

***ORDINANCE** (including Syllabi/Scheme of Examination)
(w.e.f. the session 2011-12)

NAME OF THE COURSE: **B.Sc. Operation Theatre Technology**

DURATION OF THE COURSE: **THREE YEARS FOLLOWED BY SIX MONTH OF
COMPULSORY ROTATORY INTERSHIP.**

ELIGIBILITY FOR ADMISSION TO THE COURSE:-

1. A Person who shall attain the age of 17 years or more on December 31st of the year of admission.
2. A candidate seeking admission to the Bachelor of Science Degree Courses should have passed any one of the following:-

@ a) Senior Secondary Certificate Examination (10+2) of a recognized Board/University, Pre-Medical or an examination recognized as equivalent thereto with English, Chemistry and Biology as optional subjects in the qualifying examination.

OR

b) Lateral entry: Provided that candidate who has passed three years diploma after matric and two years diploma after 10+2 shall be eligible for admission to the B.Sc. O.T. Technology course in Second Year through lateral entry. The diploma should be recognized by MMU. Mullana.

METHOD OF ADMISSION:

- a) Every year in the beginning of the session in July/ August, number of seats for enrolment of B.Sc. O.T. Technology will be advertised by MMU (Ambala).
- b) The candidates will be selected on basis of qualifying examination / interview conducted by MMU (Mullana).
- c) Reservation for NRI/ Foreign candidates as per MMU (Mullana) Guidelines/ Rules/ Regulations.

TRAINING PERIOD AND TIME DISTRIBUTION:

- 1.** Every Student shall undergo a period of certified study and training extending over 3 years from the date of commencement of course till the date of completion of examination and followed by six month compulsory rotating internship.
- 2.** The period of 3 years will be divided into three phases as follows:-
 - a)** Phase I (1st Year) – consisting of subjects (Human Anatomy, Physiology, Biochemistry, Pathology & Microbiology with additional subjects – Environmental studies, Data entry/ processing, Instrument maintenance & Chemical Hazards)
 - b)** Phase II (2nd Year) – consisting of subjects Applied for Pharmacology, Nursing procedures, Anaesthesia and Surgical techniques, Anaesthesia and Surgical equipments Monitoring Gadgets, Sterilization techniques.
 - c)** Phase III (3rd Year) - consisting of subjects PAC & Premedation, Anaesthesia drugs, Complications of Anaesthesia, Methods of pain relief, shock & Blood Transfusion, Oxygen Therapy and Ventilator Management, Medical Diseases & Surgical procedures, Cardiac Arrest & its management, CPR (Adult & Newborn), Sterilization of Equipments & OTs, Book keeping & Stock maintenance, Computer Data Processing.

PHASE DISTRIBUTION AND TIMING OF EXAMINATIONS:

Sr. No.	Examination & Period of Study	Subjects	Annual	Supplementary
Phase I	B.Sc. O.T. Technology Ist Year (From date of Admission)	Human Anatomy, Physiology, Biochemistry, Pathology & Microbiology with additional subjects - Environmental studies, Data entry/ processing, Instrument maintenance & Chemical Hazards.	June – July Of next year	September Of next year
Phase II	B.Sc. O.T. Technology 2nd Year. (After the end of 1 st year of Admission)	Applied Pharmacology, Nursing Procedures, Anaesthesia & Surgical Techniques, Anaesthesia & Surgical Equipments Monitoring Gadgets, Sterilization Techniques.	June – July Of next year	September Of next year
Phase III	B.Sc. O.T. Technology 3rd Year. (After the end of 2 nd year of Admission)	PAC& Premedication, Anaesthetic Drugs, Complications of Anaesthesia, Method Transfusion, Oxygen Therapy and Ventilator management, Medical Diseases & Surgical Procedures, Cardiac Arrest & its Management, CPR (Adults & Newborn), Sterilization of Equipment & O.Ts, Book Keeping & Stock Maintenance, Computer Data Processing	June – July Of next year	September Of next year

Note: - 1. The academic year shall include the time for examinations preparations and Holidays.

2. There shall be one main examination in a year and a supplementary to be held not later than 6 months after the publication of its results.

ELIGIBILITY FOR APPEARING IN B.SC.O.TECHNOLOGY EXAMINATIONS:-

ATTENDANCE:

1. Every candidate should have attended at least 80% of the total number of classes conducted in an academic year from the date of commencement of the term to the last working day as notified by university in each of the subjects prescribed for that year separately in theory & Practical.
2. of having obtained at least 35% marks in internal assessment.
3. of having good character.
4. of having enrolled in the college for a period of one year as specified earlier.

GENERAL ELIGIBILITY PROVISIONS FOR APPEARING IN ANY EXAMINATIONS:

First year examination:

A candidate who fails in any two of the five main subjects and Environmental studies of first year shall be permitted to carry over those subjects to second year. However, he/she must pass the carry over subjects before appearing for second year examination; otherwise he/she shall not permit to proceed to third year.

Second year examination:

A candidate is permitted to carry over any one main subject to the third year but shall pass this subject before appearing for the third year examination.

THE DETAILS OF THEORY/PRACTICAL/LAB POSTING ARE GIVEN AS UNDER:

DISTRIBUTION OF TEACHING HOURS

First Year

Main Subjects

S L No	Subject	Theory	Practical	Total
1	Human Anatomy	60	20	80
2	Physiology	60	20	80
3	Biochemistry	60	20	80
4	Pathology	55	20	75
5	Microbiology	55	20	75
Additional Subjects				
1	Environmental studies	As per degree course		
2	Data entry/ processing	10	10	20
3	Instrument maintenance	10	10	20
4	Chemical Hazzards	10	10	20

Second Year

Distribution of Teaching Hours

Total Theory	250 Hours
Practical & Clinical Posting	1250 Hours

Note: For Practical /Clinical Posting , Candidate will be posted in pre-operative area, post operative recovery area & Critical areas like ICU/RICU/Casualty. Candidate will also be posted in various surgical operation theatres & sterilization units.

Third Year Distribution of Teaching Hours

Total Theory	250 Hours
Practical & Clinical Posting	1250 Hours

Note: For Practical /Clinical Posting, Candidate will be posted in pre-operative area, post operative recovery area & Critical areas like ICU/RICU/Casualty. Candidate will also be posted in various surgical operation theatres & sterilization units. (CSSD)

EXAMINATION:

1. A Candidate not passing in Main/Supplementary Examination will attend classes, Seminars, Practicals etc. as decided by the Principal in the subjects in which he/she is to appear at next examination.
2. The Medium of examination should be English.
3. The examination shall be held according to the scheme of examination as in this Ordinance.
4. 20% of the total marks in each subject of every examination separately for theory & Practical should be reserved for internal assessment determined by regular periodical examinations and day to day assessment and certified class work. The marks of internal assessment will be divided equally between theory and practical.

FEE:

Admission Fees, Annual Fee, Evaluation Fee, etc. to be paid by the candidates shall be as prescribed by the University from time to time. In case any candidate does not pay his/her dues in time, his/her enrolment shall be cancelled without any further notice.

PASSING SCORE:

The Minimum number of marks required to pass in each examination i.e. First/Second/Third Year shall be 50% Marks in aggregate in each of the subjects separately with a minimum of 50% marks in Theory (including oral examination) and clinical/practical separately inclusive of internal assessment, as the case may be.

1. A candidate who obtains pass marks in one or more subjects need not appear in that/those subjects again in any subsequent examination.
2. As soon as possible, after termination of the examination, the controller of Examinations shall publish the result of the candidates and issue Detailed – Marks – Card/Certificate.
3. Successful candidates who obtain 75% or more marks in any subject shall be declared to have passed with “distinction” in that subject provided he/she passes in all the subjects of the examination at one and the same time and the examination is annual Examination.
4. A successful candidate of the Third year B.Sc.O.T. Technology examination shall be granted the degree of B.Sc. O.T. Technology after he/she has completed the post examination internship training as prescribed.

SCHEME OF EXAMINATIONS FOR B.Sc. O.T. TECHNOLOGY

**DISTRIBUTION OF MARKS AND SCHEME OF EXAMINATION
(Common examination for first year B.Sc.O.T.Technology & B.Sc.MLT)**

Each theory question paper will have to parts:-

**Part – A & Part -B
First Year**

Sr. No.	Main Subjects	Written Paper		I.A* Theory	Viva -voce	Total	Practical		Grand Total	
		Durati on	Marks	Marks	Marks	Marks	Uni v. Pra ct	I.A*	Marks	Marks
1	Basic Anatomy [Including histology]	3 hr.	Part A- 30 Part B -30	20	20	100	80	20	100	200
2	Physiology	3 hr.	Part A- 30 Part B -30	20	20	100	80	20	100	200
3	Biochemistry	3 hr.	Part A- 30 Part B -30	20	20	100	80	20	100	200
4	Pathology	3 hr.	Part A- 30 Part B -30	20	20	100	80	20	100	200
5	Microbiology	3 hr.	Part A- 30 Part B -30	20	20	100	80	20	100	200
6	Environmental Studies		60	40 (Internal assessment of Theory & Practical)						100

IA* - Means Internal Assessment .

Theory Examination

Part - A

Type of Questions	No. of Questions	Marks	Sub-total
Short Essay (SE)	4 (To attempt 3)	3x5	15
Short Answer (SA)	6 (To Attempt 5)	5x3	15
Total Marks	30		

Part- B

Type of Questions	No. of Questions	Marks	Sub-total
Short Essay (SE)	4 (To attempt 3)	3x5	15
Short Answer (SA)	6 (To Attempt 5)	5x3	15
Total Marks	30		

Grand Total -60

**Practical Examination
(Anatomy)**

Types of Questions	Marks
Spotting of Gross Anatomy	30

Spotting of Histology	20
Osteology & Gross Anatomy	20
Radiology & Surface marking	10
Total Marks	80

(Physiology)

Types of Questions	Marks
Instruments	20
Operation/Methodology	20
Principles behind methodology	20
Representative results/curves	20
Total Marks	80

(Biochemistry)

Types of Questions	Marks
Safety measurements	20
Specimen collection	10
Lab apparatus & Instruments	20
Units of measurements	10
Making stock standards & working standards	20
Total Marks	80

(Pathology)

Types of Questions	Marks
Urine Examination	15
▪ Physical	
▪ Chemical	
▪ Microscopic	
Blood Grouping	10
Haematology	
▪ Hb	10
▪ BT, CT	15
Histopathology	15
▪ Section Cutting	15
▪ H& E Staining	
Total Marks	80

(Microbiology)

Types of Questions	Marks
Spotters	15
General Microbiology	10
Immunology	10

Parasitology (Stool Examination)	10
Mycology	15
Virology	10
Record	10
Total Marks	80

**Scheme of Examination
Second Year**

Paper	Subject	Theory			Practicals			Grand Total
		Univ. Exam	IA *	Sub Total	Univ. Practical	IA *	Sub Total	
I	Nursing Care, Surgical Techniques, Anaesthesia Equipments (Gasses, Boyles Apparatus, Ventilator & Techniques) Resuscitation Techniques, Measurement of B.P, temperature, Applied Pharmacology, Method of Sterilization & Disinfection. Hazards of Radiations, Gasses & Chemicals.	120	30	150	120	30	150	300
II	Management & Handling of O.T. Equipments including O.T. Tables, Diathermy Machines & O.T. Lights, Endoscopic surgical Equipments & Anaesthesia monitoring equipments	120	30	150	120	30	150	300

IA* means Internal Assessment

Note:- There will be two question papers of 120 marks each. Each paper will have 13 short questions of 12 marks each and candidate will attempt only 10 questions. Each theory paper will be of 3 hours duration.

Scheme of Examination

Third Year

Paper	Subject	Theory			Practicals			Grand Total
		Univ. Exam	IA*	Sub Total	Univ. Practical	IA*	Sub Total	
I	Anaesthesia PAC & Premedication Anaesthetic Drugs & Techniques Complications of Anaesthesia ,Fluid Therapy,Oxygen Therapy, Anaesthesia Machines Internal Medicine including diseases of various systems,	120	30	150	120	30	150	300
II	Methods of Pain Relief, Shock & Blood Transfusion Acid – Base Balance Control of infection in O.Ts. Management of Cardiac Arrest ,Anaesthesia and allied surgical specialties, stock maintenance computer data processing	120	30	150	120	30	150	300

IA* means Internal Assessment

Note:- There will be two question papers of 120 marks each . Each paper will have 13 short questions of 12 marks each and candidate will attempt only 10 questions. Each theory paper will be of 3 hours duration.

Grace Marks:

1. The grace marks as per university regulations.
2. Revaluation, re-totaling etc. as per University regulations.

INTERNSHIP

Every candidate will be required after passing the B.Sc. O.T. Technology final year examination to undergo compulsory rotational internship to the satisfaction of the university as:

Surgery O.T.	:	2 Months
Orthopedic O.T.	:	1 Months
Gynae & Obstetric O.T.	:	1 Month
ENT O.T.	:	15 days
Eye O.T.	:	15 days
CSSD	:	1 Month

APPOINTMENT OF EXTERNAL / INTERNAL EXAMINERS FOR AWARD OF B.Sc. O.T TECHNOLOGY DEGREE:

- a) The convener of the examination shall be the internal examiner.
- b) The examiner shall have at least two years teaching experience in the subject concerned or in allied subject in a college affiliated to a recognized university and holds the rank of Asstt. Prof. and above.
- c) There shall be two examiners in each subject out of which one will be external examiner, so that uniformity in the matter of assessment of candidate is maintained. The board of studies shall supply the panel of examiners to University for appointment of internal/external examiners by the Vice – Chancellor. The panel of the external examiners shall include at least double the number of examiners to be appointed. There will be a common examination for 1st year B.Sc. O.T. Technology and B.Sc. MLT.
- d) For first year examination: theory paper will be set as Part A by external examiner and Part B by internal examiner and moderated by internal examiner.
- e) 2nd year and 3rd year examination in B.Sc. O.T. Technology will be conducted by One Internal examiner and one external examiner. Both examiners will be Anaesthesiologists. There will be two question papers in each examination.

Paper I will be set by external examiner and paper II will be set by internal examiner. Papers will be moderated by the internal examiner.

- f) The External examiner should be from outside the university.
- g) The External examiner should rotate at an interval of two years.
- h) The same set of examiners shall ordinarily be responsible for the written, practical and oral examinations.
- i) In case of non-availability of external examiner for practical examination, the Dean, Faculty of Medical Science / Principal shall have the authority to appoint any other teacher / Professor as per guidelines of the University.
- j) The convener shall hand over the award lists and answer books duly signed by the external and internal examiners to the controller of examinations immediately on termination of examination.