed to assist the students to develop an understanding of basic concepts of research and statistics, use the finding of nursing research in nursing practice apply the knowledge in conducting project(S) and solve problems related to nursing using scientific method
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Advanced Nursing Practice	The course is designed to develop an understanding of concepts and constructs of theoretical basis of advance nursing practice and critically analyze different theories of nursing and other disciplines.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Nursing Education	This course is designed to assist students to develop a broad understanding of Fundamental Principles, concepts, trends and issues related to education and nursing education. Further, it would provide opportunity to students to understand, appreciate and acquire skills in teaching and evaluation, curriculum development, implementation, maintenance of standards and accreditation of various nursing educational programs.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Nursing Research	The course is designed to assist the students to acquire an understanding of the research methodology and statistical methods as a basis for identifying research problem, planning and implementing a research plan. It will further enable the students to evaluate research studies and utilize research findings to improve quality of nursing practice, education and management.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Medical-surgical nursing	This course is common for the students undergoing clinical speciality-II in neuro science nursing/cardiovascular & thoracic nursing/critical care nursing/oncology nursing/orthopaedic and rehabilitation nursing/nephro & urology nursing, gastroenterology nursing/ geriatric nursing. It is designed to assist students in developing expertise and in depth knowledge in the field of medical Surgical Nursing. It will help students to appreciate the patient as a holistic individual and develop skill to function as a specialized Medical-Surgical Nurse. It will further enable the student to function as educator, manager and researcher in the field of Medical – Surgical Nursing.

MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	OBG Nursing	This course is designed to assist students in developing expertise and indepth understanding in the field of Obstetric and Gynaecological Nursing. It will help students to appreciate the client as a holistic individual and develop skill to function as an independent midwifery practitioner. It will further enable the student to function as educator, manager, and researcher in the field of Obstetric and Gynaecological nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Child Health Nursing	This course is designed to assist students in developing expertise and indepth understanding in the field of Pediatric Nursing. It will help students to appreciate the child as a holistic individual and develop skill to function as neonatal and pediatric nurse specialist. It will further enable the student to function as educator, manager, and researcher in the field of Paediatric nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Mental Health Nursing	This course is designed to assist students in developing expertise and indepth understanding in the field of Psychiatric Nursing. It will help students to appreciate the client as a holistic individual and develop skill to function psychiatric nurse specialist. It will further enable the student to function as educator, manager, and researcher in the field of Psychiatric nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Community Health Nursing	The course is designed to assist students in developing expertise and indepth understanding in the field of Community Health Nursing. It would help students to appreciate holistic life style of individuals, families & groups and develop skills to function as Community Health Nurse specialist/practitioner. It would further enable student to function as an educator, manager and researcher in the field of Community Health nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Nursing Administration & Management	This course is designed to assist students to develop a broad understanding of Principles, concepts, trends and issues related to nursing management. Further, it would provide opportunity to students to understand, appreciate and acquire skills in planning, supervision and management of nursing services at different levels to provide quality nursing services.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Medical Surgical Nursing	Medical-surgical nursing is a nursing specialty area concerned with the care of adult patients in a broad range of settings. The Academy of Medical-Surgical Nurses(AMSN) is a specialty nursing organization dedicated to nurturing medical-surgical nurses as they advance their careers.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Neuroscience	- This course is designed to assist students in developing expertise and indepth knowledge in the field of neurology and neurosurgical Nursing. It will help students to develop advanced skills for nursing intervention in caring for patients with neurological and neurosurgical disorders. It will enable the student to function as neuroscience nurse practitioner/ specialist. It will further enable the student to function as educator, manager and researcher in the field of neurology and neurosurgical Nursing.

MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Cardio/ CTVS	- This course is designed to assist students in developing expertise and indepth understanding in the field of cardiovascular and thoracic nursing. It will help students to develop advanced skills for nursing intervention in various cardio medical and surgical conditions. It will enable the student to function as Cardio vascular and Thoracic Nurse practitioner/specialist. It will further enable the student to function as educator, manager and researcher in the field of cardio vascular and thoracic nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Oncology Nursing	- This course is designed to assist students in developing expertise and indepth understanding in the field of oncology Nursing. It will help students to develop advanced skills for nursing intervention in various oncological conditions. It will enable the student to function as oncology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of oncology nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Critical Care Nursing-	This course is designed to assist students in developing expertise and indepth knowledge in the field of Critical care Nursing. It will help students to develop advanced skills for nursing intervention in caring for critically ill patients. It will enable the student to function as critical care nurse practitioner/ specialist. It will further enable the student to function as educator, manager and researcher in the field of Critical Care Nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Nephro-Urology Nursing	- This course is designed to assist students in developing expertise and indepth understanding in the field of Nephro and urological Nursing. It will help students to develop advanced skills for nursing intervention in various nephro and urological conditions. It will enable the student to function as nephro and urology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of nephro and urology nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Orthopedic Nursing-	This course is designed to assist students in developing expertise and indepth understanding in the field of orthopedic nursing. It will help students to develop advanced skills for nursing intervention in various orthopedic conditions. It will enable the student to function as orthopedic nurse practitioner/specialist providing quality care. It will further enable the student to function as educator, manager, and researcher in the field of orthopedic nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Gastro Enterology Nursing-	This course is designed to assist students in developing expertise and indepth understanding in the field of gastro enterology Nursing. It will help students to develop advanced skills for nursing intervention in various gastro enterology conditions. It will enable the student to function as gastro enterology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of gastro enterology nursing.

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MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Community Health Nursing-	This course is designed to assist students in developing expertise and indepth understanding in the field of community health nursing. It will help students to develop advanced skills for nursing intervention in various aspects of community health care settings. It will enable the student to function as community health Nurse practitioner/specialist. It will further enable the student to function as educator, manager and researcher in the field of community health nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	OBG Nursing-	This course is designed to assist the student in developing expertise and indepth understanding in the field of Obstetric and gynecological Nursing .It will help the student to develop advanced nursing skills for nursing interventions in various obstetrical and gynecological conditions. It will further enable the students to function as midwifery nurse practitioner/ specialist, educator, manager and researcher in the field of obstetric and gynecological nursing.
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Pediatric (Child Health) Nursing-	This course is designed to assist students in developing expertise and indepth understanding in the field of Pediatric Nursing. It will help students to develop advanced skills for nursing intervention in various pediatric medical and surgical conditions. It will enable the student to function as pediatric nurse practitioner/specialist. It will further enable the student to function as educator, manager, and researcher in the field of Paediatric nursing
MMCN(CO)	M.SC. NURSING 1 & 2 YEAR	Psychiatric (Mental Health) Nursing-	This course is designed to assist students in developing expertise and indepth understanding in the field of Psychiatric Nursing. It will help students to develop advanced skills for nursing intervention in various psychiatric conditions. It will enable the student to function as psychiatric nurse practitioner/specialist. It will further enable the student to function as educator, manager, and researcher in the field of Psychiatric nursing
MMIN	B.SC. NURSING 1 YR	Anatomy and Physiology	The course is designed to enable students to acquire knowledge of the normal structure and physiology of various human body systems and understand the alteration in anatomical structures and physiology in disease and practice of nursing
MMIN	B.SC. NURSING 1 YR	Nutrition	The course is designed to assess the students to acquire knowledge of nutrition for maintenance of optimum health at different stages of life and its applications in practice of nursing.
MMIN	B.SC. NURSING 1 YR	Biochemistry	Biochemistry deals with normal biochemical compositions and functioning of human body.
MMIN	B.SC. NURSING 1 YR	Nursing Foundation	It is aimed at helping the students to acquire knowledge, understanding and skills in techniques of nursing and practice them in supervised clinical settings.
MMIN	B.SC. NURSING 1 YR	Psychology	It is designed to acquire knowledge of fundamentals of psychology and develop an insight into behaviour of self and others and

			practice these for promoting mental health in nursing factors.
MMIN	B.SC. NURSING 1 YR	Sociology	This course introduces concept of sociology related to community and its relationship with health illness and nursing.
MMIN	B.SC. NURSING 1 YR	English	This course helps the students to develop skills in reading, writing, listening and vocabulary.
MMIN	B.SC. NURSING 1 YR	Computer	This course is designed to develop basic understanding of uses of computer and its applications in nursing
MMIN	B.SC. NURSING 2 YR	Pharmacology, Pathology and Genetics	Pharmacology: This course enables the student to acquire understanding of drugs and their nursing implications.
			Pathology: The study of the essential nature of diseases and especially of the structural and functional changes produced by them.
			Genetics: The study of heredity and the variation of inherited characteristics.
MMIN	B.SC. NURSING 2 YR	Medical Surgical Nursing-I	This help the student to acquire knowledge and develop proficiency in caring for patients with medical surgical disorders related to the different systems of the body.
MMIN	B.SC. NURSING 2 YR	Communication and Education Technology	It is designed to enable the students to acquire an understanding of the principles and methods of communication.
MMIN	B.SC. NURSING 2 YR	Microbiology	This course is designed to enable the students to acquire the understanding of fundamentals of micro biology and identification of various micro-organisms.
MMIN	B.SC. NURSING 2 YR	Community Health Nursing-I	This course is designed to enable students to appreciate the principles of promotion and maintenance of health.
MMIN	B.SC. NURSING 3 YR	Child Health Nursing	This course is designed for developing an understanding of the modern approach to child care, identification, prevention and nursing management of common health problems of neonates and children.
MMIN	B.SC. NURSING 3 YR	Mental Health Nursing	It help the student to develop an understanding of the modern approach to mental health, identification, prevention and nursing management of common mental health problems with special emphasis on therapeutic interventions for individuals, family and

			community.
MMIN	B.SC. NURSING 3 YR	Research and Statistics	This course help the student to develop an understanding of basic concept of research, analysis and utilization of research findings.
MMIN	B.SC. NURSING 3 YR	Medical Surgical Nursing-II	This helps the student to acquire knowledge and develop proficiency in caring for geriatric patients and patients with different oncological conditions.
MMIN	B.SC. NURSING 4 YR	Obstetrical and Gynecology	This course is designed for students to appreciate the concept and principles of midwifery and obstetrical nursing. It help the students to acquire knowledge and skills in rendering nursing care to normal and high risk pregnant women during antenatal, natal and postnatal period.
MMIN	B.SC. NURSING 4 YR	Nursing Management	This course enables the students to acquire understanding of management of clinical, professional responsibilities and contribution to the growth of profession.
MMIN	B.SC. NURSING 4 YR	Community Health Nursing-II	This course is designed to enable students to appreciate the principles of promotion and maintenance of health.
MMIPR	BPT 1 YEAR	Anatomy	The study of anatomy will include identification of all gross anatomical structures. Particulars emphasis will be placed on description of bones, joints, muscles, the brain, cardio pulmonary and nervous system, as these are related to the application of physiotherapy and occupational therapy in patients.
MMIPR	BPT 1 YEAR	Physiology	Assist the students to acquire knowledge of the normalphysiology of various body systems and understand the alternation in physiology in disease and practice of Physiotherapy as applicable for each systemic disorder.
MMIPR	BPT 1 YEAR	Biochemistry	To acquire knowledge of various concepts of Bio-molecules and their significance in human body.
MMIPR	BPT 1 YEAR	Sociology	To understand the uses and science of society and also the application of knowledge of sociology in Physiotherapy practices.
MMIPR	BPT 1 YEAR	General & clinical psychology	Provide basic knowledge about human psychology and its importance in physiotherapy which helps in treatment techniques.

MMIPR	BPT 1 YEAR	Basic principles in physiotherapy	Provide basic knowledge about application of general mechanics and physical agents in physiotherapy.
MMIPR	BPT 1 YEAR	English.	Increase Language awareness to assist in proof reading, research and project work in physiotherapy.
MMIPR	BPT 2 YEAR	Pathology & Micro-biology	Correlate normal and altered morphology and pathology of different organ systems in different diseases needed for understanding disease process and their clinical significance (with special emphasis on neuro-musculo skeletal and cardio-respiratory system).
MMIPR	BPT 2 YEAR	Pharmacology	Acquire knowledge about basic principles of pharmacology and drug science for physiotherapist.
MMIPR	BPT 2 YEAR	Bio-Mechanics	Supplements the Knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and dysfunction.
MMIPR	BPT 2 YEAR	Exercise therapy	Acquire knowledge about principles of Exercise therapy along with the practical based learning of different techniques to treat the various disorders.
MMIPR	BPT 2 YEAR	Electrotherapy	Acquire knowledge about principles of Electrotherapy along with the practical based learning of different modalities application.
MMIPR	BPT 2 YEAR	Ethics and Law in Physiotherapy	Acquire knowledge about professionalism and ethical principles in physiotherapy practices.
MMIPR	BPT 2 YEAR	Yoga	Provides practical and theoretical knowledge of basic principles of Yogic Sciences.
MMIPR	BPT 3 YEAR	Gen. Medicine & Paediatrics	Enhance the knowledge about disease course, clinical features, diagnosis and management of general medicine and pediatric conditions.
MMIPR	BPT 3 YEAR	Gen. Surgery And Obs. & Gynecology	Provides knowledge about basic procedure of surgical conditions and also the basic knowledge of OBS and Gynecology in physiotherapy.
MMIPR	BPT 3 YEAR	Clinical Orthopedics	Enhance the knowledge about orthopedics conditions their diagnosis and management principles.
MMIPR	BPT 3 YEAR	Clinical Neurology	Provide knowledge about structural composition of nervous system and clinical manifestation which helps to assess and treat the neurological disorders.

MMIPR	BPT 3 YEAR	Research Methodology & Bio-Statistics	Provide the basic knowledge about research design & methodology and data analysis to assist in making projects and conducting research.
MMIPR	BPT 3 YEAR	Community Medicine	Acquire the knowledge about preventive social medicine and also the communicable and non communicable disease in community based and institution based rehabilitation.
MMIPR	BPT 3 YEAR	Supervised Clinical Training	Provide the basic assessment and management procedure of physiotherapy under the supervision of trained faculties.
MMIPR	BPT 4 YEAR	Physiotherapy In Orthopaedic Conditions	Acquire the knowledge about physiotherapy assessment and management in various soft tissue injuries musculoskeletal conditions and surgeries.
MMIPR	BPT 4 YEAR	Physiotherapy In Neurological Conditions	Acquire knowledge about various causes , risk factors and clinical presentation of neurological conditions focused to physiotherapy aspect.
MMIPR	BPT 4 YEAR	Physiotherapy In Medical & Surgical Conditions	Enhance the skills in diagnosis and management of various medical and surgical conditions including practical based training.
MMIPR	BPT 4 YEAR	Physiotherapy In Cardiothoracic Conditions	Acquire knowledge about diagnosis and management of cardio respiratory disorders including practical based training.
MMIPR	BPT 4 YEAR	Rationale Of Rehabilitation	Provide knowledge about influence of various social and environmental factors of individual health and various methods to diagnose and regain the functional limitation.
MMIPR	BPT 4 YEAR	Supervised Rotatory Clinical Training	Acquire skills in physical diagnosis and management of various disorders with rotator posting in different departments like Medicine, Surgery, OBS and Gynecology, Pediatrics, Orthopedics, Neurosurgery, Cardiothoracic, ICU,ICCU and Physiotherapy OPD.
MMIPR	MPT (MUS DIS) 1	Basic Medical	This subject provides basic knowledge about Human Anatomy, Physiology, Biochemistry, Pathology and Pharmacology, focused on

	SEM	Sciences	their clinical and applied aspects.
MMIPR	MPT (MUS DIS) 1 SEM	Biomechanics	It will provide knowledge about human joint structure and functions, including normal joint motion kinesiology and its clinical implications.
MMIPR	MPT (MUS DIS) 1 SEM	Research Methodology and Biostatistics I	This subject gives a detailed idea about rehabilitation research and also its implication in physiotherapy research.
MMIPR	MPT (MUS DIS) 1 SEM	Musculoskeletal Disorders I	This subject will provides knowledge about various assessment approaches used in musculoskeletal physiotherapy.
MMIPR	MPT (MUS DIS) 2 SEM	Advanced Medical Sciences	This subject includes various clinical aspects in medical field like radiology, pharmacology and first aid management.
MMIPR	MPT (MUS DIS) 2 SEM	Educational Technology and Management in Physiotherapy	This subject gives idea about various teaching methods and instruments as well as ethical aspects of physiotherapy.
MMIPR	MPT (MUS DIS) 2 SEM	Research Methodology and Biostatistics II	This subject provides thorough understanding of presenting supporting evidences and how to conduct research. To have an understanding of model of research and biostatistics. To evaluate every procedure on the basis of evidences. To understand the data analysis procedure and their significance in research.
MMIPR	MPT (MUS DIS) 2 SEM	Musculoskeletal Disorders II	This subject gives knowledge about general orthopedics, also various neurovascular and soft tissue injuries and their clinical implications.
MMIPR	MPT (MUS DIS) 3 SEM	Basics of Exercise Physiology & Nutrition	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT (MUS DIS) 3 SEM	Bio-Engineering and Rehabilitation	This subject gives detailed idea about various orthosis and prosthesis and their construction and prescription. It also gives students detailed knowledge about various rehabilitation acts.

		Principles	
MMIPR	MPT (MUS DIS) 3 SEM	Musculoskeletal Disorders III	This subject covers all the fractures of upper limb and lower limb and its clinical feature assessment and management.
MMIPR	MPT (MUS DIS) 4 SEM	Applied Exercise Physiology	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT (MUS DIS) 4 SEM	Advance Concepts of Physiotherapy in Musculoskeletal Disorders	This subject gives detailed idea about various manual therapy approaches as well as various electrotherapy equipments.
MMIPR	MPT (MUS DIS) 4 SEM	Musculoskeletal Disorders IV	This subject gives detailed idea about various spinal biomechanics, pathomechanics and its clinical importance also it gives a focused idea about various spinal conditions and their assessment and management.
MMIPR	MPT (MUS DIS) 4 SEM	Practical	This subject includes practical approaches of all four specialty subjects.
MMIPR	MPT (MUS DIS) 4 SEM	Dissertation	Every student has to submit one research project mandatorily before final semester examination.
MMIPR	MPT(NEUR DIS) 1 SEM	Basic Medical Sciences	This subject provides basic knowledge about Human Anatomy, Physiology, Biochemistry, Pathology and Pharmacology, focused on their clinical and applied aspects.
MMIPR	MPT(NEUR DIS) 1 SEM	Biomechanics	It will provide knowledge about human joint structure and functions, including normal joint motion kinesiology and its clinical implications.
MMIPR	MPT(NEUR DIS) 1 SEM	Research Methodology and Biostatistics I	This subject gives a detailed idea about rehabilitation research and also its implication in physiotherapy research.

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MMIPR	MPT(NEUR DIS) 1 SEM	Neurological Disorders I	This subject will provide knowledge about various assessment approaches and diagnostic tests and procedure used in neurological physiotherapy.
MMIPR	MPT(NEUR DIS) 2 SEM	Advanced Medical Sciences	This subject includes various clinical aspects in medical field like radiology, pharmacology and first aid management.
MMIPR	MPT(NEUR DIS) 2 SEM	Educational Technology and Management in Physiotherapy	This subject gives idea about various teaching methods and instruments as well as ethical aspects of physiotherapy.
MMIPR	MPT(NEUR DIS) 2 SEM	Research Methodology and Biostatistics II	This subject provides thorough understanding of presenting supporting evidences and how to conduct research. To have an understanding of model of research and biostatistics. To evaluate every procedure on the basis of evidences. To understand the data analysis procedure and their significance in research.
MMIPR	MPT(NEUR DIS) 2 SEM	Neurological Disorders II	This subject gives knowledge about central nervous system disorders and their physiotherapeutic assessment and management.
MMIPR	MPT(NEUR DIS) 3 SEM	Basics of Exercise Physiology & Nutrition	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT(NEUR DIS) 3 SEM	Bio-Engineering and Rehabilitation Principles	This subject gives detailed idea about various orthosis and prosthesis and their construction and prescription. It also gives students detailed knowledge about various rehabilitation acts.
MMIPR	MPT(NEUR DIS) 3 SEM	Neurological Disorders III	This subject covers all the pediatric neurological disorders its clinical feature assessment and management.
MMIPR	MPT(NEUR DIS) 4 SEM	Applied Exercise Physiology	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.

MMIPR	MPT(NEUR DIS) 4 SEM	Advance Concepts of Physiotherapy in Neurological Disorders	This subject gives detailed idea about various manual therapy approaches and advanced concepts related to neurological physiotherapy.
MMIPR	MPT(NEUR DIS) 4 SEM	Neurological Disorders IV	This subject gives detailed idea about various spinal and psychiatric conditions and their assessment and management.
MMIPR	MPT(NEUR DIS) 4 SEM	Practical	This subject includes practical approaches of all four specialty subjects.
MMIPR	MPT(NEUR DIS) 4 SEM	Dissertation	Every student has to submit one research project mandatorily before final semester examination.
MMIPR	MPT(CARDI DIS) 1 SEM	Basic Medical Sciences	This subject provides basic knowledge about Human Anatomy, Physiology, Biochemistry, Pathology and Pharmacology, focused on their clinical and applied aspects.
MMIPR	MPT(CARDI DIS) 1 SEM	Biomechanics	It will provide knowledge about human joint structure and functions, including normal joint motion kinesiology and its clinical implications.
MMIPR	MPT(CARDI DIS) 1 SEM	Research Methodology and Biostatistics I	This subject gives a detailed idea about rehabilitation research and also its implication in physiotherapy research.
MMIPR	MPT(CARDI DIS) 1 SEM	Cardiothoracic Disorders I	This subject will provide knowledge about various assessment approaches and diagnostic tests and procedure used incardiothoracic physiotherapy.
MMIPR	MPT(CARDI DIS) 2 SEM	Advanced Medical Sciences	This subject includes various clinical aspects in medical field like radiology, pharmacology and first aid management.
MMIPR	MPT(CARDI DIS) 2 SEM	Educational Technology and Management in	This subject gives idea about various teaching methods and instruments as well as ethical aspects of physiotherapy.

		Physiotherapy	
MMIPR	MPT(CARDI DIS) 2 SEM	Research Methodology and Biostatistics II	This subject provides thorough understanding of presenting supporting evidences and how to conduct research. To have an understanding of model of research and biostatistics. To evaluate every procedure on the basis of evidences. To understand the data analysis procedure and their significance in research.
MMIPR	MPT(CARDI DIS) 2 SEM	Cardiothoracic Disorders II	This subject provides through idea about various cardiac and thoracic medical conditions as well as various drugs used in cardiac and pulmonary conditions.
MMIPR	MPT(CARDI DIS) 3 SEM	Basics of Exercise Physiology & Nutrition	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT(CARDI DIS) 3 SEM	Bio-Engineering and Rehabilitation Principles	This subject gives detailed idea about various orthosis and prosthesis and their construction and prescription. It also gives students detailed knowledge about various rehabilitation acts.
MMIPR	MPT(CARDI DIS) 3 SEM	Cardiothoracic Disorders III	This subject covers various surgical techniques and their post operative physiotherapy assessment and management.
MMIPR	MPT(CARDI DIS) 4 SEM	Applied Exercise Physiology	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT(CARDI DIS) 4 SEM	Advance Concepts of Physiotherapy in Cardiothoracic Disorders	This subject gives detailed idea about various manual therapy approaches, advanced concepts and techniques used in Cardiothoracic Physiotherapy.
MMIPR	MPT(CARDI DIS) 4 SEM	Cardiothoracic Disorders IV	This subject gives detailed idea critical care unit, various procedures and techniques used in critical care physiotherapy.

MMIPR	MPT(CARDI DIS) 4 SEM	Practical	This subject includes practical approaches of all four specialty subjects.
MMIPR	MPT(CARDI DIS) 4 SEM	Dissertation	Every student has to submit one research project mandatorily before final semester examination.
MMIPR	MPT(SPORTS INJ) 1 SEM	Basic Medical Sciences	This subject provides basic knowledge about Human Anatomy, Physiology, Biochemistry, Pathology and Pharmacology, focused on their clinical and applied aspects.
MMIPR	MPT(SPORTS INJ) 1 SEM	Biomechanics	It will provide knowledge about human joint structure and functions, including normal joint motion kinesiology and its clinical implications.
MMIPR	MPT(SPORTS INJ) 1 SEM	Research Methodology and Biostatistics I	This subject gives a detailed idea about rehabilitation research and also its implication in physiotherapy research.
MMIPR	MPT(SPORTS INJ) 1 SEM	Sports Injuries I	This subject will provide knowledge about various assessment approaches used in sports physiotherapy.
MMIPR	MPT(SPORTS INJ) 3 SEM	Basics of Exercise Physiology & Nutrition	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT(SPORTS INJ) 3 SEM	Bio-Engineering and Rehabilitation Principles	This subject gives detailed idea about various orthosis and prosthesis and their construction and prescription. It also gives students detailed knowledge about various rehabilitation acts.
MMIPR	MPT(SPORTS INJ) 3 SEM	Sports Injuries III	This subject covers all the general diseases related to sports and its clinical features assessment and management.
MMIPR	MPT(SPORTS INJ) 4 SEM	Applied Exercise Physiology	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.

MMIPR	MPT(SPORTS INJ) 4 SEM	Advance Concepts of Physiotherapy in Sports Injuries	This subject gives detailed idea about various manual therapy approaches, advanced concepts and techniques used in Cardiothoracic Physiotherapy.
MMIPR	MPT(SPORTS INJ) 4 SEM	Sports Injuries IV	This subject gives detailed idea about sports psychology, personality, relaxation technique, leadership and concentration training in sports.
MMIPR	MPT(SPORTS INJ) 4 SEM	Practical	This subject includes practical approaches of all four specialty subjects.
MMIPR	MPT(SPORTS INJ) 4 SEM	Dissertation	The entire student has to submit one research project mandatorily before final semester examination.
MMIPR	MPT (PEDI DIS) 1 SEM	Basic Medical Sciences	This subject provides basic knowledge about Human Anatomy, Physiology, Biochemistry, Pathology and Pharmacology, focused on their clinical and applied aspects.
MMIPR	MPT (PEDI DIS) 1 SEM	Biomechanics	It will provide knowledge about human joint structure and functions, including normal joint motion kinesiology and its clinical implications.
MMIPR	MPT (PEDI DIS) 1 SEM	Research Methodology and Biostatistics I	This subject gives a detailed idea about rehabilitation research and also its implication in physiotherapy research.
MMIPR	MPT (PEDI DIS) 1 SEM	Pediatric Disorders I	This subject will provide knowledge about various assessment approaches used in pediatric physiotherapy and measurement tools.
MMIPR	MPT (PEDI DIS) 2 SEM	Advanced Medical Sciences	This subject includes various clinical aspects in medical field like radiology, pharmacology and first aid management.
MMIPR	MPT (PEDI DIS) 2 SEM	Educational Technology and Management in Physiotherapy	This subject gives idea about various teaching methods and instruments as well as ethical aspects of physiotherapy.

MMIPR	MPT (PEDI DIS) 2 SEM	Research Methodology and Biostatistics II	This subject provides thorough understanding of presenting supporting evidences and how to conduct research. To have an understanding of model of research and biostatistics. To evaluate every procedure on the basis of evidences. To understand the data analysis procedure and their significance in research.
MMIPR	MPT (PEDI DIS) 2 SEM	Pediatric Disorder II	This subject gives knowledge about development sequence of child, nutrition and immunization, motor learning process and different neuromuscular approaches.
MMIPR	MPT (PEDI DIS) 3 SEM	Basics of Exercise Physiology & Nutrition	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT (PEDI DIS) 3 SEM	Bio-Engineering and Rehabilitation Principles	This subject gives detailed idea about various orthosis and prosthesis and their construction and prescription. It also gives students detailed knowledge about various rehabilitation acts.
MMIPR	MPT (PEDI DIS) 3 SEM	Pediatric Disorder III	This subject covers all the deformity in child and its management, pediatric rehabilitation and therapeutic exercises and pediatric orthotic, prosthetic and splints.
MMIPR	MPT (PEDI DIS) 4 SEM	Applied Exercise Physiology	This subject gives detailed idea about bodies physiological changes during exercise, also effect of various climates during exercises. This subject is Important because after successful completion of this subject student can efficiently prescribe exercise as well as nutritional aspects of the patients.
MMIPR	MPT (PEDI DIS) 4 SEM	Advance Concepts of Physiotherapy in Pediatric Disorders	This subject gives detailed idea about various manual therapy approaches as well as various electrotherapy equipments.
MMIPR	MPT (PEDI DIS) 4 SEM	Pediatric Disorder IV	This subject gives detailed idea about various ICU's, CNS infections, spinal cord injury, obstetric injuries, neoplastic disease, vascular disease in children and cognitive function.
MMIPR	MPT (PEDI DIS) 4 SEM	Practical	This subject includes practical approaches of all four specialty subjects.
MMIPR	MPT (PEDI DIS) 4	Dissertation	Every student has to submit one research project mandatorily before final semester examination.

	SEM		
LAW	BA LLB 1 SEM	English-I Communication Skills (Theory)	The course is aimed to develop the ability to use correct word choice, grammar, and style while developing writing and speaking fluency.
LAW	BA LLB 1 SEM	English-I (Communication Skills (Practical)	To equip students pursuing professional courses with effective listening, phonetical aspects like pronunciation, accent, intonation and other speaking skills of English. To improve fluency with well selected vocabulary. To help them develop their soft skills, overcome inhibitions and self-consciousness and to enhance student's performance at Placement Interviews, Group Discussions and other recruitment exercises.
LAW	BA LLB 1 SEM	Political Science-I (Political Theory-I)	The course provides knowledge about State, Government, liberty, Equality, Sovereignty, Political System, Democracy, Political Parties, Parliamentary and Presidential form of Government.
LAW	BA LLB 1 SEM	Economics-I (Micro-Economics)	This subject aims to provide fundamental concepts and models in the theory of production and costs and sets out to provide a basic understanding of price and / or output determination under different types of market structures including factor markets.
LAW	BA LLB 1 SEM	Computer Fundamentals	Identify the function of computer hardware components, how software and hardware work together to perform computing task sand what an operating system is and how it works, and solve common problems related to operating systems.
LAW	BA LLB 1 SEM	Tort and Consumer Protection Laws	The objective of tort is to provide a channel for Compensation, deterrence, justice, appeasement, normative rules of behaviour; protection of interests recognized by law.
LAW	BA LLB 1 SEM	Law of Contract-I (General)	The Course is structured to explain the basic principles & concepts of Law of Contract. This course is aimed to develop the ability of analytical reasoning in students while learning to applying law on the factual situations.
LAW	BA LLB 2 SEM	English-II (English Literature)	The course is aimed to develop the ability to identify literary, cultural, historical, and philosophical forces that shaped the literary works.
LAW	BA LLB 2 SEM	Political Science-II (Political -Theory II)	The course introduces about the recent concept in Political Science like Power, Authority, Legitimacy, Political Culture, Political Elites, Various Ideologies like Gandhism, Fascism, Marxism, Socialism Liberalism.

LAW	BA LLB 2 SEM	Economics-II (Macro-Economics)	This course will also expose the students to the theory of general equilibrium and welfare economics. It is also intended to expose the students to macroeconomic concepts and theory, the application of the macroeconomic theory, and implication of the macro-economic policies.
LAW	BA LLB 2 SEM	Application of Computers	Identify the basic components and major functionalities of Microsoft Word, Excel and Power point along with the practical implementation and the basics of Cyber Crime
LAW	BA LLB 2 SEM	Law of Contract-II (Special)	This subject emphasizes on skills to understand the contracts related to large business organisations such as Agency, Partnership & Sales
LAW	BA LLB 2 SEM	Legal Language	The Course is structured to explain the important foreign words used in law, legal terms and phrases. This course is aimed to develop the ability to understand the plain language for lawyers, word clusters and strings. The subject also aspires to develop the legal writing through essay and précis writing.
LAW	BA LLB 2 SEM	Environmental Studies	Environmental studies consist of treaties, conventions, statutes and regulations. Its purpose is to protect and preserve the environment.
LAW	BA LLB 3 SEM	English-III (Communication Skills in English)	The Course is structured to develop the ability to use correct pronunciation, word choice and style while developing speaking, reading, writing and listening and fluency.
LAW	BA LLB 3 SEM	Political Science-III	The syllabus gives knowledge about the major Constitutions of the Indian constitution borrowed some good principles from the constitution of other countries like federalism, Rule of Law, Judicial Review, Parliamentary Form of Government. World like Britain, USA, Canada and Australia.
LAW	BA LLB 3 SEM	(Major Constitutions of World)	
LAW	BA LLB 3 SEM	Foreign/Indian Language*(I)	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and understanding of modern foreign languages at a level appropriate to the learner's experience.
LAW	BA LLB 3 SEM	French-I	
LAW	BA LLB 3 SEM	Hindi-I	

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LAW	BA LLB 3 SEM	Constitutional Law-I	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	BA LLB 3 SEM	Law of Crimes-I (Penal Code)	It is a comprehensive code intended to cover all substantive aspects of Criminal Law that lists all the cases and punishments that a person committing any crimes is liable to be charged.
LAW	BA LLB 3 SEM	Constitutional and Legal History	The basic object of Constitutional Legal History is to provide knowledge about the Legal and historical development of constitution. The knowledge of this development will be useful for understanding the Fundamentals Principles of the constitution and jurisdiction of Supreme Court and High Court.
LAW	BA LLB 4 SEM	Political Science – IV (Indian Political Thought)	The course gives knowledge about the ideology of Indian Political Thinkers and various revolutions against Sati Pradha, Socialism,revolt against Untouchability, Demand for Swaraj, demand for liberty and rights in the Indian society.
LAW	BA LLB 4 SEM	Foreign/Indian Language*(II)	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and understanding of modern foreign languages at a level appropriate to the learner's experience.
LAW	BA LLB 4 SEM	Economics -III (Indian Economics)	The subject aims to provide basic understanding of Indian Economic structure, its problems and India's Foreign Trade and the measures adopted by the government to enhance the Human Resource development in India.
LAW	BA LLB 4 SEM	Constitutional Law-II	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	BA LLB 4 SEM	Law of Crimes-II(Criminal Procedure Code)	The Code of Criminal Procedure (CrPC) is the main legislation on procedure for administration of substantive Criminal Law in India with the Criminal Justice System, Probation of Offender Act and Juvenile Justice Act.
LAW	BA LLB 4 SEM	Family Law	The basic object is to provide the acquaintance with the Sources of Hindu Law& also various provisions of legislation like the concepts of Marriage, its validity, divorce, adoption, inheritance and succession under different personal laws.

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LAW	BA LLB 5 SEM	Political Science-V (Political Thought)	This course introduces the specific elements of Indian Political Thought spanning over two millennia. The basic focus of study is on individual thinkers whose ideas are however framed by specific themes. The course as a whole is meant to provide a sense of the broad streams of Indian thought while encouraging a specific knowledge of individual thinkers and texts.
LAW	BA LLB 5 SEM	Foreign/Indian language (III)	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and understanding of languages at a level appropriate to the learner's experience.
LAW	BA LLB 5 SEM	French-III	
LAW	BA LLB 5 SEM	Hindi-III	
LAW	BA LLB 5 SEM	Jurisprudence	The purpose of subject in legal dogmatic is to investigate and systematise the law as it is. Or, in other words, that the primary objective is to describe valid law, solve unclear problems concerning how law should be applied, and, eventually, provide suggestions about how law should be developed
LAW	BA LLB 5 SEM	Law of Evidence	The Indian Evidence Act, 1872 is something, which serves to prove or disprove the existence or non-existence of an alleged fact. Without evidence there can be no proof.
LAW	BA LLB 5 SEM	Civil Procedure Code-I	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India.
LAW	BA LLB 5 SEM	Legal Research Methodology	The subject aims to analyze a statute, the methods applied in legal research that rely upon specific interpretative tools such as the mischief rule, golden rule and literal rule.
LAW	BA LLB 6 SEM	Political Science-VI (Public Administration in India)	The importance of public administration derives from its crucial role in the governing of a society. All the great human events in history were probably achieved by what we today would call public administration. Organization and administrative practices in collective or public settings are as old as civilization. The objective of this course is set to analyze the transformations in public administration with emphasis on current initiatives and emerging challenges in the field. Students are introduced to the study of public administration in a fast changing environment of globalized phenomenon.

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LAW	BA LLB 6 SEM	Sociology-I	The Sociology seeks to develop in students the sociological knowledge and skills that will enable them to think critically and imaginatively about society and social issues. Through coursework, the Department encourages a commitment to social justice based on an appreciation of social and intellectual diversity and an awareness of social inequality.
LAW	BA LLB 6 SEM	Administrative Law	The objectives of administrative law are to handle the legal principles that affect government agencies. It focuses on procedures and rulemaking of the government.
LAW	BA LLB 6 SEM	Public International Law	Public international law is composed of rules and principles governing relations between sovereign states and inters governmental organizations. The principal objective of international law is to safeguard the peaceful coexistence of nations and ethnic groups and thereby also contributes to the general development.
LAW	BA LLB 6 SEM	Civil Procedure Code-II and Limitation Law	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India with Limitation Law.
LAW	BA LLB 6 SEM	Property Law	The subject provides a clear, systematic and uniform law for the transfer of immovable property.
LAW	BA LLB 7 SEM	Civil Procedure Code-I	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India.
LAW	BA LLB 7 SEM	Administrative Law	The objectives of administrative law are to handle the legal principles that affect government agencies. It focuses on procedures and rulemaking of the government.
LAW	BA LLB 7 SEM	Law of Evidence	The Indian Evidence Act, 1872 is something, which serves to prove or disprove the existence or non-existence of an alleged fact. Without evidence there can be no proof.
LAW	BA LLB 7 SEM	Property Law	The subject provides a clear, systematic and uniform law for the transfer of immovable property.
LAW	BA LLB 7 SEM	Principles of Interpretation	The subject states the statutory interpretation in which a court looks at a statue and determines what it means and also the words must be given their ordinary, literal and grammatical meaning.
LAW	BA LLB 7 SEM	Conveyancing and Drafting	The course aims to acquaint the student with the fundamental principles of good drafting. Procedure of drafting of different deeds-sale deed, lease deed, mortgage deed. Drafting of wills, power of attorney, promissory note, adoption deed are also significantly put

LAW	BA LLB 7 SEM		down for inculcating the advanced drafting skills.
LAW	BA LLB 7 SEM	(Practical/Clinical Course-III)	
LAW	BA LLB 8 SEM	Civil Procedure Code-II and Limitation Law	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India with Limitation Law.
LAW	BA LLB 8 SEM	Public International Law	Public international law is composed of rules and principles governing relations between sovereign states and inters governmental organizations. The principal objective of international law is to safeguard the peaceful coexistence of nations and ethnic groups and thereby also contributes to the general development.
LAW	BA LLB 8 SEM	Company Law	The subject is concerned with the organisation and functioning of the companies, their constitution, and their management and eventually with manner of their dissolution.
LAW	BA LLB 8 SEM	Environmental Law	The purpose of environmental law is to protect and preserve the environment. Environmental law is a complex group of laws and regulations which operate to regulate the interaction of human life to the natural environment.
LAW	BA LLB 8 SEM	Insurance Law	The fundamental purpose of Insurance Law is to protect the public as insurance consumers and policyholders with the different kinds of insurance, contract of insurance etc.
LAW	BA LLB 8 SEM	Case Law Exercises on Legal Ethics (Practical/Clinical Course-IV)	Honesty and Honorable dealing are expected from every man in professional practice. The subject includes about Contempt of Court, Bar-Bench Relations & professional ethics and professional values.
LAW	BA LLB 9 SEM	Labour and Industrial Laws	The subject provides knowledge of Industrial relations and the importance of the maintenance of Industrial peace and efforts to reduce the incidence of Strikes and Lockout and Industrial Strike are to be emphasized.
LAW	BA LLB 9 SEM	Alternative Dispute Resolution	A practical subject to develop skills related to various ADR mechanism among students through mediation, arbitration, conciliation and Lok Adalat procedures.

LAW	BA LLB 9 SEM	Legal Research Methodology	The subject aims to analyses a statute, the methods applied in legal research that rely upon specific interpretative tools such as the mischief rule, golden rule and literal rule.
LAW	BA LLB 9 SEM	Criminology and Penology	The subject provides complete understanding of dimensions of crime, crime causation, penalizing the crime, prevention of crime, functioning of penal institutions along with rehabilitation and protection of crime victims.
LAW	BA LLB 9 SEM	Information Technology Law	
LAW	BA LLB 9 SEM	Moot Court Exercises (Practical/Clinical Course-V)	Moot Court exercises leads to a better and fuller understanding of the purpose and procedure of Law, as well as develops advocacy skills in an environment of friendly competitions and practices.
LAW	BA LLB 10 SEM	Principles of Taxation Law	The Course is structured to know about Taxation provisions under Indian constitution, provisions regarding direct and indirect taxes, how legal control is exercised over funds; Role of comptroller and auditor general, public accounts committee of Parliament, income-tax authorities and their powers.
LAW	BA LLB 10 SEM	Land Laws including Tenure and Tenancy	This course is aimed to provide theoretical knowledge combined with the practical reasoning to make the student understand the law pertaining to land and tenancy.
LAW	BA LLB 10 SEM	Banking Law	The subject provide knowledge and understanding of law relating to the banking business. This course aims skills, knowledge, goals, and abilities which specify why you are a perfect fit to achieve the organization's goals.
LAW	BA LLB 10 SEM	Human Right Law and Practice	To acquire a basic working knowledge of the origin, purpose and scope of international human rights law and to familiarize with the application of international human rights law at the domestic level.
LAW	BA LLB 10 SEM	Intellectual Property Rights (General)	Intellectual Property Law deals with a category of intangible rights protecting commercially valuable products of the human intellect. Different aspects of IPR like patent, copyright, trademarks, industrial design and geographical indications are discussed in detail.
LAW	BA LLB 10 SEM	Moot Court Exercises and	Moot Court exercises leads to a better and fuller understanding of the purpose and procedure of Law, as well as develops advocacy skills in an environment of friendly competitions and practices.

		Internship (Practical/Clinical Course-VI)	
LAW	B.COM LLB 1 SEM	English-I Communication Skills (Theory)	The course is aimed to develop the ability to use correct word choice, grammar, and style while developing writing and speaking fluency.
LAW	B.COM LLB 1 SEM	English-I (Communication Skills (Practical)	To equip students pursuing professional courses with effective listening, phonetical aspects like pronunciation, accent, intonation and other speaking skills of English. To improve fluency with well selected vocabulary. To help them develop their soft skills, overcome inhibitions and self-consciousness and to enhance student's performance at Placement Interviews, Group Discussions and other recruitment exercises.
LAW	B.COM LLB 1 SEM	Principles of Management	To discuss and communicate the management evolution and how it will affect future managers. Evaluate leadership styles to anticipate the consequences of each leadership style.
LAW	B.COM LLB 1 SEM	Economics-I (Micro-Economics)	This subject aims to provide fundamental concepts and models in the theory of production and costs and sets out to provide a basic understanding of price and / or output determination under different types of market structures including factor markets.
LAW	B.COM LLB 1 SEM	Computer Fundamentals	To identify the function of computer hardware components, how software and hardware work together to perform computing task sand what an operating system is and how it works, and solve common problems related to operating systems.
LAW	B.COM LLB 1 SEM	Tort and Consumer Protection Laws	The objective of tort is to provide a channel for Compensation, deterrence, justice, appeasement, normative rules of behaviour; protection of interests recognized by law.
LAW	B.COM LLB 1 SEM	Law of Contract-I (General)	The Course is structured to explain the basic principles & concepts of Law of Contract. This course is aimed to develop the ability of analytical reasoning in students while learning to applying law on the factual situations.
LAW	B.COM LLB 2 SEM	English-II (English Literature)	The course is aimed to develop the ability to identify literary, cultural, historical, and philosophical forces that shaped the literary works.
LAW	B.COM LLB 2 SEM	Financial	The objective is to provide a theoretical framework as well as business applications of various accounting methods in management.

		Accounting-I	
LAW	B.COM LLB 2 SEM	Business Mathematics	Understanding basic terms in the areas of business calculus and financial mathematics, independently solving of business problems.
LAW	B.COM LLB 2 SEM	Foreign/Indian Language(I)	The objective behind the teaching of languages is to develop each pupil to his or her maximum potential in the use and understanding of modern languages at a level appropriate to the learner's experience.
LAW	B.COM LLB 2 SEM	French-I	
LAW	B.COM LLB 2 SEM	Hindi-I	
LAW	B.COM LLB 2 SEM	Law of Contract-II (Special)	This subject emphasizes on skills to understand the contracts related to large business organisations such as Agency, Partnership & Sales.
LAW	B.COM LLB 2 SEM	Legal Language	The Course is structured to explain the important foreign words used in law, legal terms and phrases. This course is aimed to develop the ability to understand the plain language for lawyers, word clusters and strings. The subject also aspires to develop the legal writing through essay and précis writing.
LAW	B.COM LLB 2 SEM	Environmental Studies	Environmental studies consist of treaties, conventions, statutes and regulations. Its purpose is to protect and preserve the environment.
LAW	B.COM LLB 3 SEM	Financial Accounting-II	The objective of this course is to provide a theoretical framework as well as business applications of various accounting methods in management.
LAW	B.COM LLB 3 SEM	Economics-II (Macro-Economics)	This course will also expose the students to the theory of general equilibrium and welfare economics. It is also intended to expose the students to macroeconomic concepts and theory, the application of the macro economic theory, and implication of the macro-economic policies.
LAW	B.COM LLB 3 SEM	Foreign/Indian Language(I)	The objective behind the teaching of languages is to develop each pupil to his or her maximum potential in the use and understanding of modern languages at a level appropriate to the learner's experience.
LAW	B.COM LLB 3 SEM	French-II/Hindi-II	

LAW	B.COM LLB 3 SEM	Constitutional Law-I	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	B.COM LLB 3 SEM	Law of Crimes-I(Penal Code)	It is a comprehensive code intended to cover all substantive aspects of Criminal Law that lists all the cases and punishments that a person committing any crimes is liable to be charged.
LAW	B.COM LLB 3 SEM	Constitutional and Legal History	The basic object of Constitutional Legal History is to provide knowledge about the Legal and historical development of constitution. The knowledge of this development will be useful for understanding the Fundamentals Principles of the constitution and jurisdiction of Supreme Court and High Court.
LAW	B.COM LLB 4 SEM	Business Statistics	This paper enable students to apply basic statistical techniques and methods for grouping, tabular and graphical display, analysis and interpretation of statistical data.
LAW	B.COM LLB 4 SEM	Foreign/Indian Language*(III)	The objective behind the teaching of languages is to develop each pupil to his or her maximum potential in the use and understanding of modern languages at a level appropriate to the learner's experience.
LAW	B.COM LLB 4 SEM	French-III	
LAW	B.COM LLB 4 SEM	Hindi-III	
LAW	B.COM LLB 4 SEM	English-III (Communication Skills in English)	The Course is structured to develop the ability to use correct pronunciation, word choice and style while developing speaking, reading, writing and listening and fluency.
LAW	B.COM LLB 4 SEM	Constitutional Law-II	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	B.COM LLB 4 SEM	Law of Crimes-II(Criminal	The Code of Criminal Procedure (CrPC) is the main legislation on procedure for administration of substantive Criminal Law in India with the Criminal Justice System, Probation of Offender Act and Juvenile Justice Act.

		Procedure Code)	
LAW	B.COM LLB 4 SEM	Family Law	The basic object is to provide the acquaintance with the Sources of Hindu Law& also various provisions of legislation like the concepts of Marriage, its validity, divorce, adoption, inheritance and succession under different personal laws.
LAW	B.COM LLB 5 SEM	Business Ethics and Corporate Social Responsibility	The main objective of this course is to provide students with the basic skills concerning business ethics and corporate social responsibility. Additionally, students should understand the role of ethics, corporate responsibility and sustainability in business activities and evaluate business practices in these fields
LAW	B.COM LLB 5 SEM	Auditing	The objectives include principles and practices used by public accountants and internal auditors in examining financial statements and supporting data. Special emphasis is given on investigation into fraud etc.
LAW	B.COM LLB 5 SEM	Jurisprudence	The purpose of subject in legal dogmatic is to investigate and systematise the law as it is. Or, in other words, that the primary objective is to describe valid law, solve unclear problems concerning how law should be applied, and, eventually, provide suggestions about how law should be developed
LAW	B.COM LLB 5 SEM	Law of Evidence	The Indian Evidence Act, 1872 is something, which serves to prove or disprove the existence or non-existence of an alleged fact. Without evidence there can be no proof.
LAW	B.COM LLB 5 SEM	Civil Procedure Code-I	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India.
LAW	B.COM LLB 5 SEM	Legal Research Methodology	The subject aims to analyze a statute, the methods applied in legal research that rely upon specific interpretative tools such as the mischief rule, golden rule and literal rule.
LAW	B.COM LLB 6 SEM	Marketing Management	The purpose of this course is to develop an understanding of the underlying concepts, strategies and the issues involved in the exchange of products and services.
LAW	B.COM LLB 6 SEM	Human Resource Management	In this course, students will learn the basic concepts and frameworks of human resource management (HRM), and understand the role that HRM has to play in effective business administration. This course will also improve students' ability to think about how HRM should be used as a tool to execute strategies.

LAW	B.COM LLB 6 SEM	Administrative Law	The objectives of administrative law are to handle the legal principles that affect government agencies. It focuses on procedures and rulemaking of the government.
LAW	B.COM LLB 6 SEM	Public International Law	Public international law is composed of rules and principlesgoverning relations between sovereign states and inters governmental organizations. The principal objective of international law is tosafeguard the peaceful coexistence of nations and ethnic groups and thereby also contributes to the general development.
LAW	B.COM LLB 6 SEM	Civil Procedure Code-II and Limitation Law	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India with Limitation Law.
LAW	B.COM LLB 6 SEM	Property Law	The subject provides a clear, systematic and uniform law for the transfer of immovable property.
LAW	B.COM LLB 7 SEM	Cost Accounting	The objective is to explain the concept and role of cost accounting in the business management of manufacturing and non-manufacturing companies and to define the costs and their impact on value creation in the manufacturing and non-manufacturing companies. Further to use accounting methods of cost calculation.
LAW	B.COM LLB 7 SEM	Right to Information Law	The basic object to teach the students the Right to Information is to empower them with the knowledge of citizen's right to transparency and accountability in the working of the Government, and people's enhanced participation in democratic process thereby making our democracy work for the people in a real sense. An informed citizen is better equipped to keep necessary vigil on the instruments of governance and make the government more accountable to the governed.
LAW	B.COM LLB 7 SEM	Bio Diversity Protection Law	Loss of biodiversity is one of the most serious environmental problems the world faces. The objective of this course is to describe, analyze and evaluate current legal regimes for biodiversity conservation.
LAW	B.COM LLB 7 SEM	Optional Paper-I	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 7 SEM	Optional Paper-II	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 7 SEM	Conveyancing and	The course aims to acquaint the student with the fundamental principles of good drafting. Procedure of drafting of different deeds-

		Drafting	sale deed, lease deed, mortgage deed. Drafting of wills, power of attorney, promissory note, adoption deed are also significantly put down for inculcating the advanced drafting skills.
LAW	B.COM LLB 7 SEM		
LAW	B.COM LLB 7 SEM	(Practical/Clinical Course-I)	
LAW	B.COM LLB 8 SEM	Financial Management	To provide a complete overview of modern corporate finance, including relevant theory and practical application. The student will be able to Calculate common investment criteria, to apply measures of cost of capital and financial leverage to form long-term financial policies for business and judge the merits of leasing over borrowing to purchase assets.
LAW	B.COM LLB 8 SEM	International Organization	This course aims to study the structure and functioning of international organizations like UN, Security Council, Trusteeship Council, UNESCO, WTO, IMO etc. for the purpose of introducing the students the regime of these institutions.
LAW	B.COM LLB 8 SEM	Company Law	The subject is concerned with the organisation and functioning of the companies, their constitution, and their management and eventually with manner of their dissolution.
LAW	B.COM LLB 8 SEM	Optional Paper-III	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 8 SEM	Optional Paper-IV	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 8 SEM	Moot Court Exercises and Internship (Practical/Clinical Course-II)	Moot Court exercises leads to a better and fuller understanding of the purpose and procedure of Law, as well as develops advocacy skills in an environment of friendly competitions and practices.
LAW	B.COM LLB 9 SEM	Labour and Industrial Laws	The subject provides knowledge of Industrial relations and the importance of the maintenance of Industrial peace and efforts to reduce the incidence of Strikes and Lockout and Industrial Strike are to be emphasized.

LAW	B.COM LLB 9 SEM	Information Technology Law	The course aims at providing the recent development in the field of information technology. The course covers the e-commerce, e-governance, cyber offences, digital signature as well as electronic signature and the provision relating to the regulating authorities. The course covers the remedies provided under the provisions of Information Technology Act, 2000.
LAW	B.COM LLB 9 SEM	Environmental Law	The purpose of environmental law is to protect and preserve the environment. Environmental law is a complex group of laws and regulations which operate to regulate the interaction of human life to the natural environment.
LAW	B.COM LLB 9 SEM	Optional Paper-V	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 9 SEM	Alternative Dispute Resolution	A practical subject to develop skills related to various ADR mechanism among students through mediation, arbitration, conciliation and Lok Adalat procedures.
LAW	B.COM LLB 9 SEM	(Practical/Clinical Course-III)	
LAW	B.COM LLB 10 SEM	Principles of Taxation Law	The Course is structured to know about Taxation provisions under Indian constitution, provisions regarding direct and indirect taxes, how legal control is exercised over funds; Role of comptroller and auditor general, public accounts committee of Parliament, income-tax authorities and their powers.
LAW	B.COM LLB 10 SEM	Land Laws including Tenure and Tenancy	This course is aimed to provide theoretical knowledge combined with the practical reasoning to make the student understand the law pertaining to land and tenancy.
LAW	B.COM LLB 10 SEM	Intellectual Property Right(General)	Intellectual Property Law deals with a category of intangible rights protecting commercially valuable products of the human intellect. Different aspects of IPR like patent, copyright, trademarks, industrial design and geographical indications are discussed in detail.
LAW	B.COM LLB 10 SEM	Optional Paper-VI	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	B.COM LLB 10 SEM	Legal Profession & Ethics	Honesty and Honorable dealing are expected from every man in professional practice. The subject includes about Contempt of Court, Bar-Bench Relations & professional ethics and professional values.

MAHARISHI MARKANDESHWAR (DEEMED TO BE UNIVERSITY)
Mullana, Ambala, Haryana,133207
(Established under section 3 of the UGC Act, 1956
(NAAC Accredited Grade 'A++')

LAW	BA LLB (HONS) 1 SEM	English-I (Communication Skills (Theory)	The course is aimed to develop the ability to use correct word choice, grammar, and style while developing writing and speaking fluency.
LAW	BA LLB (HONS) 1 SEM	English-I (Communication Skills (Practical)	To equip students pursuing professional courses with effective listening, phonetical aspects like pronunciation, accent, intonation and other speaking skills of English. To improve fluency with well selected vocabulary. To help them develop their soft skills, overcome inhibitions and self-consciousness and to enhance student's performance at Placement Interviews, Group Discussions and other recruitment exercises.
LAW	BA LLB (HONS) 1 SEM	Principles of Management	To discuss and communicate the management evolution and how it will affect future managers. Evaluate leadership styles to anticipate the consequences of each leadership style.
LAW	BA LLB (HONS) 1 SEM	Economics-I (Micro-Economics)	This subject aims to provide fundamental concepts and models in the theory of production and costs and sets out to provide a basic understanding of price and / or output determination under different types of market structures including factor markets.
LAW	BA LLB (HONS) 1 SEM	Computer Fundamentals	To identify the function of computer hardware components, how software and hardware work together to perform computing task sand what an operating system is and how it works, and solve common problems related to operating systems.
LAW	BA LLB (HONS) 1 SEM	Tort and Consumer Protection Laws	The objective of tort is to provide a channel for Compensation, deterrence, justice, appeasement, normative rules of behaviour; protection of interests recognized by law.
LAW	BA LLB (HONS) 1 SEM	Law of Contract-I (General)	The Course is structured to explain the basic principles & concepts of Law of Contract. This course is aimed to develop the ability of analytical reasoning in students while learning to applying law on the factual situations.
LAW	BA LLB (HONS) 2 SEM	English-II (English Literature)	The course is aimed to develop the ability to identify literary, cultural, historical, and philosophical forces that shaped the literary works.
LAW	BA LLB (HONS) 2 SEM	Production & Operations	One of the most critical areas for success in any business enterprise is how Production and Operations are managed. In the 'Productions and Operations Management' course an attempt will be made to integrate into a consolidated production and

		management	operation related decisions.
LAW	BA LLB (HONS) 2 SEM	Business Mathematics & Statistics	To have a broad background in Mathematics and Statistics, an appreciation of how its various sub-disciplines are related, the ability to use techniques from different areas, and an in-depth knowledge about topics chosen.
LAW	BA LLB (HONS) 2 SEM	Foreign/Indian Language* (I)	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and understanding of modern foreign languages at a level appropriate to the learner's experience.
		French-I	
		Hindi-I	
LAW	BA LLB (HONS) 2 SEM	Law of Contract-II (Special)	This subject emphasizes on skills to understand the contracts related to large business organisations such as Agency, Partnership & Sales.
LAW	BA LLB (HONS) 2 SEM	Legal Language	The Course is structured to explain the important foreign words used in law, legal terms and phrases. This course is aimed to develop the ability to understand the plain language for lawyers, word clusters and strings. The subject also aspires to develop the legal writing through essay and précis writing.
LAW	BA LLB (HONS) 2 SEM	Environmental Studies	Environmental studies consist of treaties, conventions, statutes and regulations. Its purpose is to protect and preserve the environment.
LAW	BA LLB (HONS) 3 SEM	Organizational Behaviour	The syllabus of Organizational Behavior is designed to enhance the understanding of human behavior in organizations and to increase effectiveness as a professional and leader. It aims to study the essential theories and frameworks for analyzing, understanding, and managing human behavior in organizations.
LAW	BA LLB (HONS) 3 SEM	Economics-II (Macro-Economics)	This course will also expose the students to the theory of general equilibrium and welfare economics. It is also intended to expose the students to macroeconomic concepts and theory, the application of the macro economic theory, and implication of the macro-economic policies.
LAW	BA LLB (HONS) 3	Foreign/Indian	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and

	SEM	language* (I)	understanding of modern foreign languages at a level appropriate to the learner's experience.
LAW	BA LLB (HONS) 3 SEM	French-II	
LAW	BA LLB (HONS) 3 SEM	Hindi-II	
LAW	BA LLB (HONS) 3 SEM	Constitutional Law-I	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	BA LLB (HONS) 3 SEM	Law of Crimes-I (Penal Code)	It is a comprehensive code intended to cover all substantive aspects of Criminal Law that lists all the cases and punishments that a person committing any crimes is liable to be charged.
LAW	BA LLB (HONS) 3 SEM	Constitutional and Legal History	The basic object of Constitutional Legal History is to provide knowledge about the Legal and historical development of constitution. The knowledge of this development will be useful for understanding the Fundamentals Principles of the constitution and jurisdiction of Supreme Court and High Court.
LAW	BA LLB (HONS) 4 SEM	Accounting for Managers	The objective of the course is to provide an understanding of practical aspects of accounting, managing assets, financial analysis, cost behavior and improve decision making skills.
LAW	BA LLB (HONS) 4 SEM	Foreign/Indian Language* (III)	The objective behind the teaching of foreign languages is to develop each pupil to his or her maximum potential in the use and understanding of modern foreign languages at a level appropriate to the learner's experience.
		French-III	
		Hindi-III	
LAW	BA LLB (HONS) 4 SEM	English-III (Communication Skills in English)	The Course is structured to develop the ability to use correct pronunciation, word choice and style while developing speaking, reading, writing and listening and fluency.

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LAW	BA LLB (HONS) 4 SEM	Constitutional Law-II	The basic object of Constitutional law is to provide the acquaintance with the basic features of Indian Constitution eg. Fundamental Rights, Fundamental Duties and Directive Principles of State policy. Further it is aimed to impart the knowledge about Judicial system in India
LAW	BA LLB (HONS) 4 SEM	Law of Crimes-II (Criminal Procedure Code)	The Code of Criminal Procedure (CrPC) is the main legislation on procedure for administration of substantive Criminal Law in India with the Criminal Justice System, Probation of Offender Act and Juvenile Justice Act.
LAW	BA LLB (HONS) 4 SEM	Family Law	The basic object is to provide the acquaintance with the Sources of Hindu Law& also various provisions of legislation like the concepts of Marriage, its validity, divorce, adoption, inheritance and succession under different personal laws.
LAW	BA LLB (HONS) 5 SEM	Business Ethics and Corporate Social Responsibility	The main objective of this course is to provide students with the basic skills concerning business ethics and corporate social responsibility. Additionally, students should understand the role of ethics, corporate responsibility and sustainability in business activities and evaluate business practices in these fields.
LAW	BA LLB (HONS) 5 SEM	Human Resource Management	In this course, students will learn the basic concepts and frameworks of human resource management (HRM), and understand the role that HRM has to play in effective business administration. This course will also improve students' ability to think about how HRM should be used as a tool to execute strategies.
LAW	BA LLB (HONS) 5 SEM	Jurisprudence	The purpose of subject in legal dogmatic is to investigate and systematise the law as it is. Or, in other words, that the primary objective is to describe valid law, solve unclear problems concerning how law should be applied, and, eventually, provide suggestions about how law should be developed
LAW	BA LLB (HONS) 5 SEM	Law of Evidence	The Indian Evidence Act, 1872 is something, which serves to prove or disprove the existence or non-existence of an alleged fact. Without evidence there can be no proof.
LAW	BA LLB (HONS) 5 SEM	Civil Procedure Code-I	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India.
LAW	BA LLB (HONS) 5 SEM	Legal Research Methodology	The subject aims to analyze a statute, the methods applied in legal research that rely upon specific interpretative tools such as the mischief rule, golden rule and literal rule.

LAW	BA LLB (HONS) 6 SEM	Marketing Management	The purpose of this course is to develop an understanding of the underlying concepts, strategies and the issues involved in the exchange of products and services.
LAW	BA LLB (HONS) 6 SEM	Business Environment	To understand the overall business environment and evaluate its various components in business decision making. The course contents facilitate the students to develop conceptual framework of business environment and generate interest in business.
LAW	BA LLB (HONS) 6 SEM	Administrative Law	The objectives of administrative law are to handle the legal principles that affect government agencies. It focuses on procedures and rulemaking of the government.
LAW	BA LLB (HONS) 6 SEM	Public International Law	Public international law is composed of rules and principlesgoverning relations between sovereign states and inters governmental organizations. The principal objective of international law is tosafeguard the peaceful coexistence of nations and ethnic groups and thereby also contributes to the general development.
LAW	BA LLB (HONS) 6 SEM	Civil Procedure Code-II and Limitation Law	The subject includes the Civil Procedure Code, 1908, the laws relating to the procedure of the Courts of Civil Judicature or the administration of civil proceedings in India with Limitation Law.
LAW	BA LLB (HONS) 6 SEM	Property Law	The subject provides a clear, systematic and uniform law for the transfer of immovable property.
LAW	BA LLB (HONS) 7 SEM	Entrepreneurship Development	The students develop and can systematically apply an entrepreneurial way of thinking that will allow them to identify and create business opportunities that may be commercialized successfully.
LAW	BA LLB (HONS) 7 SEM	Right to Information Law	The basic object to teach the students the Right to Information is to empower them with the knowledge of citizen's right to transparency and accountability in the working of the Government, and people's enhanced participation in democratic process thereby making our democracy work for the people in a real sense. An informed citizen is better equipped to keep necessary vigil on the instruments of governance and make the government more accountable to the governed.
LAW	BA LLB (HONS) 7 SEM	Bio Diversity Protection Law	Loss of biodiversity is one of the most serious environmental problems the world faces. The objective of this course is to describe, analyse and evaluate current legal regimes for biodiversity conservation.
LAW	BA LLB (HONS) 7 SEM	Optional Paper-I	The students are offered different option in order to make them acquaint with the specialized field of study.

LAW	BA LLB (HONS) 7 SEM	Optional Paper-II	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	BA LLB (HONS) 7 SEM	Conveyancing and Drafting	The course aims to acquaint the student with the fundamental principles of good drafting. Procedure of drafting of different deeds-sale deed, lease deed, mortgage deed. Drafting of wills, power of attorney, promissory note, adoption deed are also significantly put down for inculcating the advanced drafting skills.
LAW			
LAW		(Practical/Clinical Course-I)	
LAW	BA LLB (HONS) 8 SEM	Financial Management	To provide a complete overview of modern corporate finance, including relevant theory and practical application. The student will be able to Calculate common investment criteria, to apply measures of cost of capital and financial leverage to form long-term financial policies for business and judge the merits of leasing over borrowing to purchase assets.
LAW	BA LLB (HONS) 8 SEM	International Organization	This course aims to study the structure and functioning of international organizations like UN, Security Council, Trusteeship Council, UNESCO, WTO, IMO etc. for the purpose of introducing the students the regime of these institutions.
LAW	BA LLB (HONS) 8 SEM	Company Law	The subject is concerned with the organisation and functioning of the companies, their constitution, and their management and eventually with manner of their dissolution
LAW	BA LLB (HONS) 8 SEM	Optional Paper-III	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	BA LLB (HONS) 8 SEM	Optional Paper-IV	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	BA LLB (HONS) 8 SEM	Moot Court Exercises and Internship (Practical/Clinical Course-II)	Moot Court exercises leads to a better and fuller understanding of the purpose and procedure of Law, as well as develops advocacy skills in an environment of friendly competitions and practices.
LAW	BA LLB (HONS) 9 SEM	Labour and Industrial Laws	The subject provides knowledge of Industrial relations and the importance of the maintenance of Industrial peace and efforts to reduce the incidence of Strikes and Lockout and Industrial Strike are to be emphasized.

LAW	BA LLB (HONS) 9 SEM	Information Technology Law	The course aims at providing the recent development in the field of information technology. The course covers the e-commerce, e-governance, cyber offences, digital signature as well as electronic signature and the provision relating to the regulating authorities. The course covers the remedies provided under the provisions of Information Technology Act, 2000.
LAW	BA LLB (HONS) 9 SEM	Environmental Law	The purpose of environmental law is to protect and preserve the environment. Environmental law is a complex group of laws and regulations which operate to regulate the interaction of human life to the natural environment.
LAW	BA LLB (HONS) 9 SEM	Optional Paper-V	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	BA LLB (HONS) 9 SEM	Alternative Dispute Resolution	A practical subject to develop skills related to various ADR mechanism among students through mediation, arbitration, conciliation and Lok Adalat procedures.
LAW	BA LLB (HONS) 9 SEM		
LAW	BA LLB (HONS) 9 SEM	(Practical/Clinical Course-III)	
LAW	BA LLB (HONS) 10 SEM	Principles of Taxation Law	The Course is structured to know about Taxation provisions under Indian constitution, provisions regarding direct and indirect taxes, how legal control is exercised over funds; Role of comptroller and auditor general, public accounts committee of Parliament, income-tax authorities and their powers.
LAW	BA LLB (HONS) 10 SEM	Land Laws including Tenure and Tenancy	This course is aimed to provide theoretical knowledge combined with the practical reasoning to make the student understand the law pertaining to land and tenancy.
LAW	BA LLB (HONS) 10 SEM	Intellectual Property Right(General)	Intellectual Property Law deals with a category of intangible rights protecting commercially valuable products of the human intellect. Different aspects of IPR like patent, copyright, trademarks, industrial design and geographical indications are discussed in detail.
LAW	BA LLB (HONS) 10 SEM	Optional Paper-VI	The students are offered different option in order to make them acquaint with the specialized field of study.
LAW	BA LLB (HONS) 10 SEM	Legal Profession & Ethics	Honesty and Honorable dealing are expected from every man in professional practice. The subject includes about Contempt of Court, Bar-Bench Relations, professional ethics and professional values.

LAW	BA LLB (HONS) 10 SEM		
LAW	BA LLB (HONS) 10 SEM	(Practical/Clinical Course-IV)	
LAW	LLM 1 SEM	C- I Research Methods and Legal Writing	
LAW	LLM 1 SEM	C- II Comparative Public Law	
LAW	LLM 2 SEM	C- III Law and Justice in Globalizing World	
LAW	LLM 2 SEM	II* Optional/Specialization Subjects	
LAW	LLM 2 SEM	Group I	
LAW	LLM 2 SEM	LL. M.	(Corporate and commercial Law)
LAW	LLM 2 SEM	I	Competition Law
LAW	LLM 2 SEM	II	Bankruptcy Law
LAW	LLM 2 SEM	III	Investment and Security Law
LAW	LLM 2 SEM	IV	Banking Law
LAW	LLM 2 SEM	V	Insurance Law
LAW	LLM 2 SEM	VI	Company Law
LAW	LLM 2 SEM	VII	Intellectual Property Rights

LAW	LLM 2 SEM	VIII	Corporate Social Responsibility
LAW	LLM 2 SEM	IX	Cyber Law
LAW	LLM 2 SEM	Group II	
LAW	LLM 2 SEM	LL. M.	(Criminal and Security Law)
LAW	LLM 2 SEM	I	Criminology and Criminal Justice administration
LAW	LLM 2 SEM	II	Victimology
LAW	LLM 2 SEM	III	Criminal Justice and Human Rights
LAW	LLM 2 SEM	IV	Police Law and Administration
LAW	LLM 2 SEM	V	Sentences and Sentencing
LAW	LLM 2 SEM	VI	Corporate Crimes
LAW	LLM 2 SEM	VII	International Criminal Law
LAW	LLM 2 SEM	VIII	National Security and Regional Co-operation
LAW	LLM 2 SEM	Group III	
LAW	LLM 2 SEM	LL. M.	(Family and Social Security Law)
LAW	LLM 2 SEM	I	Law relating to Marriage and Separation
LAW	LLM 2 SEM	II	Law of Inheritance and Succession
LAW	LLM 2 SEM	III	Child Rights and Protection
LAW	LLM 2 SEM	IV	Right of Women and their Protection

LAW	LLM 2 SEM	V	Health Law
LAW	LLM 2 SEM	VI	Disaster Management Law
LAW	LLM 2 SEM	VII	Religion and Law
LAW	LLM 2 SEM	VIII	Environmental Law
LAW	LLM 2 SEM	Group IV	
LAW	LLM 2 SEM	LL. M.	(Constitutional and Administrative Law)
LAW	LLM 2 SEM	I	Centre -State Relations and Constitutional Governance
LAW	LLM 2 SEM	II	Local Self-Government and Federal Governance
LAW	LLM 2 SEM	III	Fundamental Rights and Directive Principles
LAW	LLM 2 SEM	IV	Police and Security Administration
LAW	LLM 2 SEM	V	Administrative Law
LAW	LLM 2 SEM	VI	Media Law
LAW	LLM 2 SEM	VII	Minorities Law
LAW	LLM 2 SEM	VIII	Educational Law
LAW	LLM 2 SEM	VIII	Service Law
LAW	LLM 2 SEM	Note:	(i) Any two groups of Specialization opted by the majority of the students shall only be offered finally. (ii) Minimum of six papers shall be offered in each of the group of specialization mentioned above. Out of these papers, students are required to choose any three in the first Semester and three in the Second Semester (in the respective group of specialization). Finally , 3 papers opted by the majority of the students (in respective group of Specialization) in the first semester and 3 papers opted by the majority of students in the second semester shall be offered.

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MMCDSR	First Year BDS	1. General Anatomy including Embryology, Osteology and Histology	To develop the student's knowledge and insight pertinently into the functional anatomy of the normal human head and neck, including the bony structures, and other soft tissue structures including the muscles, glands, blood vessels, nerves etc. This will also help in understanding functional histology, genetic basis of disease and embryological development of clinically important structures.
MMCDSR	First Year BDS	2. General Human Physiology & Biochemistry	This subject aims to provide the dental student a comprehensive knowledge of the normal physiological and biochemical functions of different organ systems, tissues and cells of the body. This will help to formulate an understanding to the physiological and biochemical basis of health and henceforth the students will be able to appreciate the disturbance in the physiology and biochemistry during the disease process.
MMCDSR	First Year BDS	3. Dental Anatomy, Embryology & Oral Histology	This subject will impart the knowledge and skills regarding the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.
			The student will also be able to understand the histological basis of various dental procedures along with physiologic basis and features of ageing process evident in the dental tissues.
MMCDSR	2nd Year BDS	1. General Pathology & Microbiology	The understanding and thorough knowledge of this subject is utmost important as with this the student will be able to understand the pathological and microbial basis of disease processes. This will result in morphological and functional alterations in cells, tissues and organs.
MMCDSR	2nd Year BDS	2. General & Dental Pharmacology and Therapeutics	The study of this subject in dentistry helps to understand rational and scientific basis of drugs and therapeutics pertinent with dentistry as well as other diseases and conditions which may have dental implications and interactions. The student will be able to understand the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular.
MMCDSR	2nd Year BDS	3. Dental Materials	This science makes the student aware of different type of dental materials used in the treatment along with continued research has led to new material systems. The vast knowledge will help the student to practice dentistry with utmost skills.

MMCDSR	2nd Year BDS	4. Pre-clinical Conservative	This subject will aid the dental undergraduate student to understand the basic principles of tooth preparation for restoring teeth using different restorative materials. It also helps to acquire knowledge of different instruments to be used for tooth preparation in terms of their identification, method of grasping and usage.
MMCDSR	2nd Year BDS	5. Pre-clinical Prosthodontics	This subject will aid the dental undergraduate student to understand the basic principles of prosthetic and rehabilitation for partially and completely edentulous patients. It also helps to acquire knowledge of different instruments and different materials to be used for the same.
MMCDSR	3rd YEAR BDS	1. General Medicine	General medicine is the medical specialty dealing with the prevention, diagnosis, and treatment of adult diseases. In dentistry it will help the students diagnose oral health implications in dental patients and vice versa.
MMCDSR	3rd YEAR BDS	2. General Surgery	The knowledge of this subject will help the undergraduate students to understand the basic principles of surgery, healing and other surgical guidelines.
MMCDSR	3rd YEAR BDS	3. Oral Pathology & Oral Microbiology	Oral pathology is that part of pathology and a branch of dentistry concerned with the scientific study of the causes and effects of oral disease an understanding of which is essential for diagnosis and for the development of rational treatment and preventive programmes.
MMCDSR	4th YEAR BDS	1. Prosthodontics and Crown & Bridge	It is a branch of Dentistry pertaining to the restoration, rehabilitation and maintenance of oral function, comfort, appearance & health of the patient. This can be done with the help of restoration of natural Teeth and or replacement of missing teeth & craniofacial tissue with artificial substitutes.
MMCDSR	4th YEAR BDS	2. Conservative Dentistry & Endodontics	Conservative Dentistry is the branch of dentistry which is concerned with the conservation of teeth in the mouth. It embraces the practice of operative dentistry and endodontics, and includes various kinds of direct and indirect restorations of individual teeth in the mouth.

MMCDSR	4th YEAR BDS	3. Oral & Maxillofacial Surgery	Oral & Maxillofacial Surgery is a branch that deals with the art of diagnosis and treatment of various diseases, pathologies and defects involving the maxillofacial region. This specialty has evolved through the ages and presently the oral & maxillofacial surgeon deals with the various craniofacial pathologies in a multi disciplinary environment.
MMCDSR	4th YEAR BDS	4. Paediatric & Preventive Dentistry	This is the branch of dentistry which deals with the diagnosis and treatment of infants and kids upto 16 years of age. This includes the preventive, prophylactic, restorative, rehabilitative and counselling treatment modalities.
MMCDSR	4th YEAR BDS	5.Oral Medicine & Radiology	Oral medicine is that area of special competence concerned with the oral health of the patient for maintenance of overall health of an individual. It includes those principles of medicine that relate to the mouth, as well as research in biological, pathological and clinical spheres. Oral Medicine includes the diagnosis and medical management of diseases specific to the orofacial tissues and of oral manifestations of systemic diseases. It further includes the management of behavioral disorders and the oral and dental treatment of medically compromised patients.
MMCDSR	4th YEAR BDS	6. Orthodontics and Dentofacial Orthopaedics	Orthodontics is the branch of science and the art of dentistry which deals with the development and positional anomalies of the teeth and the jaws as they affect oral health and the physical, esthetic and mental well-being of the person. It is a special branch of dentistry which deals with the alignment of the teeth.
MMCDSR	4th YEAR BDS	7. Periodontology	Periodontics is that specialty of dentistry which encompasses the prevention diagnosis and treatment of diseases affecting the supporting and surrounding tissues of the teeth or their substitutes, such as dental implants.
MMCDSR	4th YEAR BDS	8. Public Health Dentistry	It is a branch of Dentistry which deals with preventing disease, prolonging life & promoting physical & mental efficiency through organized community efforts for the sanitation of the environment, the control of communicable infections and imparting education to the society for personal hygiene.

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MMCDSR	MDS	1. MDS (Conservative and Endodontics)	The Department of Conservative Dentistry & Endodontics at the Maharashi Markandeshwar College of Dental Science & Research Mullana aims at the diagnosis and treatment of dental caries and its sequel, maltormations, discoloration thereby restoring the teeth to its normal form and function with a pleasing aesthetics. The department has modern dental units with separate UG and air conditioned PG clinics. The clinics are fully loaded with all the latest instruments and dental materials like RVG,Surgical Operating Microscope ,Endoactivator, Thermoplastic obturation system, Endodmotor etc. There is an ample flow of patients for clinical training and an opportunity for students to increase their skills.The department has full fledge experienced faculty all of who are committed to excellence in all fields. The students are encouraged towards academic & clinical excellence via attending CDE programmes & Conferences.
MMCDSR	MDS	2.MDS (Oral & Maxillofacial Surgery)	The Department of Oral and Maxillofacial surgery deals with teaching, evaluating, carrying out research in and providing surgical healthcare services in the diagnosis and treatment of trauma, diseases, deformities and defects of the face and jaws
MMCDSR	MDS	3. MDS (Oral Medicine and Radiology)	The Department of Oral Medicine and Radiology is considered as the backbone of Dentistry as it deals with the diagnosis of all the dental diseases. Further it is considered special as this department is a combination of Oral Medicine as well as Maxillofacial Radiology. Further, this department serves as a connecting link between dentistry and Medicine. The department serves and thrives to teach the students regarding the diagnosis and treatment protocol of different head and neck medical diseases. Since the oral cavity is considered as the mirror of the overall health of the individual, the students are made well aware of all these signs and symptoms. The department also imparts knowledge regarding the various psychological conditions having oral implications and vice versa. In a nutshell, the oral medicine department works as a part of a multi-disciplinary patient care team.
			Training in Maxillofacial Radiology includes the knowledge and expertise in the acquisition and interpretation of radiographic images including IOPA's and other intraoral as well as extraoral techniques. Training also includes the expertise in conventional and advanced maxillofacial imaging including CT and MRI as well.

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MMCDSR	MDS	4.MDS (Oral Pathology & Microbiology and Forensic Odontology)	Department is situated on ground level of the Dental College which helps it to work in close association with departments of Oral Medicine and Oral Surgery for patient's diagnosis and treatment planning. It imparts education and subject expertise on dental anatomy and oral histology as well as oral pathology to under-graduates and post- graduates through first three years of their training for BDS degree and also higher education to budding oral pathologists.
MMCDSR	MDS	5. MDS (Orthodontics & Dentofacial Orthopaedics)	The Department conducts state of the art training of undergraduates & postgraduates in diagnosis & treatment planning of malocclusions in patients. Further they are educated, guided and trained regarding the ill effects of malocclusions in different types of patients. The students are also made aware of motivational skills so as to motivate the patients to undergo treatment. In a nutshell the students are able to provide best treatment using contemporary techniques.
MMCDSR	MDS	6.MDS (Paediatric & Preventive Dentistry)	Pediatric dentistry encompasses a variety of disciplines, techniques and procedures to modify and adapt to the special needs of infants, children and adolescents. Pediatric Dentistry is an "Age Defined" specialty. In this department, students perform all types of preventive and comprehensive dental procedures in children upto the age of 16 years. Further, a child friendly environment is provided to the children considering the variable behavior needs of the growing children and thus instilling in them a positive attitude towards dentistry.
MMCDSR	MDS	7.MDS (Periodontology and Oral Implantology)	Periodontology is the dental specialty that focuses on prevention, diagnosis and treatment of diseases of the gingiva, or "gums" and other surrounding tissues. The Department of Periodontology & Oral Implantology educates the under graduate students in the didactic and clinical applications necessary to perform the entire spectrum of periodontal procedures. The department includes MDS programme which is a three-year program with an intake capacity of 5 students per year. The department also includes the Dental Hygiene Program, which has a intake capacity of 20 students per year. The goal of the Department is to promote periodontal dentistry as dental medicine where prevention can be practiced. Periodontists believe that personal good oral hygiene behaviors are best taught to and practiced by age-specific and social groups through oral health education. Periodontal medicine perceives good oral health as an open gateway to good general systemic health, and documents the many links to general systemic health affected by the destructive presence of inflammation and oral infection from bacteria.

MMCDSR	MDS	8.MDS (Prosthodontics and Crown & Bridge)	The Prosthodontics Department is responsible for teaching undergraduate and postgraduate students in several areas: Fixed and Removable Prosthodontics, Occlusion and TMJ Dysfunction, Dental Implants and Maxillofacial Prosthodontics. We are committed to continuing professional development and postgraduate courses. We strive to let our patients have a unique, holistic, professional experience when they visit our department. We are also committed to providing the highest standard of dental care available. The postgraduate programme is designed for advanced training in the rehabilitation of completely edentulous, partially edentulous patients and patients requiring Implants and Maxillofacial prosthesis.
MMCDSR	MDS	9.MDS (Public Health Dentistry)	The Department imparts the knowledge of the principles of health promotion and disease prevention among the students. It also helps to achieve knowledge of community based preventive measure and knowledge of social, cultural and environmental factors which contribute to health. The students will be able to administer Oral Hygiene instructions, topical fluoride therapy and fissure sealants to the patients. The department also imparts education regarding the etiology and prevention of Oral Disease and encouraging them by assuring responsibility of their Oral Health. Further the students are also trained to develop and prepare charts, models, posters and visuals on Oral Health Themes with the intention to educate the mass about the importance of Oral Health.
MMCDSR	Diploma (Dental Hygienist) Ist Year	Anatomy, General & Dental	Deals with the knowledge of anatomical structures of the body as well as dental tissues including the tooth.
MMCDSR	Diploma (Dental Hygienist)	Physiology & Histology, General and Dental	This subject aims to provide thestudent a comprehensive knowledge of the normal physiological and biochemical functions of different organ systems, tissues and cells of the body.
MMCDSR	Diploma (Dental Hygienist)	Pharmacology General and Dental	The study of this subject in helps to understand rational and scientific basis of drugs and therapeutics pertinent with dentistry as well as other diseases and conditions which may have dental implications and interactions

MMCDSR	Diploma (Dental Hygienist)	Pathology & Microbiology	The understanding and thorough knowledge of this subject is utmost important as with this the student will be able to understand the pathological and microbial basis of disease processes. This will result in morphological and functional alterations in cells, tissues and organs
MMCDSR	Diploma (Dental Hygienist)	Dental Radiology	It is the speciality which deals with the understanding and basic knowledge of exposing the patient to different king of dental radiographs and their pertinent interpretation
MMCDSR	Diploma (Dental Hygienist)	Food and Nutrition	Imparts the knowledge of importance of nutrition in everyday life and its effects on health during deficiency disorders.
MMCDSR	Diploma (Dental Hygienist)	Dental Hygiene and Oral Prophylaxis	Imparts the knowledge and importance of oral and para-oral hygiene and its effects. The students will be well versed with the methods of oral prophylaxis and care.
MMCDSR	Diploma (Dental Hygienist)	Basic knowledge of computers	Basic applications and usage of computers will be imparted for technical enhancement of the students
MMCDSR		2nd YEAR	
MMCDSR	Diploma (Dental Hygienist)	Dental Hygiene and Oral Prophylaxis	Imparts the knowledge and importance of oral and para-oral hygiene and its effects. The students will be well versed with the methods of oral prophylaxis and care
MMCDSR	Diploma (Dental Hygienist)	Preventive Dentistry	It deals with preventing disease, prolonging life & promoting physical & mental efficiency through organized community efforts for the sanitation of the environment, the control of communicable infections and imparting education to the society for personal hygiene.
MMCDSR	Diploma (Dental Hygienist)	Dental Ethics and Jurisprudence; Orientation in Dentistry	Introduction and knowledge of basic ethics in dental practice.
MMCDSR	Diploma (Dental Hygienist)	Dental Materials	This science makes the student aware of different type of dental materials used in the treatment along with continued research has led to new material systems. The vast knowledge will help the student to practice dentistry with utmost skills.

MMCDSR		1st YEAR	
MMCDSR	Diploma (Dental Mechanics)	Applied Physics & Mechanics	Knowledge regarding the physical strength of different types of dental materials used in the rehabilitative purposes
MMCDSR	Diploma (Dental Mechanics)	Applied Chemistry	Basic principles of chemistry and reactions so as to correlate with the reaction of different type of Dental materials.
MMCDSR	Diploma (Dental Mechanics)	Applied Oral Anatomy	Deals with the knowledge of anatomical structures of the body as well as dental tissues including the tooth
MMCDSR	Diploma (Dental Mechanics)	Dental Materials	This science makes the student aware of different type of dental materials used in the treatment along with continued research has led to new material systems. The vast knowledge will help the student to practice dentistry with utmost skills.
MMCDSR		2nd YEAR	
MMCDSR	Diploma (Dental Mechanics)	Dental Materials and Metallurgy	This science makes the student aware of different type of dental materials used in the treatment along with continued research has led to new material systems. The vast knowledge will help the student to practice dentistry with utmost skills.
MMCDSR		Dental Mechanics (Final)	
MMCDSR	Diploma (Dental Mechanics)	Basic knowledge of computers and Medical Records Management	Basic applications and usage of computers will be imparted for technical enhancement of the students
MMIMSR	MBBS-Phase I	Anatomy	At the end of course, the learner shall be able to: 1. Describe the general anatomy of structures and organ systems of the human body. 2. Describe the normal disposition, interrelationships, innervations, vascular supply and functional anatomy of clinically relevant

			structures and organs of the human body. 3. Correlate the normal microscopic structure of various organs with their functions (as a prerequisite for understanding the altered state in commonly encountered disease processes). 4. Explain basic principles and sequential development of the organ systems 5. Explain the embryologic basis of the major developmental abnormalities and variations. 6. Explain the basics of medical genetics with respect to common genetic syndromes. 7. Explain the anatomical basis of contraception.
		Physiology	At the end of the course, the student should be able to: 1. Describe the normal functions of all organ systems, regulatory mechanisms and interactions of the various organs for well co-ordinated total body function. 2. Understand the basic principles, mechanism and homeostatic control of all the functions of human body as a whole.3. Elucidate the physiological aspects of normal growth and development. 4. Analyse the physiological responses and adaptation to different stresses during life Processes. 5. Lay emphasis on applied aspect of physiological functions underlying disease state. 6. Correlate knowledge of physiology in areas indicated by National Health Programmes.

			7. Acquire the skills to do the experiments for study of physiological function. 8. Interpret experimental and investigative data. 9. Distinguish between normal and abnormal data derived as a result of tests which he/she Performed and observed in the labortary.
		Biochemistry	At the end of the course, the student shall be able to: 1. Enlist and describe the cell organelles with their molecular and functional organization. 2. Delineate structure, function and interrelationships of various biomolecules and consequences of deviation from the normal. 3. Understand basic enzymology and emphasize on its clinical applications wherein regulation of enzymatic activity is disturbed. 4. Describe digestion and assimilation of nutrients and consequences of malnutrition. 5. Describe and integrate metabolic pathways of various biomolecules with their regulatory mechanisms. 6. Explain the biochemical basis of inherited disorders with their associated sequelae. 7. Describe mechanisms involved in maintenance of water, electrolyte and acid base alance and consequences of their imbalance. 8. Outline the molecular mechanisms of gene expression and regulation, basic principles of biotechnology and their applications in medicine.

			9. Understand basic immunology involving molecular concepts of body defense mechanisms and their applications in medicine. 10. Outline the biochemical basis of free radical injury and antioxidant action, biochemical basis of cancer and carcinogenesis and environmental health hazards. 11. Continue to learn advancements in biochemistry and the application of same in medical practice. 12. Understand different types of biomedical waste, their potential risks and their management.
MMIMSR	MBBS – Phase II	Pathology	Students at the end of training in Pathology will be able to: 1. Understand the concepts of cell injury and changes produced thereby in different tissues and organs and the body's capacity for healing. 2. Understand the normal homeostatic mechanisms, the derangements of these mechanism and the effects on human systems. 3. Understand the etiopathogenesis, the pathological effects and clinico-pathological correlation of common infectious and non- infectious diseases. 4. Correlate normal and altered morphology (Gross and Microscopic) of different organ systems in different diseases to the extent needed for understanding of disease processes and their clinical significance. 5. Have knowledge of common immunological disorders and their resultant effects on the human body. Have an understanding of the common haematological disorders and the investigations necessary to diagnose them and determine their prognosis. 6. Know the principles of collection, handling and dispatch of clinical samples from patients in a proper manner.

			7. Perform and interpret in a proper manner the basic clinical pathology procedures.
		Microbiology	At the end of the course, the learner shall be able to understand the infectious diseases in terms of their etiology, pathogenesis, laboratory diagnosis in order to efficiently treat, prevent and control the disease. To achievethis the student should be able to 1. Describe the mechanism of host-parasite relationship 2. Enumerate normal microbial flora and its importance in health and disease 3. Describe the etiology and pathogenesis of common infectious diseases 4. Describe the etiology and pathogenesis of opportunistic infections 5. Chose appropriate laboratory investigations to support clinical diagnosis with respect to proper sample collection, timing and transport of the specimens 6. Describe suitable anti-microbial agents for treatment 7. Understand the mechanism of immunity to infection 8. Explain scope of immunotherapy and vaccines for prevention of infectious diseases 9. Perform simple tests to arrive at the diagnosis 10. Apply appropriate method of sterilization, disinfection and biochemical waste disposal in hospital and community practice 11. Explain the importance of National health programmes for prevention of communicable diseases.

		Pharmacology	At the end of the course, the student should be able to: 1. Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs. 2. List the indications, contraindications, interactions and adverse reactions of commonly used drugs. 3. Indicate the use of drug of choice and alternatives in a particular disease with consider- ation to its cost, efficacy and safety for individual needs. mass therapy under national health programme. 4. Describe the pharmacokinetic basis, clinical presentation, diagnosis and management of common poisonings. 5. List the drugs of addiction liability and their management. 6. Indicate causations in prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age. 7. Know the concept of rational drug therapy in clinical pharmacology. 8. State the principles underlying the concept of 'Essential Drugs' 9. Evaluate the ethics and modalities involved in the development and introduction of new drugs.
		Forensic Medicine	At the end of the course in, Undergraduate Medico Legal curriculum (Forensic Medicine & Toxicology), the learner shall be able to:- 1. Identify, examine and prepare report or certificate in medico-legal cases/situations in accordance with the law of land with particular emphasis to a. maintenance of medico-legal register like accident register, b. issuance of wound certificate,

			c. issuance of drunkenness certificate, d. issuance of death certificate e. issuance of sickness and fitness certificate f. estimation of age by physical, dental and radiological examination and issuance of certificate g. Examination of victims and accused and issuance of certificates in sex related offences. 2. Perform medico-legal post-mortem examination and reasonably interpret autopsy findings and results of other relevant investigations to logically conclude the cause, manner and time since death-especially in accidents, hanging, burns, drowning and poisoning. 3. Preserve and dispatch specimens and other concerned materials in medico-legal/ post- mortem cases to the appropriate Government agencies for necessary examination and report. 4. Understand and observe medical ethics, etiquette, duties, rights, medical negligence, medico- social and legal responsibilities of the physicians towards patients, profession, State and society at large. 5. Be aware of relevant legal / court procedures applicable to the medico-legal/medical practice. 6. Deal with basic aspects of diagnosis and management of poisoning (acute & chronic), and develop competence to deal with medico social and medico legal issues arising there from. 7. Recognize and deal with the general principles of environmental, occupational, and preventive aspects of toxicology. 8. Manage medico legal and medico social issues related to Mass disaster including bioterrorism.
MMIMSR	MBBS – Phase III Part - I	Community Medicine	To attain the above- m e n t i o n e d goals, students are guided in the following situations: 1. To organize elementary epidemiological studies to assess the health problems in the area.(Includes designing a study, collecting data, applying statistical tests, make a report for further action).

			2. Prioritise the most important health problem and help formulate a plan of action to manage them under National Health Programme guidelines including population control and Family Welfare Programme. 3. Demonstrate knowledge of principles of organizing prevention and control of Communicable and Non-Communicable Diseases. 4. Organize health care services for special groupslike mothers, infants, under-five children, school children, handicapped, adolescents, geriatrics in rural, tribal and urban slum dwellers. 5. Organize health care services in case of calamities. 6. Inculcate values like compassion, empathy to poor, rationale and ethical practice, honestysincerity and integrity to ensure quality professional practice. 7. Able to work as an effective leader of health team with in the primary health care set-up. 8. Able to co-ordinate with and supervise other members of the health team. 9. Able to plan and implement health education programmes. 10. Able to perform administrative functions of health centres. 11. Able to promote community participation especially in areas of disease control, health education and implementation of National Programmes. 12. Aware of national priorities and the goals to be achieved to implement primary health care including Health for all,Millennium Development Goals.
		E N T	1. To enable the student to familiarize himself with the common problems related to the subject of ENT. 2. To enable the student to be competent to evaluate the symptoms, analyze the findings, diagnose the disease and suggest and implement the treatment modalities to treat the common

			ENT conditions. 3. To make the student competent to perform emergency life saving procedures commonly seen in ENT practice. 4. To make the student aware of the program on prevention of deafness and have knowl- edge of methods for screening for early detection of hearing loss. 5. To make the student understand the rational use of pharmaco-therapeutic agents used in treating ENT diseases and have the knowledge of the common side effects and interactions of commonly used drugs.
		Opthamolog y	At the end of the course the MBBS student should be able to; 1. Identify common diseases of the eye. 2. Diagnose and treat common diseases of the Anterior segment eg stye, Conjunctivitis, Extra ocular foreign body, Corneal abrasion, Vitamin A deficiency. 3. Recognise and initiate treatment for sight threatening diseases like Corneal ulcer, eratomalacia, Glaucoma, Ocular trauma, Chemical injuries. 4. Demonstrate knowledge of blindness and its causation and be able to actively participate in the implementation of the National programme for control & prevention of blindness.
MMIMSR	MBBS – Phase III Part - II	Medicine	At the end of the course, the student shall be able to: 1. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases. 2. Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indication and contra-indications. 3. Propose diagnostic and investigative procedures and ability to interpret them. 4. Provide first level management of acute emergencies promptly and efficiently and decide the

			timing and level of referral, if required. 5. Recognise geriatric disorders and their management. 6. Develop clinical skills (history taking, clinical examination) to diagnose various common medical disorders and emeregnecies. 7. Refer a patient to secondary and/ or tertiary level of health care after having instituted primary care. 8. Perform simple routine investigations like haemogram, stool, urine, sputum and biological fluid examinations. 9. Assist the common bedside investigative procedures like pleural tap, lumbarmpuncture, bone marrow aspiration/biopsy and liver biopsy.
		Dermatology and Sexually Transmitted Diseases	At the end of the course of dermatology and sexually transmitted diseases (STD) and leprology the student shall be able to: 1. Demonstrate sound knowledge of common diseases their clinical manifestations including emergent situations and investigative procedures to confirm their diagnosis. 2. Demonstrate comprehensive knowledge of various modes of topical therapy. 3. Describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions. 4. Describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder. 5. Diagnose and manage emergencies specially recognizing the need for referral when appropriate and necessary.

		Tuberculosis and Respiratory Diseases	At the end of the course of Tuberculosis and Chest- diseases, the student shall be able to: 1. Demonstrate knowledge of common chest diseases, their clinical manifestations, including emergent situations and of investigative procedure to confirm their diagnosis; 2. Demonstrate comprehensive knowledge of various modes of therapy used in treatment of respiratory diseases; 3. Describe the mode of action of commonly used drugs,their doses,side effects/toxicity,indications and contra- indications and interactions; 4. Describe commonly used modes of management including medical and surgical procedures available for treatment of various diseases and to offer a comprehensive plan of management inclusive of National Tuberculosis Control Programme. 5. Interview the patient, elicit relevant and correct information and describe the history in chronological order; 6. Conduct clinical examination, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies. 7. Perform simple, routine investigative and office procedures required for making the bed side diagnosis; especially sputum collection andexamination for etiologic organ- isms especially acid fast bacilli (AFB), interpretation of the chest x-rays and respiratory function tests. 8. Interpret and manage various blood gases and pH abnormalities in various respiratory diseases. 9.Manage common diseases recognizing need for referral for specialized care, in case of inappropriateness of therapeutic response. 10.Assist in the performance of common procedures,like laryngoscopic examination,pleural aspiration, respiratory physiotherapy,laryngeal intubation and pneumo-thoracic drainage / aspiration.

		Psychiatry	At the end of the course, the student will be able to: 1. Understand human behaviour and its application in patient care. 2. Understand the concept of motivation, its impact on human behaviour and illness related behaviour. 3. Understand different types of emotions and their impact on health of the individual. 4. Define learning, comprehend different types of learning and conditioning. State methods of effective learning and demonstrate application of learning in treatment. 5. Understand different cognitive processes,comprehend memory process, describe short term memory and differentiate with long term memory, list causes of forgetting, and illustrate methods of improving memory. 6. Comprehend concept of thinking and its application to health care. 7. Understand nature of intelligence,explain growth of intelligence, compare role of heredity and environment in intellectual development. Method of assessment of intelligence. 8. Define personality,list determinants of personality,understand different theories of personality and learn methods of personality assessment. 9. Introducing concept of psychiatric disorders and their classification 10. Awareness of general issues about etiology of psychiatric disorders and methodology used to study aetiology of these disorders. 11. Ability to diagnose and treat common psychiatricdisorders like schizophrenia,acute manic episode, depression, anxiety disorders including phobias and OCD,conversion and dissociative disorders. 12. To be able to diagnose severe/suicidal cases of depression and to refer them. 13.Understand the concept of personality disorders. 14.Ability to diagnosis and treat alcohol and drug dependence and withdrawal states.

			15. Ability to diagnose common psychiatric disorders in children. 16. To know the role of counseling and psychological therapies in treatment of psychiatric disorders. 17.Demonstrate role of psychological testing in assessment of psychiatric disorders.
		General Surgery	1. Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children. 2. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion. 3. Define asepsis, disinfection and sterilization and recommend judicious use of antibiotics. 4.Describe common malignancies in the country and their management including prevention. 5. Enumerate different types of anesthetic agents,their indications, mode of administration,contra indications and side effects. 6. Diagnose common surgical conditions both acute and chronic, in adult and children. 7.Plan various laboratory tests for surgical conditions and interpret the results. 8.Identify and manage patients of haemorrhagic, septicaemic and other types of shock. 9.Be able to maintain patent air-way and resuscitate. a) A critically injured patients. b) Patient with cardio-respiratory failure. c) A drowning case. 10.Monitor patients of head, chest, spinal and abdominal injuries, both in adults and

			children. 11.Provide primary care for a patient of burns.
		Orthopaedics	At the end of the course, the student shall be able to: 1. Explain the principles of recognition of bone injuries, dislocations & complications associated with such injuries. 2. Apply suitable methods to detect and manage common infections of bones and joints. 3.Identify congenital, skeletal anomalies and their referral for appropriate correction or rehabilitation. 4.Recognise metabolic bone diseases as seen in this country. 5. Explain etiology,pathogenesis,manifestations,diagnosis of neoplasm affecting bones. 6. Apply suitable knowledge to recognize and their refferal for perifferal nerve injuries associated with musculoskeletal abnormalities.Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle,Colle's fracture, phalanges fractures. 7. Use techniques of splinting,plaster,immobilization. 8.Manage common bone infections. 9. Describe indications for sequestrectomy,amputations and corrective measures for bone deformities. 10. Advise aspects of rehabilitation for polio,cerebral palsy and amputation.
		Radio- Diagnosis and Imaging	At the end of the course the student shall be able to; 1. Understand basic of x-rays productions, its uses and hazards 2. Appreciate and diagnose changes in bones - like fractures, infections, tumours and metabolic bone diseases; 3. Identify and diagnose various radiological changes in disease conditions of chest and mediastinum, skeletal system, Gastro intestinal Tract, Hepatobiliary system and Genito Uninary (GU)

			system; 4. Learn about various imaging techniques,including isotopes Computerized Tomography (CT), Ultrasound, Magnetic Resonance Imaging (MRI) and DSA. 5. Use basic protective techniques during various imaging procedures; 6. Interpret common X-ray, radio-diagnostic techniques in various community situations; 7. Advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.
		Radiotherapy	At the end of training in Radiotherapy, the student should be able to: 1. Exhibit awareness of the principles ofradiotherapy, the radio-responsiveness of various tumours and management of common cancers like cervical, breast and oral cancers. 2. Refer for further consultation at appropriate time without delay. 3. State general complications of irradiation and their management. 4. List common chemo-therapeutic drugs and toxicity of the same. 5. Implement health education programmes regarding prevention and early diagnosis of tobacco related cancers, cervical cancers and breast cancers. 6. Know the general outlines of use of radio-isotopes in diagnosis and therapy.
		Anaesthesiology	At the end of the course, the student shall be able to : 1. Outline the Anatomy, Physiology and Pathophysiology of the reproductive system and the common conditions affecting it. 2. Detect normal pregnancy, labour, puerperium and manage problems he/ she is likely to

			encounter therein. 3. List the leading causes of maternal and perinatal morbidity and mortality 4. Understand the principles of contraception and various techniques, employed, methods of medical termination of pregnancy, sterilization and their complications. 5. Identify the use, abuse and side effects of drugs in pregnancy, pre menopausal and post menopausal periods 6. Describe the national programme for maternal and child health and family welfare and their implementation at various levels. 7. Identify common gynecological diseases and describe principles of their management 8. State the indications techniques and complications of surgeries like Caesarean Section, Laparotomy, Abdominal and vaginal hysterectomy, Fothergill's operation and vacuum aspiration for MTP. Examine a pregnant woman, recognize high risk pregnancies and make appropriate referrals. 9. Conduct a normal delivery, recognize complications and provide postnatal care. 10. Resuscitate new born and recognize congenital anomalies 11. Advise a couple on the use of various available contraceptive devices and assist in insertion and removal of IUCD. 12. Perform pelvic examination, dispose and manage common gynecological problems including early detection of genital malignancy. Make a vaginal cytological smear, perform a post coital test and wet mount vaginal smear examination for TV, Monilias and Gram stain for gonorrhea. 13. Interpret results of investigation like biochemical, histopathological radiological, ultrasound etc.

MMIMSR	MD Anaesthesiology	Anaesthesiology	At the end of the three years' post-graduate training in Anaesthesiology the student should be able to: 1. Demonstrate understanding of basic sciences relevant to anaesthesia. 2. Master the the anaesthetic management skills of common and uncommon surgical ailments belonging to various branches of surgery, at all ages requiring operative interventions with a basic knowledge of the aetiology, pathophysiology and the surgical treatment of the conditions. 3. Acquire the knowledge of the underlying theoretical background of mechanism of pain perception and pain management. 4. Thorough and systematic approach toin the management of the conditions requiring resuscitation. 5. Demonstrate and understanding of the theoretical base of polytrauma and the science of resuscitation. 6. Recognise the conditions that may be outside the area of his competence and refer them to an appropriate specialist prior to anaesthetising them. 7. Update himself / herself by self-study and by attending courses, conferences and seminars relevant to anaesthesia. 8. Function as a part of a team, develop an attitude of cooperation with colleagues, and

			interact with the patient and the clinician or other colleagues 9. Teach and guide his team colleagues and students. 10. Demonstrate understanding of medicolegal aspects of anaesthesia. 11. Demonstrate basic knowledge of the administrative aspects of operating room complex. 12. Undertake audit, use information technology tools and carryout research, both basic and clinical, with the aim of publishing the work and presenting the same at various scientific fora. 13. Perform pre-anaesthetic evaluation of patients undergoing surgery by taking, proper clinical history, examining the patient, ordering relevant investigations and interpreting them to have additional information about the surgical condition, and or the associated medical condition, which warrant the modification of the proposed anaesthetic management. 14. Administer anaesthesia (general and or regional) to common surgical operations independently and to superspecialities likecardiac surgery, neurosurgery etc. with the help of a senior anaesthesiologist. 15. Provide basic life support (BLS) and advanced cardiac life support (ACLS). 16. Manage airway and perform ventilatory care etc., of unconscious and polytrauma cases as a member of trauma team and critical care unit team. 17. Undertake complete patient monitoring including preoperative, intra-operative and postoperative ventilatory care of the patients. 18. Perform acute and chronic pain management. 19. Adopt ethical principles in all aspects of his anaesthetic practice. Professional honesty and integrity are to be fostered. Anaesthesia care is to be delivered to all in need, irrespective of the socialstatus, caste, creed or religion of the patient. 20. Develop communication skills, in particular the skill to explain the various options available in the anaesthetic management, critical care, pain management and to obtain a true informed

			consent from the patient. 21. Provide leadership in the operating room environment and get best out of the team in acongenial working atmosphere. 22. Apply high moral and ethical standards while carrying out human or animal research. 23. Be humble and accept the limitations in his knowledge and skill and to ask for help fromcolleagues when needed. 24. Respect patient's rights and privileges including patient's right to information and right to seek asecond opinion.
MMIMSR	MD in Anatomy	Anatomy	After completing the course the postgraduate should: 1. Have acquired the competencies pertaining to the subject of Anatomy that are required to bepracticed at all levels of health system. 2. Competently carryout the Body Donation Program, Prepare histology slides and maintain themuseum 3. Be able to discharge responsibilities and participate in National Health Education Programme. 4. Be oriented to the principles of research methodology. 5. Have acquired skills in educating medical and paramedical professionals. 6. Have acquired skills in effectively communicating with the students and colleaguesfrom various medical and paramedical fields. 7. Have acquired skills of integrating anatomy with other disciplines as and when required. 8. To train scientists to identify, address and solve biochemical problems at molecular level

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MMIMSR	MD in Dermatology, Venereology & Leprosy	Dermatology, Venereology& Leprosy	After completing the course the postgraduate should: 1. Demonstrate understanding of basic sciences relevant to dermatology. 2. Have acquired the competencies pertaining to the subject of dermatology that are required to be practiced at all levels of health system. 3. Accurately describe skin lesions including morphology, configuration and distribution. 4. Recognize the clinical manifestations of common dermatologic conditions. 5. Able to treat common dermtological conditions. 6. Demonstrate knowledge of basic pharmacology and administration of medications commonly usedfor treatment of skin disease. 7. Recognize conditions that may be outside the area of his speciality/competence and refer them to proper specialist. 8. Update oneself by self-study and by attending courses, conferences and seminars relevant tothe speciality. 9. Be oriented to the principles of research methodology 10. Undertake audit, use information technology tools and carry out research, both basic andclinical, with the aim of publishing his work and presenting his work at various scientific fora.
MMIMSR	MD in Emergency Medicine	Emergency Medicine	At the end of the MD Degree course in EmergencyMedicine, the student should be able to: 1. Demonstrate proficiency in the assessment of patients in the Emergency Department. 2. Understand disease processes as they affectnpatients who present to the Emergency Department.

			3. Develop applied problem- solving techniques in Emergency Medicine. 4. Discuss, observe and occasionally perform, as allowed, a variety of emergency medicine procedures, including bedside ultrasound, suturing, chest tube placement, paracentesis thoracentesis, lumbar puncture, fracture reduction, casting and central line insertion. 5. Attend Emergency Medicine Grand Rounds, Journal Clubs, resident seminars and other academic programs. 6. Be thorough with the concepts of clinical research and professional ethics of EmergencyMedicine. 7. Have acquired skills in educating medical and paramedical personnel. 8. Have acquired skills of integrated team approach to an undifferentiated patient.
MMIMSR	MS in Otorhinolaryngology	Otorhinolaryngology	At the end of the course, the student should be able to: 1. Demonstrate understanding of basic sciences relevant to this specialty. 2. Describe aetoiology, pathophysiology, principles of diagnosis and management of common problems including emergencies, in adults and children. 3. Describe indications and methods for fluid and electrolyte replacement therapy, including bloodtransfusion. 4. Describe common malignancies in the country and their management including prevention. 5. Identify social, economic, environmental and emotional determinants in a given case, and takethem into account for planning therapeutic measures. 6. Recognize conditions that may be outside the area specialty / competence and to refer them tothe proper specialist. 7. Advice regarding the operative or non-operative management of the case and to carry out thismanagement effectively.

			8. Update oneself by self study and by attending courses, conferences and seminars relevant tothe specialty. 9. Teach and guide his team, colleagues and other students. 10. Undertake audit, use information technology tools and carry out research, both basic andclinical, with the aim of publishing his work and presenting his work at various scientific for a.
MMIMSR	MD in Forensic medicine	Forensic medicine	At the end of the course, the student should be able to: 1. Become an expert in the field of Forensic Medicine and render his/her service wherever sorted. 2. Undertake medico-legal responsibilities and discharge medico-legal duties efficiently in required settings. 3. Impart education in Forensic Medicine & Toxicology to undergraduate and postgraduate students and assess their knowledge and skills 4. Conduct research in the areas of his/her interest in the different sub-specialties' of Forensic Medicine & Toxicology. 5. The postgraduate student shall be able to deal with general principle & practical problems related to Forensic Medicine and be expert in the said field.
MMIMSR	DM in Medical Gastroenterology	Medical Gastroentero logy	After completing the course, the postgraduate should: 1. Have acquired the competencies pertaining to the subject of Gastroenterology that arerequired to be practiced at all levels of health system in India and abroad . 2. Have acquired skills of integrating Gastroenterology with other disciplines as and when required

			3. Be able to discharge responsibilities and participate in National Health Education Programme. 4. Be oriented to the principles of research methodology 5. Have acquired skills in educating medical and paramedical professionals. 6. Have acquired skills in effectively communicating with the students and colleaguesfrom various medical and paramedical fields. . 7. Have acquired qualities of a good teacher capable of innovations in teaching &learning methodology 8. Have acquired strong communication, leadership, organizational skills and problem-solving skills in the field of gastroenterology

MMIMSR	MD in Medicine	Medicine	At the end of the educational program, each student will demonstrate the following; 1. Introduction to basics about applied anatomy, biochemistry and physiology from its molecular stage to thesystem as a whole. 2. Good knowledge about the epidemiology of common diseases and its varied clinical presentation with its relation to ethnicity and culture, socioeconomic factors. 3. To develop skills in history taking, general physical examination and through stepwise systemicexamination along with medical case sheet writing in a legally acceptable manner. 4. To develop proficiency in analyzing the laboratory reports, imaging studies and its correlationwith clinical judgment. 5. Learn the stepwise approach in performing common bedside procedures required for the diagnosisand management of the patient.

			6. Exposure to advanced technologies and interventions in various subspecialties like cardiology, neurology, gastroenterology, nephrology etc. and to inculcate the same into the basic general medicine knowledge.
MMIMSR	MD Microbiology	Microbiology	After completing the course the postgraduate should: 1. Have acquired the competencies pertaining to the subject of Microbiology that are required to be practiced at all levels of health system. 2. Be able to discharge responsibilities and participate in National Health Education Programme. 3. Be oriented to the principles of research methodology 4. Have acquired skills in educating medical and paramedical professionals. 5. Haveacquired skills in effectively communicating with the students and colleagues from various medical and paramedical fields. 6. Have acquired skills of integrating Microbiology with other disciplines as and when required. 7. Have acquired qualities of a good teacher capable of innovations in teaching & learning methodology 8. Recognize the key importance of infectious diseases in the context of public health priority of thecountry. 9. Practice Clinical Microbiology in adherence with the principles of professional ethics
MMIMSR	MS in OBG	OBG	At the end of 3 years of the course PG students should be : 1. Able to manage antenatal case and conduct delivery independently with good intrapartum monitoring. 2. Competent to perform caesarean sections and routine gynecological surgeries including basic laparoscopy, first level infertility work up and basic ultrasound etc..

			3. Must be able to identify and manage High-risk pregnancy. 4. Must be able to teach UG students and present papers in conference. 5. Capable of counseling the patients and attenders effectively. 6. Learn to apply the highest level of ethics in Research, Publications and Practice of obstetrics&gynecology.
MMIMSR	MS in Ophthal mology	Ophthalmology	After completing the course the postgraduate should 1. Be able to demonstrate effective clinical problem solving, judgement and ability to interpret and integrate available data in ophthalmology in order to address patient problems, generate differential diagnosis and develop effective treatment strategies for different ophthalmic conditions. 2. Be able to have accurate and detailed documentation of data of the patient in conformation with institution'slegal and administrative frame works. 3. Be aware of the ocular diagnostic tests and ability to use them on a case based need. Exercise discretion in choosing appropriate diagnostic for particular conditions 4. Be able to provide primary, secondary and tertiary ophthalmic care.
MMIMSR	MS Orthopaedics	Orthopaedics	At the end of the 3 years' post-graduate training in Orthopaedics the student should be able to: 1. Acquire in depth knowledge of structure of human body related to musculoskeletal Embryology, Anatomy, Histology, Physiology and development of musculo skeletal system, and know the Metabolism and hormonal influence of musculo skeletal system. 2. Understand the process of human growth anddevelopment of all the organ systems of body. Analyze the congenital malformations and etiological factors including genetic mechanisms involved in abnormal

			development. 3. Have an in-depth theoretical knowledge of the syllabus with emphasis on current concepts. 4. Understand the process and General principles of healing of injury & musculoskeletal trauma, systemic management of the injured & body response to trauma. 5. Learn the general principles and management of musculoskeletal trauma – including surgical and conservative methods in all age groups including children. 6. Learn the general principles and management of Neurovascular injury, poly trauma, Consequences of musculoskeletaltrauma including Compound injuries – management and stabilization procedures in orthopaedics & rehabilitation of the injured. 7. Acquire in depth knowledge of Tumour pathology and different infections, and metabolic disorders involving musculo skeletal system. 8. Understand the basic research methodology and recent scientific advances. Identify lacunae in the existingknowledge in a given area and to plan for research. 9. Learn basic skills in musculoskeletal surgery including training on bone models and on patientsby assisting or performing under supervision or perform independently as required. 10. Postgraduate in Orthopaedics should be able to identify and recognize various congenital, developmental, inflammatory, infective, traumatic, metabolic, neuromuscular, degenerative and oncologic disorders of the musculoskeletal systems. 11. They should be able to provide competent professional services to trauma and orthopaedic patients at a primary/ secondary/tertiary healthcare centres. 12. Identify the diseases and injuries of musculo- skeletal system and obtain proper history and performthorough clinical examination. 13. Plan and interpret investigations and institute management of diseases and injuries of musculo-

			skeletal system.
MMIMSR	MD Pathology	Pathology	After completing the course the postgraduate should: 1. Have acquired the competencies pertaining to the subject of pathology that are required to be practiced at all levels of health system. 2. Have acquired comprehensive knowledge to perform various laboratory procedures with quality control and to interpret the results to give a final impression of the underlying pathological condition. 3. Have acquired skills of integrating the pathology reports with other disciplines as and when requiredfor a comprehensive care of patient. 4. Have acquired knowledge to perform clinical autopsy to confirm the cause of death. 5. Be able to discharge responsibilities and participate in National Health Education Programme. 6. Be oriented to the principles of research methodology 7. Have acquired skills in educating medical and paramedical professionals. 8. Have acquired skills in effectively communicating with the students and colleagues from various medical and paramedical fields. Have acquired qualities of a good teacher capable of innovations in teaching & learning methodology.
MMIMSR	MD Pharmacology	Pharmacolog y	A candidate upon successfully qualifying in the M.D. (Pharmacology) examination should be able to: 1. Teach Pharmacology and Therapeutics to students of medical and allied disciplines. 2. Independently plan and undertake research related to drugs (basic as well as Clinical Pharmacology) and communicate the findings in conferences / journals. 3. Set up therapeutic drug monitoring, ADR monitoring, therapeutic audit and drug information services.

			4. Plan and conduct toxicity studies and clinical trials. 5. Educate the public about use and misuse of drugs. 6. Supervise breeding and upkeep of small laboratory animals. 7. Act as medical advisor in a pharmaceutical company. 8. Explain how advances in pharmacology (e.g. biopharmaceuticals, pharmacogenomics, novel drug delivery systems) can contribute to improving human and animal health including the development of personalised therapies
MMIMSR	MD Physiology	Physiology	After completing the course the postgraduate should: 1. Have mastered most of the competencies, with awareness of the contemporary advances and developmentsin physiology. 2. Be a competent teacher in physiology, who shall have acquired the basic skills in teaching of the medicaland paramedical professionals. 3. Be a researcher who shall have acquired a spirit of scientific inquiry and is oriented to the principlesof research methodology. 4. Be able to explain the conceptual knowledge of physiology that can be effectively used by the cliniciansin various clinical settings to diagnose and treat the clinical conditions. 5. Be able to interact with allied departments and render services in advanced laboratory Investigations.
MMIMSR	MD Psychiatry	Psychiatry	At the end of the three years' post-graduate training inPsychiatry the student should: 1. Have acquired the competencies pertaining to the subject of Psychiatry that are required to bepracticed at all levels of health system

			2. Play the assigned role in the implementation of National Health programmes effectively and responsibly. 3. Be oriented to the principles of research methodology. 4. Function as an effective leader of a health team engaged in health care, research and training. 5. Have acquired skills in educating ,effectively communicating and collaborating with medical and paramedical professionals. 6. Have acquired qualities of a good teacher capable of innovations in teaching & learning methodology. 7. Medical ethics in general and special ethical concerns as it applies to the practice of clinicalPsychiatry
MMIMSR	MD Tuberculosis and Respiratory	Tuberculosis and Respiratory	After completing the course, the students should be able to 1. To practice as a pulmonologist, equipped with appropriate knowledge and skills necessary to care for the people with respiratory illness and advise preventive measures to the healthy individuals and contribute to public health. 2. To practice respiratory medicine in the community (urban or rural) and to perform professionallyat all levels of the existing health care system. 3. To effectively participate in the National health programmes and train and sensitize other medical and para-medical professional in the programmes 4. To practice with empathy and the highest ethical standards of the profession. 5. To continue to strive for excellence by continuing medical education throughout his or herprofessional career. 6. To teach by sharing knowledge and skills with colleagues. 7. To research and find solutions to challenges in health care.

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MMIMSR	MD in Radio-Diagnosis	Radio- Diagnosis	After completing the course the postgraduate should: 1. Acquire good basic knowledge in the various sub-specialties of radiology such as chest radiology, neuro-radiology, GI- radiology, uro- radiology, cardio-vascular radiology, musculoskeletal, interventional radiology, emergency radiology, paediatric radiology and women's imaging 2. Independently conduct and interpret all routine and special radiologic and imaging investigations. 3. Provide radiological services in acute emergency and trauma including its medicolegal aspects. 4. Elicit indications, diagnostic features and limitation of applications of ultrasonography, CT and MRI and should be able to describe proper cost effective algorithm of various imaging techniques in a given problem setting 5. Decide on the various image-guided interventional procedures to be done for diagnosis and therapeutic management. 6. Able to decide on further specialization to be undertaken in any of the branches in Radiodiagnosis such as gastrointestinal radiology, uro-radiology, neuro-radiology, vascular radiology, musculoskeletal radiology, interventional radiology etc. 7. Able to formulate basic research protocols and carry out research in the field of radiology- related clinical problems. 8. Acquire knowledge and teaching capabilities towork as a post graduate student /consultant in Radiodiagnosis and conduct teaching programmes for undergraduates, post graduates as well as paramedical and technical personnel. 9. Interact with other specialists and super-specialists so that maximum benefit accrues to the patient. 10. Should be able to organize CME activities in the specialty utilizing modern methods of teaching and

			evaluation. 11. Acquire knowledge to impart training in both conventional radiology and modern imaging techniques so that the post graduate student is fully competent to practice, teach and do research in the broad discipline of radiology including ultrasound, Computed Tomography and Magnetic Resonance Imaging. 12. Acquire knowledge of interventional radiology. 13. Should be able to function as a part of a team, develop an attitude of cooperation with Colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion. 14. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion. 15. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.
MMIMSR	BSc. in Medical Laboratory Technology	Medical Laboratory Technology	After completing three years of Medical Laboratory Technology course, the graduate should be able to 1. Work efficiently in medical laboratories in India and abroad 2. Work under different specialities of Laboratory Medicine (Biochemistry, Microbiology, Pathology andBlood bank departments respectively) 3. Work and contribute in NABL accreditation program.
MMIMS	BSc. In Medical	Medical Imaging	After completing three years of Medical Imaging

R	Imaging Technology	Technology	Technology course, the graduate should be able to 1. Work efficiently under radiologist with knowledge and practical skills. 2. Work efficiently in radiology department in India and abroad 3. Work and contribute in NABL accreditation program.
MMIMSR	BSc. In Renal Dialysis Technology	Renal Dialysis Technology	After completing three years of Renal DialysisTechnology course, the graduate should be able to 1. Work as efficient Renal dialysis technologist under the Nephrology department 2. Perform, maintain and monitor the haemodialysis procedures 3. Work and contribute in NABH accreditation program.
MMIMSR	BSc. In Perfusion Technology	Perfusion Technology	After completing three years of Perfusion Technology course, the graduate should be able to 1. Work as efficient and skilled Perfusion technologist under the Cardiothoracic and vascular surgery department 2. Assist in various aspects of pre and post Cardiac care 3. Work and contribute in NABH accreditation program.
MMIMS	BSc in Physician	Physician	After completing three years of Physician Assistant course, the graduate should be able to

R	Assistant	Assistant	1. Work efficiently as Physician Assistant under treating physician 2. Work and contribute in NABH accreditation program.
MMIMSR	BSc in Optometry	Optometry	After completing three years of Optometry course, the graduate should be able to 1. Work efficiently as skilled Optometrist under Ophthalmology Department in performing andrecording refraction error testing and correction 2. Work and contribute in NABH accreditation program.
MMIMSR	BSc in Emergency Medicine Technology	Emergency Medicine Technology	After completing three years of Emergency Medicine Technology course, the graduate should be able to 1. Work as qualified Emergency Medicine technologist by assisting in emergency care of thepatients 2. Work and contribute in NABH accreditation program.
MMIMSR	BSc in Respiratory CareTechnology	Respiratory Care Technology	After completing three years of Respiratory Care Technology Course the graduate should be able to 1. Work as skilled Respiratory Care technologist by assisting in emergency care of patients in RICU 2. Work and contribute in NABH accreditation program.
MMIMSR	BSc in Cardiac Care Technology	Cardiac Care Technology	After completing three years of Cardiac CareTechnology Course the graduate should be able to 1. Work as efficient Cardiac Care technologist by assisting cardiologist and Cardio thoracic and vascularsurgeon.

			2. Work and contribute in NABH accreditation program.
MMIMSR	BSc in Anaesthesia & Operation theatre technology	Anaesthesia & Operation theatre technology	After completing three years of Anesthesia & Operation theatre Technology course the graduate should be able to 1. Work as efficient technician, excelling in theoretical knowledge and implementation of practical skills in the operation theatre. 2. Assist anesthesiologist rendering his services to the best of his ability. 3. Have a sound knowledge of equipments like C Arm, operating microscope and surgical diathermy to properly assist the surgeons.

Registrar
Maharishi Markandeshwar
(Deemed to be University)
Mullana-Ambala 133-207