

Scheme of Examinations

MBBS

Marks distribution for various subjects

| Phase of Course | Written-Theory - Total | Practicals/Orals/Clinicals | Pass Criteria |
|--|------------------------|----------------------------|---|
| First Professional | | | Internal Assessment: 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations University Examination Mandatory 50% marks separately in theory and practical (practical = |
| Human Anatomy - 2 papers | 200 | 100 | |
| Physiology - 2 papers | 200 | 100 | |
| Biochemistry - 2 papers | 200 | 100 | |
| Second Professional | | | |
| Pharmacology - 2 Papers | 200 | 100 | |
| Pathology - 2 papers | 200 | 100 | |
| Microbiology - 2 papers | 200 | 100 | |
| Third Professional Part - I | | | |
| Forensic Medicine & Toxicology - 1 paper | 100 | 100 | |
| Ophthalmology - 1 paper | 100 | 100 | |
| Otorhinolaryngology - 1 paper | 100 | 100 | |
| Community Medicine - 2 papers | 200 | 100 | |
| Third Professional Part - II | | | |
| General Medicine - 2 papers | 200 | 200 | |
| General Surgery - 2 papers | 200 | 200 | |
| Pediatrics - 1 paper | 100 | 100 | |
| Obstetrics & Gynaecology - 2 papers | 200 | 200 | |


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MD

Scheme of Examination

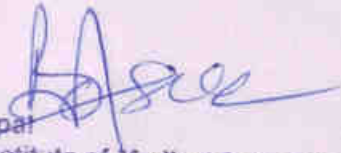
The examination shall consist of (A) Thesis, (B) Theory papers, and (C) Clinical/Practical and Oral examinations:-

B. Theory (Total Marks : 100 X 4 = 400)

- (i) There shall be four theory papers of 100 marks each & three hours each.
- (ii) Out of these one shall be based on the Basic Medical Sciences and one on Recent Advances as applicable to that subject.
- (iii) The Theory examination shall be held sufficiently earlier than the Clinical/Practical examination so that the answer books can be assessed and evaluated before the start of the Clinical/Practical and oral examinations.

C. Clinical/Practical (300 Marks) and Oral (100 Marks) Total Marks 400

- (i) Clinical examination for the subjects in Clinical Sciences shall be conducted to test the knowledge, skills and competence of the candidates for undertaking independent work as a specialist/teacher, for which candidate shall be examined on minimum of one long case and two short cases.
- (ii) Practical examination for the subjects in Basic Medical Sciences shall be conducted to test the knowledge, skills and competence of the candidate for making valid and relevant observations based on the experimental/laboratory studies and his ability to perform such studies as are relevant to his subject.
- (iii) The Oral examination shall be aimed to assess the candidate's knowledge including recent advances, skill and competence about the subject, investigative procedures, therapeutic techniques and other aspects of the specialty which will form a part of the examination.
- (iv) A candidate will have to secure not less than 50% marks separately in each head for passing which shall include (B) theory and (C) Clinical/Practical examination including oral (viva-voce) examination.


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MS

Scheme of Examination

The examination shall consist of (A) Thesis, (B) Theory papers, and (C) Clinical/Practical and Oral examinations:-

B. Theory (Total Marks : 100 X 4 = 400)

- (i) There shall be four theory papers of 100 marks each & three hours each.
- (ii) Out of these one shall be based on the Basic Medical Sciences and one shall be on Recent Advances as applicable to that subject.
- (iii) The Theory examination shall be held sufficiently earlier than the Clinical/Practical examination so that the answer books can be assessed and evaluated before the start of the Clinical/Practical and oral examinations.

C. Clinical/Practical (300 Marks) and Oral (100 Marks) Total Marks 400

- (i) Clinical examination for the subjects in Clinical Sciences shall be conducted to test the knowledge, skills and competence of the candidates for undertaking independent work as a specialist/teacher, for which candidate shall be examined on minimum of one long case and two short cases.
- (ii) Practical examination for the subjects in Basic Medical Sciences shall be conducted to test the knowledge, skills and competence of the candidate for making valid and relevant observations based on the experimental/laboratory studies and his ability to perform such studies as are relevant to his subject.
- (iii) The Oral examination shall be aimed to assess the candidate's knowledge including recent advances, skill and competence about the subject, investigative procedures, therapeutic techniques and other aspects of the specialty which will form a part of the examination.
- (iv) A candidate will have to secure not less than 50% marks separately in each head for passing which shall include (B) theory and (C) Clinical/Practical examination including oral (viva-voce) examination.


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| Programme | Papers |
|-----------------|--|
| MD Anaestthesia | Paper-I Basic Sciences as applied to Anaesthesiology |
| | Paper-II Practice of Anaesthesia: Anaesthesia in relation to associated systemic and medical diseases. |
| | Paper-III Anaesthesia in relation to subspecialties / superspecialties. |
| | Paper-IV Intensive Care Medicine, Pain Medicine and Recent advances. |
| MD Anatomy | Paper-I Gross Anatomy |
| | Paper-II Embryology, Microscopic Anatomy and Genetics |
| | Paper-III Neuroanatomy |
| | Paper-IV Applied Human Anatomy and recent advances in anatomical Sciences . |
| MD Biochemsitry | Paper-I Biomolecules , cell biology , biomechanical techniques , biostatistics and research methodology , basics of medical education in teaching and assessment of biochemistry |
| | Paper-II Enzymes, bioenergetics, biological oxidation metabolism of biomolecules, intermediary metabolism and regulation , inborn error of metabolism and nutrition. |
| | Paper-III Molecular biology, Molecular and genetic aspects of cancer, immunology and effects of environmental pollutants on the body. |
| | Paper-IV Clinical biochemistry and molecular diagnostics related to different body systems/organs , endocrinology and recent advances in biochemistry. |

| | |
|--------------------------|---|
| MD Community Medicine | Paper-I Conceptual (and applied) understanding of Public Health, Community Medicine , Communicable and Non- Communicable diseases, emerging and re-emerging diseases, Applied Epidemiology , Health research , Bio-statistics. |
| | Paper-II Nutrition , Environmental Health, Primary Health Care system, Panchayat Raj system , National Health programs, RCH, Demography and Family Welfare, Health Care Administration, Health Management and Public Health Leadership |
| | Paper-III Social & Behavioral sciences- applied aspects, Scientific communication & Medical writing, Research Methodology Public Health Legislations, International Health & Global Diseases surveillance. |
| | Paper-IV Health Policy planning , Medical Education technology, Information Technology, Integration of alternative health system including AYUSH, Occupational Health, Recent advances in Public Health and Miscellaneous issues, Health Economics. |
| MD Forensic Medicine | Paper-I Basic of Forensic Medicine, basic sciences and allied Subjects |
| | Paper-II Clinical Forensic Medicine and Medical Jurisprudence |
| | Paper-III Forensic Pathology and Toxicology |
| | Paper-IV Recent advances Forensic Medicine , Forensic Psychiatry and Medical Toxicology , applied aspects of clinical disciplines and Forensic Sciences |
| MD General Medicine | Paper-I Basic Medical Science (at the end of first year of training) |
| | Paper-II Medicine and allied specialties including pediatrics dermatology & psychiatry |
| | Paper-III Tropical Medicine and Infectious Diseases |
| | Paper-IV Recent Advances in Medicine |
| MD Microbiology | Paper-I General Microbiology and Immunology |
| | Paper-II Systematic Bacteriology |
| | Paper-III Virology Parasitology and Mycology |
| | Paper-IV Applied Microbiology and Recent Advances. |

| | |
|-------------------|--|
| MD Pediatrics | Paper-I Basic Sciences as applied to Paediatrics |
| | Paper-II Neonatology and Community paediatrics |
| | Paper-III General Paediatrics including advances in Paediatrics relating to Cluster I specialties. |
| | Paper-IV Paediatrics Medicine including advances in Paediatrics relating to Cluster II specialties. |
| MD Pathology | Paper-I General Pathology, Pathophysiology, Immunopathology and Cytopathology |
| | Paper-II Systemic Pathology |
| | Paper-III Haematology, Transfusion Medicine (Blood Banking) and Laboratory Medicine |
| | Paper-IV Recent Advances and applied aspects. |
| MD Pharmacology | Paper-I General Pharmacology |
| | Paper-II Clinical Pharmacology |
| | Paper-III Systemic Pharmacology |
| | Paper-IV Recent Advances in Pharmacology |
| MD Physiology | Paper-I General Physiology including History of Physiology |
| | Paper-II Systemic Physiology (system providing transport, nutrition and energy) |
| | Paper-III Systemic Physiology (System concerned with regulation, neural control and procreation) |
| | Paper-IV Applied Physiology including recent advances |
| MD Radiodiagnosis | Paper-I Basic Sciences related to Radiology (consists of Anatomy, Pathology, Basic and Radiation Physics, Imaging Techniques and Film processing). |
| | Paper-II Chest, CVS, CNS including Head & Neck, Eye, ENT, musculo-skeletal, pediatric radiology and Mammography. |
| | Paper-III Abdominal Imaging including GI, GU, Hepatobiliary, endocrine and metabolic, Obstetrics and Gynaecology and Interventional radiology |
| | Paper-IV Recent advances, unclear medicine; Radiology related to clinical specialties |
| MD Dermatology | Paper-I Basic Sciences as Applied to Dermatology, STDs and Leprosy. |
| | Paper-II Dermatology |
| | Paper-III STD and Leprosy. |
| | Paper-IV Recent advances in field of Dermatology, applied Sciences pertaining to skin / VD & internal medicine and skin |

| | |
|------------------------------|---|
| MD Respiratory Medicine | Paper-I General pulmonary medicine of Basic Sciences. |
| | Paper-II Clinical pulmonary medicine including medicalemergencies |
| | Paper-III Clinical pulmonary medicine including criticalcare medicine |
| | Paper-IV Recent advances in pulmonary medicine andresearch methodology |
| MD Psychiatry | Paper-I Basic Sciences as related to Psychiatry |
| | Paper-II Clinical Psychiatry |
| | Paper-III Psychiatric Theory and Psychiatric Specialties |
| | Paper-IV Neurology and General Medicine as related toPsychiarty |
| MS Otorhinolaryngology | Paper-I Basic Sciences related to Otolaryngology |
| | Paper-II Principles and Practices of Otolaryngology |
| | Paper-III Recent advances in Otolaryngology and Head-Neck Surgery |
| | Paper-IV General Surgical Principles and Head-NeckSurgery |
| MS General Surgery | Paper-I Basic Sciences |
| | Paper-II Principles and Practice of Surgery |
| | Paper-III Principles and Practice of Operative Surgery |
| | Paper-IV Recent Advances in Surgery |
| MS Ophthalmology | Paper-I Basic Sciences related to Ophthalmology, Refraction & Optics |
| | Paper-II Clinical Ophthalmology |
| | Paper-III Systemic Diseases in Relation to Ophthalmology |
| | Paper-IV Recent Advances in Ophthalmology andCommunity Ophthalmology |
| MS Orthopedics | Paper-I Basic Sciences as applied to Orthopaedics |
| | Paper-II Traumatology and Rehabilitation |
| | Paper-III Orthopaedic Diseases |
| | Paper-IV Recent Advances in Orthopaedic surgery +General Surgery as applied to Orthopaedics |
| MS Obstetrics and Gynecology | Paper-I Applied Basic Sciences |
| | Paper-II Obstetrics including social obstetrics andDiseases of New Born |
| | Paper-III Gynaecology including fertility regulation |
| | Paper-IV Recent advances in Obstetrics and Gynaecology |

D.M./ M.Ch. Scheme of Examination

Examinations:

The examinations shall be organised on the basis of 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for D.M., M.Ch. shall be held at the end of 3rd academic year. An academic term shall mean six month's training period."

B. Theory (Total : 100 X 4 = 400 Marks)

- (i) There shall be four theory papers of 100 marks each & three hours each.
- (ii) Out of these one shall be based on the Basic Medical Sciences and one on Recent Advances as applicable to that subject.
- (iii) The Theory examination shall be held sufficiently earlier than the Clinical/Practical examination so that the answer books can be assessed and evaluated before the start of the Clinical/Practical and oral examinations.

C. Clinical/Practical (300 Marks) and Oral (100 Marks) : Total Marks - 400

Practical examination may consist of carrying out special investigative techniques for Diagnosis and Therapy. M.Ch candidates shall also be examined in surgical procedures. Oral examination shall be comprehensive enough to test the candidate's overall knowledge of the subject.

- (i) Clinical examination shall be conducted to test the knowledge, skills and competence of the candidates for undertaking independent work as a specialist/teacher, for which candidate shall be examined on minimum of one long case and two short cases.
- (ii) The Oral examination shall be aimed to assess the candidate's knowledge including recent advances, skill and competence about the subject, investigative procedures, therapeutic techniques and other aspects of the specialty which will form a part of the examination.
- (iii) A candidate will have to secure not less than 50% marks separately in each head for passing which shall include (B) theory and (C) Clinical/Practical examination including oral (viva-voce) examination.

12. The following shall be the titles of the four papers in each subject:

D.M. Cardiology

| | | |
|-----------|--|------------|
| Paper -I | Basic Sciences as related to Cardiology | 100 |
| Paper-II | Clinical Cardiology | 100 |
| Paper-III | Hemodynamics Therapeutics and Intervention | 100 |
| Paper-IV | Recent Advances | 100 |
| | Total | 400 |

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D.M. Medical Gastroenterology

| | | |
|-----------|---|------------|
| Paper -I | Basic Sciences as related to Gastroenterology | 100 |
| Paper-II | Clinical Gastroenterology | 100 |
| Paper-III | Investigative Gastroenterology | 100 |
| Paper-IV | Recent advances in Gastroenterology | 100 |
| | Total | 400 |

M.Ch. Urology

| | | |
|-----------|------------------------------------|------------|
| Paper -I | Basic Sciences applied to Urology | 100 |
| Paper-II | General Adult & Paediatric Urology | 100 |
| Paper-III | Regional Systemic Urology | 100 |
| Paper-IV | Recent Advances in Urology | 100 |
| | Total | 400 |

M.Ch. Neurosurgery

| | | |
|-----------|--|------------|
| Paper -I | Basic Sciences as related to Neuro-Surgery | 100 |
| Paper-II | Clinical Neuro-Surgery | 100 |
| Paper-III | Operative Neuro-Surgery | 100 |
| Paper-IV | Recent advances in Neuro-Surgery | 100 |
| | Total | 400 |

Theory papers pattern:

| QUESTIONS | NO | MARKS |
|--------------|--------|------------|
| Essays | (2x20) | 40 |
| Short notes | (10x6) | 60 |
| Total | | 100 |

I. Over all marks in Theory :

4 x 100 = 400

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A. Practical & Viva-Voce Examination (M.Ch. Urology and M.Ch Neurosurgery)

| Sr. No | | Marks |
|--------|--|------------|
| 1. | Long Case (1) | 100 |
| 2. | Short Cases (2) 75 marks each | 150 |
| 3. | Procedure | 50 |
| 4. | Grand Viva including Instruments/Radiology/Pathology | 100 |
| 5. | Total | 400 |

B. Practical & Viva-Voce Examinations (D.M. Cardiology. Medical Gastroenterology)

| Sr. No | Description | Marks |
|--------|-------------------------------|------------|
| 1. | Long case-1 | 100 |
| 2. | Short cases-2 (75 marks each) | 150 |
| 3. | Procedures | 50 |
| 4. | Viva-Voce | 100 |
| | Total | 400 |

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**M.Sc. Medical
SCHEME OF EXAMINATION:**

Total marks: 1000

Theory- Four Papers (50x4=200)

Practical- 200 Marks

Viva-voce- 100 Marks

First year (examination to be held at the end of First year)

THEORY

| Sr.No | Subject | Theory | Internal Assessment | Total |
|-------|--------------|------------|---------------------|------------|
| 1 | Anatomy | 40 | 10 | 50 |
| 2 | Physiology | 40 | 10 | 50 |
| 3 | Biochemistry | 40 | 10 | 50 |
| | Total | 120 | 30 | 150 |

PRACTICAL

| Sr.No | Subject | Practical | Internal Assessment | Total |
|-------|------------------------|------------|---------------------|------------|
| 1 | Anatomy Lab Basic | 40 | 10 | 50 |
| 2 | Physiology Lab Basic | 40 | 10 | 50 |
| 3 | Biochemistry Lab Basic | 40 | 10 | 50 |
| | Total | 120 | 30 | 150 |

Second year (examination to be held at the end of Second year)

| Sr.No | Subject (Department Concerned) | Theory | Internal assessment | Total | Total |
|-------|--------------------------------|--------|---------------------|-------|-------|
| 1 | Paper (I) | 40 | 10 | 50 | 200 |
| 2 | Paper (II) | 40 | 10 | 50 | |
| 3 | Paper (III) | 40 | 10 | 50 | |
| 4 | Paper (IV) | 40 | 10 | 50 | |

Third year (examination to be held at the end of Third year)

| THEORY | | | | | | |
|------------------|--------------|------------|---------------------|------------|-------------|--|
| Sr.No | Subject | Theory | Internal Assessment | Total | Grand Total | |
| 1 | Paper (I) | 40 | 10 | 50 | 500 | |
| 2 | Paper (II) | 40 | 10 | 50 | | |
| 3 | Paper (III) | 40 | 10 | 50 | | |
| 4 | Paper (IV) | 40 | 10 | 50 | | |
| | Total | 160 | 40 | 200 | | |
| VIVA | | | | 100 | | |
| PRACTICAL | | | | | | |
| Sr.No | Subject | Practical | Internal Assessment | Total | | |
| 1 | Paper (I) | 40 | 10 | 50 | | |
| 2 | Paper (II) | 40 | 10 | 50 | | |
| 3 | Paper (III) | 40 | 10 | 50 | | |
| 4 | Paper (IV) | 40 | 10 | 50 | | |
| | Total | 160 | 40 | 200 | | |


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M.Sc. Medical Radiography and Imaging Technology (RIT)

FIRST YEAR

| Sr. No. | Main Subjects | Theory | | | | Viva Marks | Grand Total Marks |
|---------|------------------------|----------|----------|-------|---------------------|------------|-------------------|
| | | Part | Duration | Marks | Internal Assessment | | |
| 1 | Basic radiography | Part - A | 3 Hrs. | 40 | 20 | 100 | 200 |
| | Radio-physics | Part - B | | 40 | | | |
| 2 | Radiation protection | Part - A | 3 Hrs. | 40 | 20 | 100 | 200 |
| | Special investigations | Part - B | | 40 | | | |

| Practicals | | Marks | Internal assessment | Total |
|---|--|-------|---------------------|-------|
| Basic radiography and Radiophysics Practical | | 80 | 20 | 100 |
| Radiation protection and Special investigations Practical | | 80 | 20 | 100 |

FINAL YEAR

| Sr. No. | Main Subjects | Theory | | | | Viva Marks | Grand Total Marks |
|---------|------------------------------|----------|----------|-------|---------------------|------------|-------------------|
| | | Part | Duration | Marks | Internal Assessment | | |
| 1 | Ultrasound and doppler | Part - A | 3 Hrs. | 40 | 20 | 100 | 200 |
| | CT scan and nuclear medicine | Part - B | | 40 | | | |
| 2 | MRI | Part - A | 3 Hrs. | 40 | 20 | 100 | 200 |
| | Advanced radiology | Part - B | | 40 | | | |

| Practicals | | Marks | Internal assessment | Total |
|--|--|-------|---------------------|-------|
| Ultrasound, doppler, CT scan and nuclear medicine. | | 80 | 20 | 100 |
| MRI and Advanced Technology. | | 80 | 20 | 100 |

M.Sc. OPERATION THEATRE TECHNOLOGY (OTT)

SCHEME OF EXAMINATION

M.Sc. OPERATION THEATRE TECHNOLOGY (OTT) (FIRST YEAR)

THEORY

| S.N | Subjects | Theory paper | Exam Hrs | Maximum Marks | | |
|-----|--|--------------|----------|---------------|-----------------|-------|
| | | | | IA | University exam | Total |
| 1 | Basic human anatomy, physiology & biochemistry | T - 1 | 3 | 20 | 80 | 100 |
| 2 | Basic microbiology, pathology & terminology | T - 2 | 3 | 20 | 80 | 100 |
| 3 | Surgical equipment, advanced instrumentation and technique related to OT | T - 3 | 3 | 20 | 80 | 100 |
| 4 | Hospital management, general principle of hospital practice and patient care | T - 4 | 3 | 20 | 80 | 100 |

PRACTICAL

| S.N | Subject | Practical Exam | Exam. Hrs. | Maximum Marks | | |
|-----|--|----------------|------------|---------------|-----------------|-------|
| | | | | IA | University exam | Total |
| 1 | Basic human anatomy, physiology & biochemistry (P) | P - 1 | 1 | 10 | 40 | 50 |
| 2 | Basic microbiology, pathology & terminology (P) | P - 2 | 1 | 10 | 40 | 50 |
| 3 | Surgical equipment, advanced instrumentation and technique related to OT (P) | P - 3 | 1 | 10 | 40 | 50 |

| | | | | | | |
|---|---|-------|---|----|----|----|
| 4 | Hospital management, general principle of hospital practice and patient care(P) | P - 4 | 1 | 10 | 40 | 50 |
|---|---|-------|---|----|----|----|

SCHEME OF EXAMINATION

M.Sc. OPERATION THEATRE TECHNOLOGY SECOND YEAR

THEORY

| S.N | Subjects | Theory paper Page | Exam Hrs | Maximum Marks | | |
|-----|--|-------------------|----------|---------------|-----------------|-------|
| | | | | IA | University exam | Total |
| 1 | Basic blood banking and pharmacology | T - 1 | 3 | 20 | 80 | 100 |
| 2 | Basic anaesthesia and applied operation theatre technology | T - 2 | 3 | 20 | 80 | 100 |
| 3 | Applied Anaesthesia | T - 3 | 3 | 20 | 80 | 100 |
| 4 | Patient care education | T - 4 | 3 | 20 | 80 | 100 |

PRACTICAL

| S.N | Subject | Practical Exam | Exam. Hrs. | Maximum Marks | | |
|-----|---|----------------|------------|---------------|-----------------|-------|
| | | | | IA | University exam | Total |
| 1 | Basic blood banking and pharmacology(P) | P - 1 | 1 | 10 | 40 | 50 |
| 2 | Basic anaesthesia and applied operation theatre technology(P) | P - 2 | 1 | 10 | 40 | 50 |
| 3 | Applied Anaesthesia(P) | P - 3 | 1 | 10 | 40 | 50 |
| 4 | Dissertation and Viva | | | | 50 | 50 |


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**MASTER OF SCIENCE (MLT)
SCHEME OF EXAMINATIONS**

DISTRIBUTION OF MARKS & SCHEME OF EXAMINATION FOR FIRST YEAR

M.Sc. Medical Lab Technology (MLT)

Each Theory Question Paper will have Part – I & Part – II

| Sr. No. | Subjects/ Specialty | Theory | | | | Total | Grand Total |
|-----------|---------------------|---|----------|-------|-----|-------|-------------|
| | | Part | Duration | Marks | I.A | Marks | Marks |
| 1. | Biochemistry | Part – I Metablism& Enzymology | 3 Hrs. | 40 | 20 | 100 | 300 |
| | | Part – II Immunology & Endocrinology | | 40 | | | |
| | | Biochemistry Lab-I | | 80 | 20 | 100 | |
| | | Viva | | 100 | | 100 | |
| OR | | | | | | | |
| 2. | Microbiology | Part – I General Microbiology | 3 Hrs. | 40 | 20 | 100 | 300 |
| | | Part – II Systemic Bacteriology | | 40 | | | |
| | | Microbiology Lab-I | | 80 | 20 | 100 | |
| | | Viva | | 100 | | 100 | |
| OR | | | | | | | |
| 3. | Pathology | Part – I Hematology & Blood Bank | 3 Hrs. | 40 | 20 | 100 | 300 |
| | | Part – II Clinical Pathology &Cytogenetics | | 40 | | | |
| | | Pathology Lab-I | | 80 | 20 | 100 | |
| | | Viva | | 100 | | 100 | |


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| | | | | | | |
|---|--|-------|---|----|----|-----|
| 1 | Basic blood banking and pharmacology | T - 1 | 3 | 20 | 80 | 100 |
| 2 | Basic anaesthesia and applied operation theatre technology | T - 2 | 3 | 20 | 80 | 100 |
| 3 | Applied Anaesthesia | T - 3 | 3 | 20 | 80 | 100 |
| 4 | Patient care education | T - 4 | 3 | 20 | 80 | 100 |

PRACTICAL

| S.N | Subject | Practical Exam | Exam. Hrs. | Maximum Marks | | |
|-----|---|----------------|------------|---------------|-----------------|-------|
| | | | | IA | University exam | Total |
| 1 | Basic blood banking and pharmacology(P) | P - 1 | 1 | 10 | 40 | 50 |
| 2 | Basic anaesthesia and applied operation theatre technology(P) | P - 2 | 1 | 10 | 40 | 50 |
| 3 | Applied Anaesthesia(P) | P - 3 | 1 | 10 | 40 | 50 |
| 4 | Dissertation and Viva | | | | 50 | 50 |


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B.Sc Optometry
First Semester

| Subject code | Core Subjects | Credits/Week | | | Hours/semester | | | IA * | UE* * | Practical/ Viva Voce | Total (IA+UE) |
|--|--------------------------------|--------------|----------|-----------|----------------|------------|------------|------------|------------|-------------------------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOPT-01 T | General Anatomy | 2 | - | 2 | 30 | - | 30 | 10 | 60 | - | 70 |
| BOPT-01 P | General Anatomy | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-02 T | General Physiology | 2 | - | 2 | 30 | - | 30 | 10 | 60 | - | 70 |
| BOPT-02 P | General Physiology | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-03 T | General Biochemistry | 2 | - | 2 | 30 | - | 30 | 10 | 60 | - | 70 |
| BOPT-03 P | General Biochemistry | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-04 T | Geometrical Optics-I | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOPT-04 P | Geometrical Optics-I | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 |
| Ability Enhancement Elective Course | | | | | | | | | | | |
| AEC-01T | English & Communication Skills | 2 | - | 2 | 30 | - | 30 | 100 | - | - | 100 |
| AEC-02T | Environment Sciences | | | | | | | | | | |
| TOTAL | | 11 | 4 | 15 | 165 | 120 | 285 | 180 | 240 | 80 | 500 |

*IA – Internal Assessment Examinations (Theory)

** UE- University


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Second Semester

| Subject code | Core Subjects | Credits /weeks | | | Hours per semester | | | IA* | UE** | Practical/ Viva Voce | Total 1 (IA+ UE) | |
|--|------------------------------------|----------------|-----------|----------|--------------------|------------|------------|------------|------------|----------------------|------------------|------------|
| | | L | P | C | L | T/P | Total | | | | | |
| BOPT-05T | Ocular Anatomy | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 | |
| BOPT-05P | Ocular Anatomy | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 | |
| BOPT-06T | Ocular Physiology | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 | |
| BOPT-06P | Ocular Physiology | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 | |
| BOPT-07T | Ocular Biochemistry | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 | |
| BOPT-07P | Ocular Biochemistry | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 | |
| BOPT-08T | Physical Optics | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 | |
| BOPT-08P | Physical Optics | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 | |
| BOPT-09T | Geometrical Optics-II | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 | |
| BOPT-09P | Geometrical Optics-II | - | 1 | 1 | - | 30 | 30 | 10 | - | 20 | 30 | |
| BOPT-010P | Clinical Optometry-I | | 1 | 1 | | 30 | 30 | 20 | 0 | 80 | 100 | |
| Skill Enhancement Elective Course | | | | | | | | | | | | |
| SEC-01 T | Medical & IPR | Bioethics | 3 | - | 3 | 45 | - | 45 | 100 | - | - | 100 |
| SEC-02 T | Human rights & Professional Values | | | | | | | | | | | |
| TOTAL | | | 18 | 6 | 24 | 270 | 180 | 450 | 220 | 300 | 180 | 700 |

*IA – Internal Assessment Examinations (Theory)

** UE- University


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Third Semester

| Subject code | Core subjects | Credits /weeks | | | Hours per semester | | | IA* | UE** | Practical/Viva Voce | Total (IA+ UE) |
|--------------------------------|---|----------------|----------|----------|--------------------|------------|------------|------------|------------|---------------------|----------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOPT-11 T | Ocular Microbiology | 1 | | 1 | 15 | | 15 | 10 | 60 | - | 70 |
| BOPT-11 P | Ocular Microbiology | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-12 T | Visual optics -I | 1 | | 1 | 15 | | 15 | 10 | 60 | - | 70 |
| BOPT-12 P | Visual optics -I | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-13 T | Optometric optics-I | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-13 P | Optometric optics-I | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-14 T | Optometric Instruments | 2 | | 2 | 30 | | 30 | 10 | 60 | - | 70 |
| BOPT-14 P | Optometric Instruments | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-15 T | Ocular Disease -I | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-15 P | Ocular Disease -I | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-16 T | Clinical examination of visual system | | | 2 | 30 | | 30 | 10 | 60 | - | 70 |
| BOPT-16 P | Clinical examination of visual system | 1 | 1 | | 30 | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-17 P | Clinical Optometry-II | 2 | 2 | | 60 | 60 | 60 | 20 | - | 80 | 100 |
| Generic Elective Course | | | | | | | | | | | |
| GEC-01 T | Pursuit of Inner Self Excellence (POIS) | 3 | | 3 | 45 | | 45 | 100 | | | 100 |
| GEC-02 T | Organizational behaviour | | | | | | | | | | |
| TOTAL | | 15 | 8 | 2 | 225 | 240 | 465 | 240 | 420 | 140 | 800 |

*IA - Internal Assessment Examinations (Theory)

** UE- University


Principal
M.M.Institute of Medical Sciences
& Research, Mullana-Ambala

Fourth Semester

| Subject code | Core Subjects | Credits /weeks | | | Hours per Semester | | | IA* | UE** | Practical/ Viva Voce | Total (IA+ UE) |
|--|--|----------------|----------|-----------|--------------------|------------|------------|------------|------------|----------------------|----------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOPT-18 T | Optometric optics – II & Dispensing Optics | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-18 P | Optometric optics – II & Dispensing Optics | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-19 T | Visual Optics- II | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-19 P | Visual Optics- II | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-20 T | Ocular Disease –II and glaucoma | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-20 P | Ocular Disease –II and glaucoma | | 1 | 1 | | 30 | 30 | 10 | - | 20 | 30 |
| BOPT-21 T | Basic and Ocular Pharmacology & Pathology | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-21 P | Basic and Ocular Pharmacology & Pathology | | 2 | 2 | | 60 | 60 | 10 | - | 20 | 30 |
| BOPT-22 P | Clinical optometry-III | | 2 | 2 | | 60 | 60 | 20 | - | 80 | 100 |
| Ability Enhancement Elective Course | | | | | | | | | | | |
| AEC-03T | Computer Applications & | | | | | | | | | | |
| AEC-04T | Biostatistics research methodology | &3 | | 3 | 45 | | 45 | 100 | | | 100 |
| TOTAL | | 15 | 7 | 22 | 225 | 210 | 435 | 200 | 240 | 160 | 600 |

*IA – Internal Assessment Examinations (Theory)

** UE- University


 Principal
 M.P. Institute of Medical Sciences
 & Research, Mulana-Ambaia

Fifth Semester

| Subject code | Core Subjects | Credits /weeks | | | Hours per Semester | | | IA* | UE** | Practical/ Viva Voce | Total (IA+ UE) |
|-----------------------------|---|----------------|----------|-----------|--------------------|------------|------------|------------|------------|----------------------|----------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOPT-23T | Contact lens -I | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-23P | Contact lens -I | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-24T | Low Vision care | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-24P | Low Vision care | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-25T | Geriatric Optometry & Pediatric Optometry | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-25P | Geriatric Optometry & Pediatric Optometry | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-26T | Binocular Vision-I | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-26P | Binocular Vision-I | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-27T | Systemic Disease | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-27P | Systemic Disease | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-28P | Clinical optometry-IV | | 2 | 2 | | 60 | 60 | 20 | - | 80 | 100 |
| Core Elective Course | | | | | | | | | | | |
| CEC-01T | Basics of Clinical Skill learning | 3 | | 3 | 45 | | 45 | 100 | | | 100 |
| CEC-02T | Hospital Operation Management | | | | | | | | | | |
| TOTAL | | 18 | 7 | 25 | 270 | 210 | 480 | 220 | 300 | 180 | 700 |

*IA - Internal Assessment Examinations (Theory)

** UE- University


Principal
M.P. Institute of Medical Sciences & Research, Mullana-Ambala

Sixth Semester

| Subject code | Core Subjects | Credits /weeks | | | Hours per semester | | | IA* | UE** | Practical/ Viva Voce | Total (IA+UE) |
|--------------|-------------------------------------|----------------|----------|-----------|--------------------|------------|------------|------------|------------|----------------------|------------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOPT-29 T | Contact Lens –II | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-29 P | Contact Lens –II | | 2 | 2 | | 60 | 60 | 10 | | 20 | 30 |
| BOPT-30 T | Binocular Vision –II | | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-30 P | Binocular Vision –II | | 2 | 2 | | 60 | 60 | 10 | | 20 | 30 |
| BOPT-31 T | Public Health & Community Optometry | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-31 P | Public Health & Community Optometry | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-32 T | Occupational optometry | 3 | | 3 | 45 | | 45 | 10 | 60 | - | 70 |
| BOPT-32 P | Occupational optometry | | 1 | 1 | | 30 | 30 | 10 | | 20 | 30 |
| BOPT-33 P | Clinical Optometry V | | 3 | 3 | | 90 | 90 | 20 | | 80 | 100 |
| TOTAL | | 12 | 9 | 21 | 180 | 270 | 450 | 100 | 240 | 160 | 500 |

*IA – Internal Assessment Examinations (Theory)

** UE- University

Seventh and Eighth Semester

| Subject code | Core Subjects | Credits /week | Hours per semester | | | | |
|-------------------------|--------------------|---------------|--------------------|------------------|-----|-------------|-------------|
| | | | L/T | Clinical posting | L/T | C/ P/ RP | Total |
| Semester 7 (Internship) | B Optom Internship | | | 360 | | 720 | 720 |
| Semester 8 (Internship) | B Optom Internship | | | 360 | | 720 | 720 |
| TOTAL | | | | 720 | | 1440 | 1440 |

Principal
M.B. Institute of Medical Sciences
& Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
 Program: B.Sc in Medical Laboratory Technology (Techniques)

Semester/Term.: 1

| S.No | Subjects | Written paper | I.A | Viva-voice | Core/Elective Pre-Requisite/Co Requisite | TOTAL |
|-----------|--------------------------|---------------|-----|------------|--|-------|
| | | | | | | |
| MLT-01T | HUMAN ANATOMY-I | 30 | 10 | 10 | Core | 50 |
| MLT-02T | HUMAN PHYSIOLOGY-I | 30 | 10 | 10 | Core | 50 |
| MLT-03T | BIOCHEMISTRY-I | 30 | 10 | 10 | Core | 50 |
| MLT-04T | PATHOLOGY-I | 30 | 10 | 10 | Core | 50 |
| MLT-05T | MICROBIOLOGY-I | 30 | 10 | 10 | Core | 50 |
| MLT-06T | Environmental Studies | 60 | 40 | - | Core | 50 |
| PRACTICAL | | | | | | |
| MLT-01P | HUMAN ANATOMY-I (LAB) | 40 | 10 | - | Co-Requisite | 100 |
| MLT-02P | HUMAN PHYSIOLOGY-I (LAB) | 40 | 10 | - | Core | 50 |
| MLT-03P | BIOCHEMISTRY-I (LAB) | 40 | 10 | - | Core | 50 |
| MLT-04P | PATHOLOGY-I (LAB) | 40 | 10 | - | Core | 50 |
| MLT-05P | MICROBIOLOGY-I (LAB) | 40 | 10 | - | Core | 50 |

| Course Code | Subject Name | Ability Enhancement Elective Course | | | | | | | | | | TOTAL (IA+UE) |
|-------------|--------------------------------|-------------------------------------|---|----------------|---|-----|----|----|--------|-------|-------|---------------|
| | | Credits/Week | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL | | |
| | | L | P | C | L | T/P | | | | | Total | |
| AEC-01T | English & Communication Skills | 3 | - | - | 3 | 45 | - | 45 | 100 | | | 100 |
| AEC-02T | Computer Skill and Application | | | | | | | | | | | |


 Principal
 M.M.Institute of Medical Sciences
 & Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
 Program: B.Sc in Medical Laboratory Technology (Techniques)

Semester/Term.: 2

| S.No | Subjects | THEORY | | | | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|-----------|---------------------------|------------------|-----|---------------|------|---|-------|
| | | Written paper | I.A | Viva- voce | | | |
| MLT-06T | HUMAN ANATOMY-II | 30 | 10 | 10 | Core | 50 | |
| MLT-07T | HUMAN PHYSIOLOGY-II | 30 | 10 | 10 | Core | 50 | |
| MLT-08T | BIOCHEMISTRY- II | 30 | 10 | 10 | Core | 50 | |
| MLT-09T | PATHOLOGY- II | 30 | 10 | 10 | Core | 50 | |
| MLT-10T | MICROBIOLOGY-II | 30 | 10 | 10 | Core | 50 | |
| PRACTICAL | | | | | | | |
| MLT-06 P | HUMAN ANATOMY-II (LAB) | 40 | 10 | - | Core | 50 | |
| MLT-07P | HUMAN PHYSIOLOGY-II (LAB) | 40 | 10 | - | Core | 50 | |
| MLT-08 P | BIOCHEMISTRY- II (LAB) | 40 | 10 | - | Core | 50 | |
| MLT-09 P | PATHOLOGY- II (LAB) | 40 | 10 | - | Core | 50 | |
| MLT-10 P | MICROBIOLOGY-II (LAB) | 40 | 10 | - | Core | 50 | |

| Course Code | Subject Name | Skill Enhancement Elective Course | | | | | | | | | | TOTAL (IA+UE) | | |
|----------------|--|-----------------------------------|---|---|----------------|-----|-------|-----|----|--------|-------|------------------|--|--|
| | | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL | | | |
| | | L | P | C | L | T/P | Total | | | | | | | |
| SEC-01 T | Medical Bioethics | | | | | | | | | | | | | |
| SEC-02T | Human rights & Professional Values | 3 | - | 3 | 45 | - | 45 | 100 | | | | 100 | | |

Principal
 M.M. Institute of Medical Sciences
 & Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
Program: B.Sc in Medical Laboratory Technology (Techniques)

Semester/Term.: 3

| S.No | Subjects | Written paper | I. A | | Viv | Core/Elective Pre-Requisite/Co Requisite | TOTAL |
|------------------|-------------------------|---------------|------|---|-----|--|-------|
| | | | L | A | | | |
| THEORY | | | | | | | |
| MLT-11T | BIOCHEMISTRY- III | 40 | 10 | - | - | Core | 50 |
| MLT-12T | PATHOLOGY- III | 40 | 10 | - | - | Core | 50 |
| MLT-13T | MICROBIOLOGY-III | 40 | 10 | - | - | Core | 50 |
| PRACTICAL | | | | | | | |
| MLT-11P | BIOCHEMISTRY- III (LAB) | 80 | 20 | - | - | Core | 100 |
| MLT-12P | PATHOLOGY- III (LAB) | 80 | 20 | - | - | Core | 100 |
| MLT-13P | MICROBIOLOGY-III (LAB) | 80 | 20 | - | - | Core | 100 |

Generic Elective Course

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|-------------|--------------------------|--------------|---|---|----------------|-----|-------|----|----|--------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| | | GEC-01T | Pursuit of Inner Self Excellence (POIS) | 3 | - | 3 | 45 | | | | |
| GEC-02T | Organizational behaviour | | | | | | | | | | |



Principal
M.M. Institute of Medical Sciences
& Research, Mullana-Ambala

M. M. (Deemed to be University) MULLANA - AMBALA
 Program: B.Sc in Medical Laboratory Technology (Techniques)

Semester/Term.: 4

| S.No | Subjects | Written paper | I.A | Viva-voce | Core/Elective/Pre-Requisite/Co Requisite | TOTAL |
|-----------|------------------------|---------------|-----|-----------|--|-------|
| | | | | | | |
| THEORY | | | | | | |
| MLT-14T | BIOCHEMISTRY- IV | 40 | 10 | - | Core | 50 |
| MLT-15T | PATHOLOGY- IV | 40 | 10 | - | Core | 50 |
| MLT-16T | MICROBIOLOGY-IV | 40 | 10 | - | Core | 50 |
| PRACTICAL | | | | | | |
| MLT-14P | BIOCHEMISTRY- IV (LAB) | 80 | 20 | - | Core | 100 |
| MLT-15P | PATHOLOGY- IV (LAB) | 80 | 20 | - | Core | 100 |
| MLT-16P | MICROBIOLOGY-IV (LAB) | 80 | 20 | - | Core | 100 |

Ability Enhancement Elective Course

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|-------------|--------------------------------------|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| AEC-03T | Data Entry and Processing | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| AEC-04T | Biostatistics & research methodology | | | | | | | | | | |


 Principal
 M.M.Institute of Medical Sciences
 & Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
 Program: B.Sc in Medical Laboratory Technology (Techniques)
 Semester/Term.: 5

| S.No | Subjects | Written paper | | | Viva-voce | Core/Elective Pre-Requisite/Co Requisite | TOTAL |
|---------------|----------------|---------------|----|---|-----------|--|-------|
| | | paper | LA | | | | |
| THEORY | | | | | | | |
| MLT-17T | BIOCHEMISTRY-V | 40 | 10 | - | Core | 50 | |
| MLT-18T | PATHOLOGY-V | 40 | 10 | - | Core | 50 | |
| MLT-19T | MICROBIOLOGY-V | 40 | 10 | - | Core | 50 | |

| PRACTICAL | | | | | | | |
|------------------|----------------------|----|----|---|------|-----|--|
| MLT-17P | BIOCHEMISTRY-V (LAB) | 80 | 20 | - | Core | 100 | |
| MLT-18P | PATHOLOGY-V (LAB) | 80 | 20 | - | Core | 100 | |
| MLT-19P | MICROBIOLOGY-V (LAB) | 80 | 20 | - | Core | 100 | |

| Course Code | Subject Name | Core Elective Course | | | | | | | | | |
|-------------|-----------------------------------|----------------------|---|---|----------------|-----|-------|-----|----|-------|---------------|
| | | Credits/Week | | | Hours/Semester | | | IA | UE | Pr/VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| CEC-01T | Basics of Clinical learning Skill | 3 | - | - | 45 | - | 45 | 100 | | | 100 |
| CEC-02T | Hospital Operation Management | | | 3 | | | 45 | | | | |

[Signature]
 Principal

M.M. (Deemed to be University) MULLANA - AMBALA

Program: B.Sc in Medical Laboratory Technology (Techniques) Semester/Term.: 6

| S.No | Subjects | Written paper | L.A | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|------------------|------------------------|---------------|-----|-----------|---|-------|
| THEORY | | | | | | |
| MLT-20T | BIOCHEMISTRY- VI | 40 | 10 | - | Core | 50 |
| MLT-21T | PATHOLOGY- VI | 40 | 10 | - | Core | 50 |
| MLT-22T | MICROBIOLOGY-VI | 40 | 10 | - | Core | 50 |
| PRACTICAL | | | | | | |
| MLT-20P | BIOCHEMISTRY- VI (LAB) | 80 | 20 | - | Core | 100 |
| MLT-21P | PATHOLOGY- VI (LAB) | 80 | 20 | - | Core | 100 |
| MLT-22P | MICROBIOLOGY-VI (LAB) | 80 | 20 | - | Core | 100 |



Principal
M.M.Institute of Medical Sciences
& Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc in Radiography & Imaging Technology
(Techniques) Semester/Term.: 1

| S.No | Subjects | Credits/week | | | Hours/Semester | | | Written paper | L.A | Viva-voice | Core/Elective Pre-Requisite/ Co Requisite | Total |
|------------------|--|--------------|---|---|----------------|-----|-------|------------------------|-----|------------|---|-------|
| | | L | P | C | L | T/P | Total | | | | | |
| THEORY | | | | | | | | | | | | |
| RIT-01T | HUMAN ANATOMY WITH CLINICAL ANATOMY-I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-02T | PHYSIOLOGY AND PATHOLOGY-I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-03T | RADIATION PHYSICS-I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-04T | RADIATION PROTECTION - I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| PRACTICAL | | | | | | | | | | | | |
| RIT-01P | HUMAN ANATOMY WITH CLINICAL ANATOMY -I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-02P | PHYSIOLOGY AND PATHOLOGY -I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-03P | RADIATION PHYSICS - I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-04P | RADIATION PROTECTION - I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |

ABILITY ENHANCEMENT ELECTIVE COURSE

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& Research, Mullana-Ambala

| | | | | | | | | | | | | |
|---------|--------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|--|-----|
| AEC-01T | English & Communication Skills | 3 | | 3 | 45 | - | 45 | | - | 100 | | 100 |
| AEC-02T | Environmental Sciences | | - | | | | | | | | | |
| | Total | 15 | 12 | 27 | 225 | 360 | 585 | 240 | 120 | 260 | | 620 |

Principal *H. S. S. S.*
 M.S. University of Medical Sciences
 & Health Sciences, Multana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
Program: B.Sc in Radiography & Imaging Technology

Semester/Term.: 2

| S.No | Subjects | Credits/week | | | Hours/Semester | | | Written paper | I.A | Viva-voce | Core/Elective Requisite/ Co Requisite | TOTAL | |
|------------------|---|--------------|---|---|----------------|----|-----|------------------------|-----|-----------|---------------------------------------|-------|-------|
| | | L | | P | C | L | T/P | | | | | | Total |
| | | | | | | | | | | | | | |
| THEORY | | | | | | | | | | | | | |
| RIT-05T | HUMAN ANATOMY WITH CLINICAL ANATOMY- II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-06T | PHYSIOLOGY AND PATHOLOGY - II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-07T | RADIATION PHYSICS - II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-08T | RADIATION PROTECTION - II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| PRACTICAL | | | | | | | | | | | | | |
| RIT-05P | HUMAN ANATOMY WITH CLINICAL ANATOMY -II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |
| RIT-06P | PHYSIOLOGY AND PATHOLOGY - II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |
| RIT-07P | RADIATION PHYSICS - II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |
| RIT-08P | RADIATION PROTECTION - II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |

Principal
M.M. (Deemed to be University) Mullana - Ambala
Ministry of Health & Research, Haryana

M.M. (Deemed to be University) MULLANA - AMBALA
Program: B.Sc in Radiography & Imaging Technology
(Techniques) Semester/Term.: 3

| S.No | Subjects | Credits/week | | | Hours/Semester | | | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/Co Requisite | T O T |
|------------------|--|--------------|---|---|----------------|-----|-------|------------------------|-----|-----------|--|-------|
| | | L | P | C | L | T/P | Total | | | | | |
| THEORY | | | | | | | | | | | | |
| RIT-09T | CLINICAL RADIOGRAPHY- I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-10T | X-RAY FILM / IMAGEPROCESSING TECHNIQUES- I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-11T | CONTRAST SPECIAL RADIOGRAPHY-I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-12T | ULTRASOUND | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| PRACTICAL | | | | | | | | | | | | |
| RIT-09P | CLINICAL RADIOGRAPHY - I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-10P | X-RAY FILM / IMAGEPROCESSING TECHNIQUES- I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-11P | CONTRAST SPECIAL RADIOGRAPHY -I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |

Principal 
M.M. Institute of Medical Sciences
& Research, Mullana-Ambala

Generic Elective Course

| | | | | | | | | | | | | |
|--------------|---|----|---|----|-----|-----|-----|-----|-----|-----|--|-----|
| GEC-01 T | Pursuit of Inner Self Excellence (POIS) | 3 | - | 3 | 45 | - | 45 | | 100 | - | | 100 |
| | Organizational behaviour | | | | | | | | | | | |
| GEC-02 T | | 15 | 9 | 24 | 225 | 270 | 495 | 240 | 210 | 140 | | 590 |
| Total | | | | | | | | | | | | |


Principal
M.A. Institute of Medical Sciences
& Research, Mulliana-Ambala

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc in Radiography & Imaging Technology (Techniques)
Semester/Term.: 4

| S.No | S subjects | Credits/week | | | Hours/Semester | | | Written paper | Viva-voce | Core/Elective/ Pre-Requisite/ Co Requisite | TOTAL |
|-----------|--|--------------|---|---|----------------|-----|-------|------------------------|-----------|--|-------|
| | | L | P | C | L | T/P | Total | | | | |
| RIT-13T | CLINICAL RADIOGRAPHY- II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | 100 |
| RIT-14T | X-RAY FILM IMAGEPROCESSING TECHNIQUES – II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | 100 |
| RIT-15T | CONTRAST SPECIAL RADIOGRAPHY –II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | 100 |
| RIT-16T | DOPPLER ULTRASOUND AND MAMMOGRAPHY | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | 100 |
| PRACTICAL | | | | | | | | | | | |
| RIT-13P | CLINICAL RADIOGRAPHY – II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | 30 |
| RIT-14P | X-RAY FILM IMAGEPROCESSING TECHNIQUES - II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | 30 |
| RIT-15P | CONTRAST SPECIAL RADIOGRAPHY and | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | 30 |

Principal 
M.M. Deemed to be University of Medical Sciences
B-33, Sector-1, Gurgaon, Haryana

| MAMMOGRAPHY-II (LAB) | | | | | | | | | | | | |
|-------------------------------------|--------------------------------------|----|---|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ability Enhancement Elective Course | | | | | | | | | | | | |
| AEC-03T | Computer & Applications | 3 | - | 3 | 45 | - | 45 | 270 | 495 | 240 | 210 | 140 |
| AEC-04T | Biostatistics & research methodology | 3 | - | 3 | 45 | - | 45 | 270 | 495 | 240 | 210 | 140 |
| Total | | 15 | 9 | 24 | 225 | 270 | 495 | 240 | 210 | 140 | 590 | |

Principal
 MAF Institute of Medical Sciences
 & Research, Muliana-Ambata

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc in Radiography & Imaging Technology
(Techniques) Semester/Term.: 5

| S.No | Subjects | Credits/week | | | Hours/Semester | | | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|------------------|---|--------------|---|---|----------------|-----|-------|------------------------|-----|-----------|---|-------|
| | | L | P | C | L | T/P | Total | | | | | |
| THEORY | | | | | | | | | | | | |
| RIT-17T | COMPUTED TOMOGRAPHY- BASIC PHYSICS | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-18T | MAGNETIC RESONANCE IMAGING- BASIC PHYSICS | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-19T | ANGIOGRAPHY & INTERVENTIONAL RADIOLOGY -I | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| RIT-20 | NUCLEAR MEDICINE-- BASIC PHYSICS | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 |
| PRACTICAL | | | | | | | | | | | | |
| RIT-17P | COMPUTED TOMOGRAPHY -I (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |
| RIT-18P | MAGNETIC | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 |

Handwritten Signature
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M.M. Institute of Medical Sciences
& Hospital, Mullana-Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
Program: B.Sc. in Radiography & Imaging Technology
(Techniques) Semester/Term.: 6

| S.No | Subjects | Credits/week | | | | Hours/Semester | | | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/Co Requisite | TOTAL |
|------------------|--|--------------|---|---|----|----------------|-------|------------------------|---------------|-----|-----------|--|-------|
| | | L | P | C | L | T/P | Total | | | | | | |
| | | | | | | | | | | | | | |
| THEORY | | | | | | | | | | | | | |
| RIT-20T | COMPUTED TOMOGRAPHY - TECHNIQUES | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-21T | MAGNETIC RESONANCE IMAGING - TECHNIQUES | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-22T | ANGIOGRAPHY & INTERVENTIONAL RADIOLOGY -II | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| RIT-23T | NUCLEAR MEDICINE- TECHNIQUES | 3 | - | 3 | 45 | - | 45 | Part A-30 Part B-30 | 20 | 20 | Core | 100 | |
| PRACTICAL | | | | | | | | | | | | | |
| RIT-20P | COMPUTED TOMOGRAPHY - II (LAB) | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |
| RIT-21P | MAGNETIC RESONANCE | - | 3 | 3 | - | 90 | 90 | - | 10 | 20 | Core | 30 | |

Principal 

| | | | | | | | | | | | | | | | | | |
|---------|--|----|---|----|-----|-----|-----|-----|--|--|--|-----|-----|------|----|--|-----|
| | IMAGING - II (LAB) | | | | | | | | | | | | | | | | |
| RIT-22P | | | | | | | | | | | | | | | | | |
| | ANGIOGRAPHY & INTERVENTIONAL RADIOLOGY -II (LAB) | - | 3 | 3 | - | 90 | 90 | | | | | 10 | 20 | Core | 30 | | |
| | Total | 12 | 9 | 21 | 225 | 270 | 495 | 240 | | | | 110 | 140 | | | | 490 |

Grading:

The total of the internal evaluation marks and final University examination marks in each course will be converted to a letter grade on to confirm as per the following scheme as recommended by UGC:

| Letter Grade | Grade Points | Mark Range |
|-----------------------|--------------|--|
| O(Outstanding) | 10 | 91 – 100 |
| A+(Excellent) | 9 | 81 – 90 |
| A(Very good) | 8 | 71 – 80 |
| B+(Good) | 7 | 61 – 70 |
| B(Above average) | 6 | 56 – 60 |
| C(Average) | 5 | 50 – 55 |
| F(Fail)/RA (Reappear) | 0 | < 50 Failure due to insufficient marks in the course |
| Ab (Absent) | 0 | Failure due to non-appearance in examination |

A student obtaining Grade F/RA shall be considered failed and will be required to reappear in the examination.

Cumulative Grades and GradePoints

Principal

M.M. Institute of Medical Sciences
& Research, Multana-Ambala



| Letter Grade | Grade Point | CGPA |
|-------------------|-------------|--------------|
| O (Outstanding) | 10 | 9.01 - 10.00 |
| A+ (Excellent) | 9 | 8.01 - 9.00 |
| A (Very Good) | 8 | 7.01 - 8.00 |
| B (Good) | 7 | 6.00 - 7.00 |
| C (Above Average) | 6 | 5.01 - 6.00 |

SGPA: - indicates the performances of the student in the current semester and is computed as below:
 = Grade points earned in the current semester ÷ Total credits in the semester.

CGPA: - It indicates the performance of a student since his/her entry into the course including the Course including the current semester. CGPA is the weighted average of all the grades awarded to a student since his/her entry into this Deemed to be University upto and including the latest semester and computed as follows-

$$\text{CGPA} = \frac{\sum Ci Gi}{\sum Ci}$$

$$= \frac{\text{Total Grade points earned since his/her entry} \div \text{Total Credits}}$$

In order to compare the students of this Deemed to be University vis-à-vis other universities where percentage of pass marks are shown in the final result, the following conversion formula will be used for calculating the percentage of marks from CGPA:

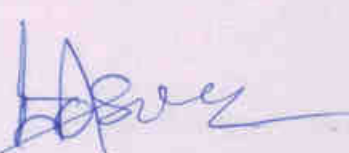
$$\text{Percentage of marks obtained by a student} = (9.5 \times \text{CGPA})$$


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M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-1

| S.No | Subjects | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | Total |
|------------------|--------------------------|---------------|-----|-----------|---|-------|
| THEORY | | | | | | |
| CVT-01T | HUMAN ANATOMY-I | 30 | 10 | 10 | Core | 50 |
| CVT-02T | HUMAN PHYSIOLOGY-I | 30 | 10 | 10 | Core | 50 |
| CVT-03T | BIOCHEMISTRY- I | 30 | 10 | 10 | Core | 50 |
| CVT-04T | PATHOLOGY- I | 30 | 10 | 10 | Core | 50 |
| CVT-05T | MICROBIOLOGY-I | 30 | 10 | 10 | Core | 50 |
| CVT-06T | Environmental Studies | 60 | | 40 | Co-Requisite | 100 |
| PRACTICAL | | | | | | |
| CVT-01P | HUMAN ANATOMY-I (LAB) | 40 | 10 | - | Core | 50 |
| CVT-02P | HUMAN PHYSIOLOGY-I (LAB) | 40 | 10 | - | Core | 50 |
| CVT-03P | BIOCHEMISTRY- I (LAB) | 40 | 10 | - | Core | 50 |
| CVT-04P | PATHOLOGY- I (LAB) | 40 | 10 | - | Core | 50 |
| CVT-05P | MICROBIOLOGY-I (LAB) | 40 | 10 | - | Core | 50 |

| Ability Enhancement Elective Course | | | | | | | | | | | |
|--|--------------------------------|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| AEC-01T | English & Communication Skills | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| AEC-02T | Computer Skill and Application | | | | | | | | | | |


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 M.M. Institute of Medical Sciences
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M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-2

| S.No | Subjects | Written paper | IA | Viva-voce | Core/Elective Pre-Requisite/Co Requisite | Total |
|------------------|---------------------------|---------------|----|-----------|--|-------|
| THEORY | | | | | | |
| CVT-06T | HUMAN ANATOMY-II | 30 | 10 | 10 | Core | 50 |
| CVT-07T | HUMAN PHYSIOLOGY-II | 30 | 10 | 10 | Core | 50 |
| CVT-08T | BIOCHEMISTRY- II | 30 | 10 | 10 | Core | 50 |
| CVT-09T | PATHOLOGY- II | 30 | 10 | 10 | Core | 50 |
| CVT-10T | MICROBIOLOGY-II | 30 | 10 | 10 | Core | 50 |
| PRACTICAL | | | | | | |
| CVT-06P | HUMAN ANATOMY-II (LAB) | 40 | 10 | - | Core | 50 |
| CVT-07P | HUMAN PHYSIOLOGY-II (LAB) | 40 | 10 | - | Core | 50 |
| CVT-08P | BIOCHEMISTRY- II (LAB) | 40 | 10 | - | Core | 50 |
| CVT-09P | PATHOLOGY- II (LAB) | 40 | 10 | - | Core | 50 |
| CVT-10P | MICROBIOLOGY-II (LAB) | 40 | 10 | - | Core | 50 |


| Skill Enhancement Elective Course | | | | | | | | | | | |
|--|------------------------------------|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| SEC-01T | Medical Bioethics | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| SEC-02T | Human rights & Professional Values | | | | | | | | | | |


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& Research, Mullanah-Ahmednagar

M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-3

| S.No | Subjects | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|------------------|--|---------------|-----|-----------|---|-------|
| THEORY | | | | | | |
| CVT-11T | Applied Pharmacology and Applied Pathology-I | 80 | 20 | - | Core | 100 |
| CVT-12T | Medicine relevant to Cardiac care technology-I | 80 | 20 | - | Core | 100 |
| CVT-13T | Introduction to cardiac care technology-I | 80 | 20 | - | Core | 100 |
| PRACTICAL | | | | | | |
| CVT-11P | Applied Pharmacology and Applied Pathology-I-P | 40 | 10 | - | Core | 50 |
| CVT-12P | Medicine relevant to Cardiac care technology-I-P | 40 | 10 | - | Core | 50 |
| CVT-13P | Introduction to cardiac care technology-I-P | 40 | 10 | - | Core | 50 |

| Generic Elective Course | | | | | | | | | | | |
|--------------------------------|---|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| GEC-01T | Pursuit of Inner Self Excellence (POIS) | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| GEC-02T | Organizational behaviour | | | | | | | | | | |


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M.M. Institute of Medical Sciences & Research, Mullana-Ambala

M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-4

| S.No | Subjects | Written paper | I.A | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|------------------|---|---------------|-----|-----------|---|-------|
| THEORY | | | | | | |
| CVT-14T | Applied Pharmacology and Applied Pathology-II | 80 | 20 | - | Core | 100 |
| CVT-15T | Medicine relevant to Cardiac care technology-II | 80 | 20 | - | Core | 100 |
| CVT-16T | Introduction to cardiac care technology-II | 80 | 20 | - | Core | 100 |
| PRACTICAL | | | | | | |
| CVT-14P | Applied Pharmacology and Applied Pathology-II-P | 40 | 10 | - | Core | 50 |
| CVT-15P | Medicine relevant to Cardiac care technology-II-P | 40 | 10 | - | Core | 50 |
| CVT-16P | Introduction to cardiac care technology-II-P | 40 | 10 | - | Core | 50 |

| Ability Enhancement Elective Course | | | | | | | | | | | |
|--|--------------------------------------|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| AEC-03T | Data Entry and Processing | | | | | | | | | | |
| AEC-04T | Biostatistics & research methodology | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |


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M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-5

| S.No | Subjects | Written paper | IA | Viva-voce | Core/Elective/Pre-Requisite/Co Requisite | TOTAL |
|------------------|--------------------------------------|---------------|----|-----------|--|-------|
| THEORY | | | | | | |
| CVT-17T | Cardiac care technology-Clinical-I | 40 | 10 | - | Core | 50 |
| CVT-18T | Cardiac care technology-Applied-I | 40 | 10 | - | Core | 50 |
| CVT-19T | Cardiac care technology-Advanced-I | 40 | 10 | - | Core | 50 |
| PRACTICAL | | | | | | |
| CVT-17P | Cardiac care technology-Clinical-I-P | 80 | 20 | - | Core | 100 |
| CVT-18P | Cardiac care technology-Applied-I-P | 80 | 20 | - | Core | 100 |
| CVT-19P | Cardiac care technology-Advanced-I-P | 80 | 20 | - | Core | 100 |

| Core Elective Course | | | | | | | | | | | |
|-----------------------------|-----------------------------------|--------------|---|---|----------------|-----|-------|-----|----|--------|---------------|
| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
| | | L | P | C | L | T/P | Total | | | | |
| CEC-01T | Basics of Clinical Skill learning | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| CEC-02T | Hospital Operation Management | | | | | | | | | | |

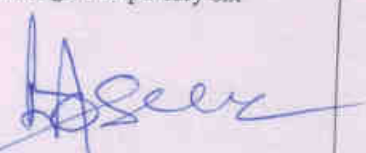

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M.M. (Deemed to be) University
B.Sc. Cardiovascular Technology
Semester-6

| S.No | Subjects | Written paper | IA | Viva-voce | Core/Elective Pre-Requisite/ Co Requisite | TOTAL |
|------------------|--|---------------|----|-----------|---|-------|
| THEORY | | | | | | |
| CVT-20T | Cardiac care technology-Clinical.-II | 40 | 10 | - | Core | 50 |
| CVT-21T | Cardiac care technology-Applied-II | 40 | 10 | - | Core | 50 |
| CVT-22T | Cardiac care technology-Advanced-II | 40 | 10 | - | Core | 50 |
| PRACTICAL | | | | | | |
| CVT-20P | Cardiac care technology-Clinical.-II-P | 80 | 20 | - | Core | 100 |
| CVT-21P | Cardiac care technology-Applied-II-P | 80 | 20 | - | Core | 100 |
| CVT-22P | Cardiac care technology-Advanced-II-P | 80 | 20 | - | Core | 100 |

INTERNSHIP:

Every candidate will be required after passing the B.Sc. CVT final year Examination to undergo compulsory six month internship to the satisfaction of the university in Cardiology Department.


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Grading:

The total of the internal evaluation marks and final University examination marks in each course will be converted to a letter grade on to confirm as per the following scheme as recommended by UGC:

| Letter Grade | Grade Points | Mark Range |
|-----------------------|--------------|--|
| O(Outstanding) | 10 | 91 – 100 |
| A+(Excellent) | 9 | 81 – 90 |
| A(Very good) | 8 | 71 – 80 |
| B+(Good) | 7 | 61 – 70 |
| B(Above average) | 6 | 56 – 60 |
| C(Average) | 5 | 50 – 55 |
| F(Fail)/RA (Reappear) | 0 | < 50 Failure due to insufficient marks in the course |
| Ab (Absent) | 0 | Failure due to non-appearance in examination |

A student obtaining Grade F/RA shall be considered failed and will be required to reappear in the examination.

Cumulative Grades and GradePoints

| Letter Grade | Grade Point | CGPA |
|-------------------|-------------|--------------|
| O (Outstanding) | 10 | 9.01 - 10.00 |
| A+ (Excellent) | 9 | 8.01 – 9.00 |
| A (Very Good) | 8 | 7.01 – 8.00 |
| B (Good) | 7 | 6.00 - 7.00 |
| C (Above Average) | 6 | 5.01 - 6.00 |

SGPA: - indicates the performances of the student in the current semester and is computed as below:

= Grade points earned in the current semester ÷ Total credits in the semester.

CGPA: - It indicates the performance of a student since his/her entry into the course including the


Course including the current semester. CGPA is the weighted average of all the grades awarded to a student since his/her entry into this Deemed to be University upto and including the latest semester and computed as follows-

$$\text{CGPA} = \frac{\sum C_i G_i}{\sum C_i}$$

= Total Grade points earned since his/her entry ÷ Total Credits

In order to compare the students of this Deemed to be University vis-à-vis other universities where percentage of pass marks are shown in the final result, the following conversion formula will be used for calculating the percentage of marks from CGPA:

Percentage of marks obtained by a student = (9.5 x CGPA)

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M M Institute of Medical Sciences
& Research, Multana-Amroha

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
 Semester/Term.: I

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | marks | | | | | |
|---|--------------------------|-------------|-----------|-------|---------------|-----------|-------------|-------|-----------|-----|---------------|----------------------------|-----|
| | | Theory | practical | Total | Theory | practical | Lab posting | Total | Viva-voce | I.A | Semester exam | TOTAL | |
| THEORY | | | | | | | | | | | | | |
| DTT-01T | HUMAN ANATOMY-I | | 3 | 50 | | - | -50 | | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT -02T | HUMAN PHYSIOLOGY-I | | 3 | 50 | | - | -50 | | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT-03T | BIOCHEMISTRY | | 4 | 50 | | - | -50 | | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| PRACTICAL | | | | | | | | | | | | | |
| DTT -01P | HUMAN ANATOMY-I (LAB) | 4 | 4 | | -75 | 75 | 150 | | 20 | 80 | | | 100 |
| DTT -02P | HUMAN PHYSIOLOGY-I (LAB) | 4 | 4 | | -75 | 75 | 150 | | 20 | 80 | | | 100 |
| DTT-03P | BIOCHEMISTRY(LAB) | 4 | 4 | | -75 | 75 | 150 | | 20 | 80 | | | 100 |
| ABILITY ENHANCEMENT ELECTICECOURSE | | | | | | | | | | | | | |
| AEC-01L | Environmental studies | 3 | - | 80 | | - | 80 | | | | | 40 of Theory & Practical | 100 |
| AEC-02 L | Data entry/ processing | | | 10 | 10 | | 20 | | | | | | |


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 & Institute, Mullana - Ambala

M.M. (Deemed to be University) MULLANA - AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
 Semester/Term.:II

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | marks | | | | |
|---|---------------------------|-------------|-----------|-------|---------------|-----------|-------------|-------|-----------|-----|----------------------------|-------|
| | | Theory | practical | Total | Theory | practical | Lab posting | Total | Viva-voce | I.A | Semester exam | TOTAL |
| THEORY | | | | | | | | | | | | |
| DTT-04T | HUMAN ANATOMY-II | 2 | - | 2 | 50 | - | - | 50 | 20 | 20 | Part A - 30 Part B - 30 | 100 |
| DTT-05T | HUMAN PHYSIOLOGY-II | 2 | - | 2 | 50 | - | - | 50 | 20 | 20 | Part A - 30 Part B - 30 | 100 |
| DTT-06T | PATHOLOGY | 4 | - | 4 | 50 | - | - | 50 | 20 | 20 | Part A - 30 Part B - 30 | 100 |
| DTT-07T | MICROBIOLOGY | 3 | - | 3 | 50 | - | - | 50 | 20 | 20 | Part A - 30 Part B - 30 | 100 |
| PRACTICAL | | | | | | | | | | | | |
| DTT-04P | HUMAN ANATOMY-II (LAB) | -4 | 4 | -4 | -75 | 75 | 150 | 150 | - | 20 | 80 | 100 |
| DTT-05P | HUMAN PHYSIOLOGY-II (LAB) | -2 | 2 | -2 | -75 | 75 | 150 | 150 | - | 20 | 80 | 100 |
| DTT-06P | PATHOLOGY (LAB) | -4 | 4 | -4 | -75 | 75 | 150 | 150 | - | 20 | 80 | 100 |
| DTT-07P | MICROBIOLOGY (LAB) | -4 | 4 | -4 | -75 | 75 | 150 | 150 | - | 20 | 80 | 100 |
| SKILL ENHANCEMENT ELECTICECOURSE | | | | | | | | | | | | |
| SEC-01 L | Instrument maintenance | | | | 10 | 10 | - | 20 | | | | |
| SEC-02 L | Chemical Hazards | 3 | - | 3 | 10 | 10 | - | 20 | | | | - |

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 & Research, Mullana-Ambala

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
 Semester/Term.:III

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | marks | | | | | |
|------------------|---|-------------|-----------|-------------|---------------|--------|-----------|-------------|-------|-----------|-----|----------------------------|-------|
| | | Theory | practical | Lab posting | Total | Theory | practical | Lab posting | Total | Viva-voce | I.A | Semester exam | TOTAL |
| THEORY | | | | | | | | | | | | | |
| DTT-01T | Applied Pathology & Microbiology related to Dialysis Therapy Technology-I | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | 20 | Part A – 30 Part B – 30 | 100 |
| DTT -02T | General Pharmacology-I | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | 20 | Part A – 30 Part B – 30 | 100 |
| DTT-03T | Pharmacology related to dialysis technology-I | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | 20 | Part A – 30 Part B – 30 | 100 |
| DTT-04T | Concept of renal Disease, dialysis & nutrition-I | 3 | - | - | 3 | 60 | - | -60 | 20 | 20 | 20 | Part A – 30 Part B – 30 | 100 |
| PRACTICAL | | | | | | | | | | | | | |
| DTT -01P | Applied Pathology & Microbiology related to Dialysis Therapy Technology-I | 4 | 4 | - | 4 | 100 | 100 | 200 | - | - | 20 | 80 | 100 |
| DTT -02P | General Pharmacology-I | 4 | 4 | - | 4 | 100 | 100 | 200 | - | - | 20 | 80 | 100 |
| DTT-03P | Pharmacology related to dialysis technology-I | 4 | 4 | - | 4 | 80 | 100 | 180 | - | - | 20 | 80 | 100 |
| DTT -04P | Concept of renal Disease, dialysis & nutrition-I | 4 | 4 | - | 4 | - | 90 | 90 | - | - | 20 | 80 | 100 |
| DTT -05P | B.Sc. DTT Directed Clinical Education – Part-I (Practical) | - | 24 | 8 | 8 | - | 150 | 150 | - | - | 20 | 80 | 100 |

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M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
Semester/Term.: IV

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | marks | | | | | |
|------------------|--|-------------|-----------|-------------|---------------|--------|-----------|-------------|-------|-----------|-----|----------------------------|-------|
| | | Theory | practical | Lab posting | Total | Theory | practical | Lab posting | Total | Viva-voce | I.A | Semester exam | TOTAL |
| THEORY | | | | | | | | | | | | | |
| DTT-01T | Applied Pathology & Microbiology related to Dialysis Therapy Technology-II | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT -02T | General Pharmacology-II | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT-03T | Pharmacology related to dialysis technology-II | 3 | - | - | 3 | 50 | - | -50 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT-04T | Concept of renal Disease, dialysis & nutrition-II | 3 | - | - | 3 | 60 | - | -60 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| PRACTICAL | | | | | | | | | | | | | |
| DTT -01P | Applied Pathology & Microbiology related to Dialysis Therapy Technology-II | 4 | - | - | 4 | 100 | 100 | 200 | - | - | 20 | 80 | 100 |
| DTT -02P | General Pharmacology-II | 4 | - | - | 4 | 100 | 100 | 200 | - | - | 20 | 80 | 100 |
| DTT-03P | Pharmacology related to dialysis technology-II | 4 | - | - | 4 | 80 | 100 | 180 | - | - | 20 | 80 | 100 |
| DTT -04P | Concept of renal Disease, dialysis & nutrition-II | 4 | - | - | 4 | - | 90 | 90 | - | - | 20 | 80 | 100 |
| DTT -05P | B.Sc. DTT Directed Clinical Education – Part-II (Practical) | - | 30 | - | 10 | - | 150 | 150 | - | - | 20 | 80 | 100 |

M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
 Semester/Term.: V

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | marks | | | | | |
|------------------|--|-------------|-----------|-------------|---------------|-----------|-------------|-------|-----------|-----|---------------|----------------------------|-----|
| | | Theory | practical | Lab posting | Theory | practical | Lab posting | Total | Viva-voce | L.A | Semester exam | TOTAL | |
| THEORY | | | | | | | | | | | | | |
| DTT-01T | Applied Dialysis Therapy Technology-Part-I | 4 | - | - | 4 | 50 | - | -50 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| DTT -02T | Applied Dialysis Therapy Technology-Part-II | 4 | - | - | 4 | 50 | - | -50 | 20 | 20 | | Part A – 30 Part B – 30 | 100 |
| PRACTICAL | | | | | | | | | | | | | |
| DTT -01P | Applied Dialysis Therapy Technology-Part-I | 4 | - | - | 4 | -100 | 100 | 200 | - | 20 | 80 | | 100 |
| DTT -02P | Applied Dialysis Therapy Technology-Part-II | 4 | - | - | 4 | -100 | 100 | 200 | - | 20 | 80 | | 100 |
| DTT-03P | B.Sc. DTT Directed Clinical Education – Part-III (Practical) | - | 24 | - | 8 | - | 100 | 100 | - | 20 | 80 | | 100 |


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M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
Semester/Term.: VI

| S.No | Subjects | Credit/week | | | Hrs/semesters | | | Marks | | | | | |
|------------------|---|-------------|-----------|-------------|---------------|-----------|-------------|-------|-----------|-----|---------------|----------------------------|-----|
| | | Theory | practical | Lab posting | Theory | practical | Lab posting | Total | Viva-voce | I.A | Semester exam | TOTAL | |
| THEORY | | | | | | | | | | | | | |
| DTT-01T | Applied Dialysis Therapy Technology-Part-III | 4 | - | - | 4 | 50 | - | - | 50 | 20 | 20 | Part A – 30 Part B – 30 | 100 |
| PRACTICAL | | | | | | | | | | | | | |
| DTT -01P | Applied Dialysis Therapy Technology-Part- III | 4 | - | - | 4 | - | 100 | 100 | 200 | - | 20 | 80 | 100 |
| DTT -02P | B.Sc. DTT Directed Clinical Education – Part-IV (Practical) | 4 | - | - | 4 | - | 100 | 100 | 100 | - | 20 | 80 | 100 |
| DTT-03P | B.Sc. DTT Directed Clinical Education – Part-V (Practical) | - | - | - | 10 | - | 100 | 100 | 100 | - | 20 | 80 | 100 |


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M.M. (Deemed to be University) MULLANA – AMBALA
Program: B.Sc. (DTT) Dialysis Therapy Technology Course
Semester/Term.: VII & VIII

OUTLINE OF COURSE CURRICULUM

B.Sc. Medical Dialysis Technology

Semester VII & Semester VIII

| Code No. | Core Subjects | Credits/Week | | | | | Hrs/Semester | | | | | Marks | | |
|----------|-----------------------|--------------|--------------|---------------|---------------------------|-------------------|--------------|--------------|---------------|---------------------------|-------------|---------------------|---------------|----------|
| | | Lecture (L) | Tutorial (T) | Practical (P) | Clinical Posting/Rotation | Total Credits (C) | Lecture (L) | Tutorial (T) | Practical (P) | Clinical Posting/Rotation | Total hrs. | Internal Assessment | Semester Exam | Total |
| | Sem VII (Internship) | - | - | - | 720 | 16 | - | - | - | 720 | 720 | - | - | - |
| | Sem VIII (Internship) | - | - | - | 720 | 16 | - | - | - | 720 | 720 | - | - | - |
| | Total | 0 | 0 | 0 | 1440 | 32 | 0 | 0 | 0 | 1440 | 1440 | 0 | 0 | 0 |

Grading:

The total of the internal evaluation marks and final University examination marks in each course will be converted to a letter grade on to confirm as per the following scheme as recommended by UGC:

| Letter Grade | Grade Points | Mark Range |
|-----------------------|--------------|--|
| O(Outstanding) | 10 | 91 – 100 |
| A+(Excellent) | 9 | 81 – 90 |
| A(Very good) | 8 | 71 – 80 |
| B+(Good) | 7 | 61 – 70 |
| B(Above average) | 6 | 56 – 60 |
| C(Average) | 5 | 50 – 55 |
| F(Fail)/RA (Reappear) | 0 | < 50 Failure due to insufficient marks in the course |
| Ab (Absent) | 0 | Failure due to non-appearance in examination |

A student obtaining Grade F/RA shall be considered failed and will be required to reappear in the examination.

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Cumulative Grades and GradePoints

| Letter Grade | Grade Point | CGPA |
|-------------------|-------------|--------------|
| O (Outstanding) | 10 | 9.01 - 10.00 |
| A+ (Excellent) | 9 | 8.01 - 9.00 |
| A (Very Good) | 8 | 7.01 - 8.00 |
| B (Good) | 7 | 6.00 - 7.00 |
| C (Above Average) | 6 | 5.01 - 6.00 |

SGPA: - indicates the performances of the student in the current semester and is computed as below:

$$= \text{Grade points earned in the current semester} \div \text{Total credits in the semester.}$$

CGPA: - It indicates the performance of a student since his/her entry into the course including the Course including the current semester. CGPA is the weighted average of all the grades awarded to a student since his/her entry into this Deemed to be University upto and including the latest semester and computed as follows-

$$\text{CGPA} = \frac{\sum C_i G_i}{\sum C_i}$$

$$= \text{Total Grade points earned since his/her entry} \div \text{Total Credits}$$

In order to compare the students of this Deemed to be University vis-à-vis other universities where percentage of pass marks are shown in the final result, the following conversion formula will be used for calculating the percentage of marks from CGPA:

$$\text{Percentage of marks obtained by a student} = (9.5 \times \text{CGPA})$$


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**SCHEME OF EXAMINATION YEAR MASTER OF OPTOMETRY
FIRST YEAR**

The candidate shall appear for the following theory examinations.

1. Advanced Contact Lens Studies -I(Paper-I)
2. Low Vision and Rehabilitation(Paper-II)
3. Paediatric Optometry(Paper-III)
4. Occupational Optometry & Public health Optometry(Paper-IV)

THEORY

| S.N | Subjects | Theory paper | Exam Hrs | Maximum Marks | | |
|-----|-----------|--------------|----------|---------------|----|-------|
| | | | | Paper | IA | Total |
| 1 | Paper-I | T - 1 | 3 | 80 | 20 | 100 |
| 2 | Paper-II | T - 2 | 3 | 80 | 20 | 100 |
| 3 | Paper-III | T - 3 | 3 | 80 | 20 | 100 |
| 4 | Paper-IV | T - 4 | 3 | 80 | 20 | 100 |

Practical

| S.N | Subjects | Practical | Maximum Marks | | |
|-----|--|-----------|---------------|----|-------|
| | | | Paper | IA | Total |
| 1 | Advanced Contact Lens Studies-I Practical | P - 1 | 40 | 10 | 50 |
| 2 | Low Vision and Rehabilitation Practical | P - 2 | 40 | 10 | 50 |
| 3 | Pediatric Optometry Practical | P - 3 | 40 | 10 | 50 |
| 4 | Occupational and Public Health Optometry | P - 4 | 40 | 10 | 50 |


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SCHEME OF EXAMINATION

MASTER OF OPTOMETRY (SECOND YEAR)

The candidates shall appear for the following theory examinations

1. Advanced Contact Lens Studies II (Paper-I)
2. Ocular Diseases & Therapeutics (Paper-II)
3. Clinical Imaging (Paper-III)

THEORY

| S.N | Subjects | Theory paper | Exam Hrs | Maximum Marks | | |
|-----|-----------|--------------|----------|---------------|----|-------|
| | | | | Paper | IA | Total |
| 1 | Paper-I | T - 1 | 3 | 80 | 20 | 100 |
| 2 | Paper-II | T - 2 | 3 | 80 | 20 | 100 |
| 3 | Paper-III | T - 3 | 3 | 80 | 20 | 100 |

Practical

| S.N | Subjects | Practical | Maximum Marks | | |
|-----|--|-----------|---------------|----|-------|
| | | | Paper | IA | Total |
| 1 | Advanced Contact Lens Studies-II Practical | P - 1 | 40 | 10 | 50 |
| 2 | Ocular Disease and therapeutics Practical | P - 2 | 40 | 10 | 50 |
| 3 | Clinical Imaging | P - 3 | 40 | 10 | 50 |
| 4 | Dissertation and viva | P - 4 | 50 | | |

B.Sc. Operation Theater & Anesthesia Technology

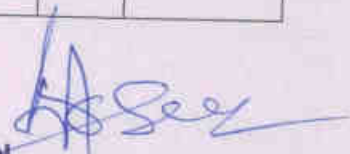
SEMESTER-I

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|--|--------------------------------|--------------|-----------|-----------|----------------|------------|------------|------------|------------|-----------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-01T | Human Anatomy Part I | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-02T | Human Physiology Part I | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-03T | General Biochemistry | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-04T | General Microbiology | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-01P | Human Anatomy Part I | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-02P | Human Physiology Part I | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-03P | General Biochemistry | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-04P | General Microbiology | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| Ability Enhancement Elective Course | | | | | | | | | | | |
| AEC-01T | English & Communication Skills | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| AEC-02T | Computer application and Skill | | | | | | | | | | |
| TOTAL | | 15 | 12 | 27 | 225 | 360 | 585 | 180 | 240 | 80 | 500 |


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B.Sc. Operation Theater & Anesthesia Technology
SEMESTER-II

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr/VV | TOTAL (IA+UE) |
|--|------------------------------------|--------------|----------|-----------|----------------|------------|------------|------------|------------|-----------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-05T | Human Anatomy Part II | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-06T | Human Physiology Part II | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-7T | Basic pathology & Hematology | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-08T | Clinical Pharmacology | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-04P | Human Anatomy Part II | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-05P | Human Physiology Part II | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-07P | Basic pathology & Hematology | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| Skill Enhancement Elective Course | | | | | | | | | | | |
| SEC-01T | Medical Bioethics | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| SEC-02T | Human rights & Professional Values | | | | | | | | | | |
| TOTAL | | 15 | 9 | 24 | 225 | 270 | 495 | 180 | 260 | 60 | 500 |


Principal
MAH Institute of Medical Sciences
& Research, Muliana-Rambata

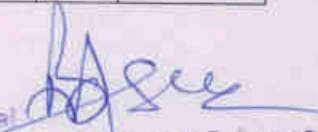
B.Sc. Operation Theater & Anesthesia Technology
Semester III

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|--------------------------------|--|--------------|----------|-----------|----------------|------------|------------|------------|------------|-----------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-09T | Introduction to operation theater technology | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-10T | Introduction to Anesthesia technology | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-11T | Principle of Anesthesia | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-12T | ATOT Directed Clinical Education – I | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-09P | Introduction to operation theater technology | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-10P | Introduction to Anesthesia technology | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| Generic Elective Course | | | | | | | | | | | |
| GEC-01 T | Pursuit of Inner Self Excellence (POIS) | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| GEC-02 T | Organizational behaviour | | | | | | | | | | |
| TOTAL | | 15 | 6 | 21 | 225 | 180 | 405 | 180 | 280 | 40 | 500 |

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B.Sc. Operation Theater & Anesthesia Technology
Semester –IV

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|--|---|--------------|----------|-----------|----------------|-----------|------------|------------|------------|-----------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-13T | Basic Technique of Anesthesia | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-14T | Medical Diseases Influencing choice of Anesthesia | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-15T | Medicine relevant to OT technology | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-16T | ATOT directed clinical education II | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-13P | Basic Technique of Anesthesia | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| Ability Enhancement Elective Course | | | | | | | | | | | |
| AEC-03T | Data Entry and Processing | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| AEC-04T | Biostatistics & research methodology | | | | | | | | | | |
| TOTAL | | 15 | 3 | 18 | 225 | 90 | 315 | 180 | 300 | 20 | 500 |


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B.Sc. Operation Theater & Anesthesia Technology
Semester -V

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr/VV | TOTAL (IA+UE) |
|-----------------------------|-------------------------------------|--------------|----------|-----------|----------------|------------|------------|------------|------------|-----------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-17T | Basics of surgical procedures | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-18T | CSSD procedures | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-19T | Advance Anesthetic techniques | 3 | - | 3 | 45 | - | 45 | 10 | 60 | - | 70 |
| BOTT-20T | OTT Directed Clinical Education-III | 3 | - | 3 | 45 | - | 45 | 20 | 80 | - | 100 |
| BOTT-17P | Basics of surgical procedures | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| BOTT-19P | Advance Anesthetic techniques | - | 3 | 3 | - | 90 | 90 | 10 | - | 20 | 30 |
| Core Elective Course | | | | | | | | | | | |
| CEC-01T | Basics of Clinical Skill learning | 3 | - | 3 | 45 | - | 45 | 100 | | | 100 |
| CEC-02T | Hospital Operation Management | | | | | | | | | | |
| TOTAL | | 15 | 6 | 21 | 225 | 180 | 405 | 180 | 280 | 40 | 500 |


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 & Research, Mulana-Ambala

B.Sc. Operation Theater & Anesthesia Technology
Semester-VI

| Course Code | Subject Name | Credits/Week | | | Hours/Semester | | | IA | UE | Pr./VV | TOTAL (IA+UE) |
|-------------|--|--------------|---|----|----------------|-----|-------|----|-----|--------|---------------|
| | | L | P | C | L | T/P | Total | | | | |
| BOTT-21T | Basic Intensive care | 5 | - | 5 | 75 | - | 75 | 20 | 80 | - | 100 |
| BOTT-22T | Specialized Surgery and Anesthesia | 5 | - | 5 | 75 | - | 75 | 20 | 80 | - | 100 |
| BOTT-23T | Electronics and technology in surgery and anesthesia | 5 | - | 5 | 75 | - | 75 | 20 | 80 | - | 100 |
| BOTT-24T | ATOT Directed Clinical Education-IV | 5 | - | 5 | 75 | - | 75 | 20 | 80 | - | 100 |
| TOTAL | | 20 | | 20 | 300 | | 300 | 80 | 320 | | 400 |


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Scheme of Examination

B.Sc. in Audiology and Speech Language Pathology

Distribution of Marks and Scheme of Examination:

| 1st Semester | | | | | | |
|--------------------------------|--|-----------|----|--------|------|-------|
| No. | Title of the paper | PRACTICAL | | THEORY | | Total |
| | | EXAM | IA | IA | Exam | |
| B 1.1 | Communication Sciences | -- | | 25 | 75 | 100 |
| B 1.2 | Anatomy and Physiology of Speech and Hearing | -- | | 25 | 75 | 100 |
| B 1.3 | Clinical Psychology | -- | | 25 | 75 | 100 |
| B 1.4 | Linguistics and Phonetics | -- | | 25 | 75 | 100 |
| B 1.5 | Electronics and Acoustics | -- | | 25 | 75 | 100 |
| B 1.6 | Research Methods and Statistics | -- | | 25 | 75 | 100 |
| | Total | | | 150 | 450 | 600 |
| 2nd Semester | | | | | | |
| No. | Title of the paper | PRACTICAL | | THEORY | | TOTAL |
| | | EXAM | IA | IA | Exam | Total |
| B 2.1 | Neurology | -- | | 25 | 75 | 100 |
| B 2.2 | Otolaryngology | -- | | 25 | 75 | 100 |
| B 2.3 | Speech-Language Pathology | -- | | 25 | 75 | 100 |
| B 2.4 | Audiology | -- | | 25 | 75 | 100 |
| B 2.5 | Practicals (Speech-language Pathology) | -- | | 25 | 75 | 100 |
| B 2.6 | Practicals (Audiology) | -- | | 25 | 75 | 100 |
| | EVS | | | 40 | 60 | 100 |
| | Total | | | 190 | 510 | 700 |
| 3rd Semester | | | | | | |
| No. | Title of the paper | PRACTICAL | | THEORY | | TOTAL |
| | | EXAM | IA | IA | Exam | Total |
| B 3.1 | Voice and its Disorders | 20 | 5 | 15 | 60 | 100 |
| B 3.2 | Speech Sound Disorders | 20 | 5 | 15 | 60 | 100 |
| B 3.3 | Diagnostic Audiology - Behavioral Tests | 20 | 5 | 15 | 60 | 100 |
| B 3.4 | Amplification Devices | 20 | 5 | 15 | 60 | 100 |
| B 3.5 | Clinicals in Speech-Language Pathology | -- | | 20 | 80 | 100 |
| B 3.6 | Clinicals in Audiology | -- | | 20 | 80 | 100 |
| | Total | 80 | 20 | 100 | 400 | 600 |
| 4th Semester | | | | | | |
| No. | Title of the paper | Practical | | IA | Exam | Total |
| B 4.1 | Motor Speech Disorders in Children | 20 | 5 | 15 | 60 | 100 |

| | | | | | | |
|--|--|-----------|----|-----|------|-------|
| B 4.2 | Child Language Disorders | 20 | 5 | 15 | 60 | 100 |
| B 4.3 | Diagnostic Audiology - Physiological Tests | 20 | 5 | 15 | 60 | 100 |
| B 4.4 | Implantable Hearing Devices | 20 | 5 | 15 | 60 | 100 |
| B 4.5 | Clinicals in Speech-Language Pathology | -- | | 20 | 80 | 100 |
| B 4.6 | Clinicals in Audiology | -- | | 20 | 80 | 100 |
| | Total | 80 | 20 | 100 | 400 | 600 |
| 5th Semester | | | | | | |
| No. | Title of the paper | Practical | | IA | Exam | Total |
| B 5.1 | Structural Anomalies & Speech Disorders | 20 | 5 | 15 | 60 | 100 |
| B 5.2 | Fluency and its Disorders | 20 | 5 | 15 | 60 | 100 |
| B 5.3 | Pediatric Audiology | 20 | 5 | 15 | 60 | 100 |
| B 5.4 | Aural Rehabilitation in Children | 20 | 5 | 15 | 60 | 100 |
| B 5.5 | Clinicals in Speech-Language Pathology | -- | | 20 | 80 | 100 |
| B 5.6 | Clinicals in Audiology | -- | | 20 | 80 | 100 |
| | Total | 80 | 20 | 100 | 400 | 600 |
| 6th Semester | | | | | | |
| No. | Title of the paper | Practical | | IA | Exam | Total |
| B 6.1 | Motor Speech Disorders in Adults | 20 | 5 | 15 | 60 | 100 |
| B 6.2 | Language Disorders in Adults | 20 | 5 | 15 | 60 | 100 |
| B 6.3 | Aural Rehabilitation in Adults | 20 | 5 | 15 | 60 | 100 |
| B 6.4 | Audiology in Practice | 20 | 5 | 15 | 60 | 100 |
| B 6.5 | Clinicals in Speech-Language Pathology | -- | | 20 | 80 | 100 |
| B 6.6 | Clinicals in Audiology | -- | | 20 | 80 | 100 |
| | Total | 80 | 20 | 100 | 400 | 600 |
| 7th & 8th Semester (internship) | | | | | | |
| B 7.1 | Clinicals in Speech-Language Pathology | -- | | -- | 100 | 100 |
| B 7.2 | Clinicals in Audiology | -- | | -- | 100 | 100 |
| | Total | | | | | 200 |
| Grand Total (1 st Sem to 8 th Sem) | | 320 | 80 | 740 | 2760 | 3900 |

Diploma in Clinical Medical Assistant(DCMA)

STUDY AND EVALUATION SCHEME:

FIRST YEAR

| Sr. No. | Subject | STUDY SCHEME | | EVALUATION SCHEME | | | | | | Total Marks |
|------------------------------|----------------------------|--------------|---|---------------------|------------|-----------------------------------|------|------------|------|-------------|
| | | | | Internal Assessment | | External Assessment (Examination) | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | |
| | | | | Max. Marks | Max. Marks | Max. Marks | Hrs. | Max. Marks | Hrs. | |
| Hrs/week | | | | | | | | | | |
| L | P | | | | | | | | | |
| 1 | Communication Skills - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 2 | Basic Chemistry - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 3 | Organic Chemistry - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 4 | Anatomy and Physiology - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 5 | Clinical Microbiology - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 6 | Haematology - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 7 | Clinical Biochemistry - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| # Student Centred Activities | | - | 4 | - | - | - | - | - | - | - |
| Total | | - | - | 175 | 175 | 700 | - | 350 | - | 1400 |


SECOND YEAR

| Sr. No | Subject | STUDY SCHEME | | EVALUATION SCHEME | | | | | | Total Marks |
|----------|----------------------------------|--------------|---|---------------------|------------|-----------------------------------|-----|------------|-----|-------------|
| | | | | Internal Assessment | | External Assessment (Examination) | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | |
| | | | | Max. Marks | Max. Marks | Max. Marks | Hrs | Max. Marks | Hrs | |
| Hrs/week | | | | | | | | | | |
| L | P | | | | | | | | | |
| 1 | Medicine | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 2 | Pharmacology | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 3 | Surgery | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 4 | Anaesthesiology | 4 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 5 | Basics of Information Technology | - | 4 | - | 50 | - | - | 100 | 3 | 150 |
| 6 | Pediatrics & Geriatrics | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 7 | Employability Skills - II | - | 2 | - | 25 | - | - | 50 | 3 | 75 |
| 8 | Clinical Microbiology | 4 | - | 50 | - | 100 | 3 | - | - | 150 |

| | | | | | | | | | | |
|--|-------------------------|---|---|------------|------------|------------|---|------------|---|-------------|
| 9 | Environmental Education | 2 | - | 25 | - | 100 | 3 | | | 125 |
| # Student Centered Activities including Entrepreneurial Awareness Camp | | - | 6 | - | - | - | - | - | - | - |
| Total | | - | - | 200 | 200 | 700 | - | 400 | - | 1500 |

THIRD YEAR

| Sr. No | Subject | STUDY SCHEME | | EVALUATION SCHEME | | | | | | Total Marks |
|--------------|------------------------------|---------------|---|---------------------|------------|-----------------------------------|-----|------------|-----|-------------|
| | | | | Internal Assessment | | External Assessment (Examination) | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | |
| | | Hrs/week L | P | Max. Marks | Max. Marks | Max. Marks | Hrs | Max. Marks | Hrs | |
| 1 | Cardiology & Cardiac Surgery | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 2 | Neurology | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 3 | Nephrology | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 4 | Pulmunology | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 5 | Gastroenterology | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 6 | Orthopedics | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| Total | | - | - | 150 | 150 | 600 | - | 300 | - | 1200 |

Principal 
M.M.Institute of Medical Sciences
& Research, Mullana-Ambala

Diploma Programme in Medical Laboratory Technology (DMLT)

STUDY AND EVALUATION SCHEME:

FIRST YEAR

| Sr. No. | Subject | STUDY SCHEME | | EVALUATION SCHEME | | | | | | Total Marks |
|------------------------------|----------------------------|--------------|---|---------------------|------------|-----------------------------------|------|------------|------|-------------|
| | | | | Internal Assessment | | External Assessment (Examination) | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | |
| | | | | Max. Marks | Max. Marks | Max. Marks | Hrs. | Max. Marks | Hrs. | |
| Hrs/week | | | | | | | | | | |
| L | P | | | | | | | | | |
| 1 | Communication Skills - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 2 | Basic Chemistry - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 3 | Organic Chemistry - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 4 | Anatomy and Physiology - I | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 5 | Clinical Microbiology - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 6 | Haematology - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 7 | Clinical Biochemistry - I | 3 | 4 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| # Student Centred Activities | | - | 4 | - | - | - | - | - | - | - |
| Total | | - | - | 175 | 175 | 700 | - | 350 | - | 1400 |

SECOND YEAR

| Sr. No | Subject | STUDY SCHEME | | EVALUATION SCHEME | | | | | | Total Marks |
|----------|----------------------------------|--------------|---|---------------------|------------|-----------------------------------|-----|------------|-----|-------------|
| | | | | Internal Assessment | | External Assessment (Examination) | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | |
| | | | | Max. Marks | Max. Marks | Max. Marks | Hrs | Max. Marks | Hrs | |
| Hrs/week | | | | | | | | | | |
| L | P | | | | | | | | | |
| 1 | <i>Clinical Microbiology- II</i> | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 2 | Haematology-II | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 3 | Clinical Biochemistry-II | 3 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 4 | Histopathology & Cytology-II | 4 | 3 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |
| 5 | Basics of Information Technology | - | 4 | - | 50 | - | - | 100 | 3 | 150 |
| 6 | Blood Bank | 3 | 2 | 25 | 25 | 100 | 3 | 50 | 3 | 200 |

| | | | | | | | | | | |
|--|-------------------------------|---|---|------------|------------|------------|---|------------|---|-------------|
| 7 | Employability Skills – II | - | 2 | - | 25 | - | - | 50 | 3 | 75 |
| 8 | Medical Laboratory Management | 4 | - | 50 | - | 100 | 3 | - | - | 150 |
| 9 | Environmental Education | 2 | - | 25 | - | 100 | 3 | | | 125 |
| # Student Centered Activities including Entrepreneurial Awareness Camp | | - | 6 | - | - | - | - | - | - | - |
| Total | | - | - | 200 | 200 | 700 | - | 400 | - | 1500 |

THIRD YEAR

(Only Practical Training (No theory Examination))

| Sr. No | Subject | STUDY S HOURS PER WEEK L P | | EVALUATION SCHEME | | | | | | Total Marks | |
|--------|--|-------------------------------|------------------------|---------------------------------|------------|---------------------|-----|------------|------------|-------------|------------|
| | | | | External/ Practical Examination | | Internal Assessment | | | | | |
| | | | | Theory | Practical | Written Paper | | Practical | | | |
| | | | | Max. Marks | Max. Marks | Max. Marks | Hrs | Max. Marks | | | |
| 1 | Pathology (Histo+Cyto+Hematology+Blood Bank) | | 12 | | 200 | | | | 100 | | 300 |
| 2 | Microbiology (Serology+Parasitology+Virology+ Animal Care) | | 12 | | 150 | | | | 100 | | 250 |
| 3 | Biochemistry | | 12 | | 150 | | | | 100 | rs | 250 |
| | TOTAL | | 36 hrs per week | | 500 | | | | 300 | | 800 |

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