

***ORDINANCE - MASTER OF SCIENCE (M.Sc.) MEDICAL EXAMINATION**

1. Eligibility Criteria for admission:

1.1 A person who possesses any one of the following qualifications shall be eligible to join the course of Master of Science (Medical):-

€The candidate should have passed B.Sc. with atleast one subject of Biological Sciences or BAMS or MBBS or BDS or BHMS or B.Pharm. or BPT or B.Sc.(MLT) or B.Sc. Nursing from a recognized University.

B.Sc. graduates with Physics and Chemistry/Biochemistry option could be considered for admission to M.Sc. in Biochemistry.

Admission Procedure:

To be decided by university from time to time (Entrance test or merit in qualifying examination).

2. The Period of Training

2.1 Three completed years including period of examination.

2.2 All students will work full time trainees attending not less than 80% of the teaching sessions/training period during each calendar year.

3. Examination Schedule

3.1 The examination for the degree of Master of Science (Medical) shall be held twice a year in the months of June/July and October/November or on such other dates as may be decided by the Vice Chancellor on the recommendation of Dean Faculty of Medical Sciences.

3.2 Normally, the University shall conduct not more than two examinations in an academic year, for any subject, with an interval of not less than 4 and not more than 6 months between the two examinations.

3.3 The last date by which admission forms and fees must reach the Controller of Examinations shall be fixed by the University from time to time.

4. Eligibility to appear in the examinations

4.1 A student who possesses the qualification laid down in Clause-1.1 and produces the following certificates signed by the Head of the Department concerned and countersigned by the Head of the College/Institution recognized by the University for M.Sc. Course where he/she received the training shall be eligible to appear in the examination:-

(i) Of good character;

(ii) Of having completed the required period of training (1 year for 1st Year Examination and 2 years for Final Examination after passing the 1st year examination) in the College/Institute

(iii) The thesis must have been submitted within three years of his joining the course and minimum three months before the commencement of final theory examination

4.2 A person who has completed the training in a recognized College/Institute as required in Clause-4.1 and has failed in an examination or having been eligible failed to appear in the examination may appear again in a subsequent examination as an ex-student without further training and without submitting a new thesis.

4.3 Application for admission to an examination shall be made on the prescribed form accompanied by requisite fee to reach the University by the date fixed for the purpose.

4.4 All candidates are required to submit three copies of their recent (not older than 3 months) passport size photographs out of which, two copies will be affixed on the admission-cum-roll No. card and one copy will be fixed on the admission form in the space provided for the purpose. All photographs will be duly attested by the same authority which attests the admission forms.

5. Minimum Pass Marks

A candidate shall be declared successful only when the thesis has been accepted and the candidate has obtained a minimum 50% marks in theory as well as in Clinical/Practical and Oral examinations separately.

6. Grace Marks

There shall be no grace marks.

7. Publication of Result

(a) The Board of Examiners shall send the result to the controller of Examinations for publication of the result of the examination.

(b) On receipt of the result from the Board of Examiners, the Controller of Examination shall publish it as soon as possible. A candidate shall be declared successful only when he/she has passed the examination and his/her thesis has been accepted.

8. Award of Degree

Each successful candidate shall be granted a Degree of Master of Science (Medical)-M.Sc. (Medical) in one of the following specializations:-

- (i) M.Sc., Anatomy
- (ii) M.Sc., Physiology
- (iii) M.Sc., Biochemistry
- (iv) M.Sc., Microbiology
- (v) M.Sc., Pharmacology
- (vi) M.Sc.,
- (vii) M.Sc.,
- (viii) M.Sc.,

9. Migration

Migration/transfer of students undergoing any postgraduate course degree shall not be permitted.

10. Scheme of Examination : Total marks : 1100

There shall be two University examinations:-

(1) First examination will be in Basic Sciences at the end of 1st year of training. It will be common for all M.Sc. Students and will cover the subjects of Anatomy, Physiology and Biochemistry. There will be one theory paper in each subject. The examination will be for 300 marks..

Theory Paper	: 50 marks	} 50 marks
Practical	: 40 marks	
Oral Viva-Voce	: 10 marks	

For passing in any subject a candidate will be required to obtain 50% marks in Theory and Practical including viva-voce separately and 50% marks in aggregate. The syllabus for this examination shall be the same as for 1st professional of MBBS Unless a student passes the 1st examination he/she will not be allowed to appear in 2nd (Final examination) examination

- (2) 2nd (Final) examination will be at the end of 3rd year of training. This examination would be for 800 marks. It will include:

Theory- Four Papers (100x4= 400 marks)

Practical- 300 marks
Viva-voce- 100 marks } **400 marks**

For passing in any subject a candidate will be required to obtain 50% marks in Theory and Practical including viva-voce separately and 50% marks in aggregate.

A. Thesis

- (i)@ Every student will be required to submit his plan of thesis to the Chairman of the concerned Post-Graduate Board of Studies during the first six months of 2nd year. Admission to the course can be cancelled if the candidate fails to submit his/her plan within the stipulated time. The delay, if any, may be condoned on genuine grounds by the Director/Principal on the recommendation of the Supervisor.

After approval of the subject of thesis by the Board of Studies, it will be sent to the University / Vice-Chancellor for acceptance.

- (ii) Every candidate shall submit ten copies of thesis plan to the Chairperson of the concerned Board of Studies within twelve months from the date of admission.

- (iii) Thesis shall be submitted to the University at least three months before the commencement of final theory examination

- (iv) (1) The thesis shall be typewritten on one side of the paper (size 11"x8½") with margins of 1½" on each side, bound, indicating on the outside cover its title and the of the name of the candidate. International reference style (Vancouver system) should be followed in the thesis

(2) Thesis must show a good academic standard, satisfactory literary presentation and format in all respects.

(3) The thesis shall embody the result of candidate's own research and/or experience and shall contain precise reference to the publications cited in the text.

(4) It should end with a summary embodying conclusions arrived at by the candidate.

(5) A certificate from the supervisor(s) testifying that the work done is genuine, has been done under his/her supervision and the technique and statistics mentioned in the thesis were undertaken by the candidate himself/herself;

- (v) Every candidate shall submit (through his/her HOD and Principal of the college) to the Controller of Examinations of the university

(a) 3 copies of his thesis;

(b) 3 copies of the original plan already submitted by him at the time of registration, to the Controller of Examinations;

(c) Hindi version of Title of Thesis through the Head of his College/Institute, accompanied by:-

(i) Thesis evaluation fee as prescribed by the University from time to time.

- (vi) (a) The thesis shall be examined separately by two examiners (one internal (who will be the supervisor of the thesis) and one external) appointed by the Academic Council on the recommendation of the P.G. Board of Studies concerned. They shall report whether the thesis is accepted, or rejected or the candidate be allowed to re-submit the thesis after revision. If the examiners disagree, the Academic Council shall appoint a 'third' examiner who shall be an expert in the same speciality as the examiner rejecting the thesis. The third examiner shall be appointed on the recommendation of the Dean of the Faculty of Medical Sciences. If the thesis is accepted it shall be classified as accepted, commended or highly commended and the result will be communicated to the candidate. Every approved thesis shall become the property of M. M. University, Mullana and may be placed in the library of the College/Institute concerned. If the thesis is rejected the candidate may be required either re-write the thesis or to take up another subject. The examiner rejecting the thesis shall point out in writing the defects and make suggestions for improvements and modifications if a revision will render it acceptable. The revised thesis shall be submitted to the University not later than one year from the date of intimation of result accompanied by half the amount of the prescribed fee.
- (b) The internal examiner shall send only report to the University after evaluation of thesis and the evaluated copy will be deposited in the College library for reference of the students. The external examiner shall send report to the University after evaluation of thesis and also the evaluated copy of thesis to the University. The University shall keep two copies in the University Library for reference of the students.

B. Theory : Total Marks : 550 (Theory 150+400)

- (i) There shall be three theory papers (one in each subject : 50 marks & three hours each) in all the three subjects of first year at the end of first year of training
- (ii) There shall be four theory papers of 100 marks each & three hours duration each towards the end of third year of training. 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 and Practical examination so that the answer books can be assessed and evaluated before the start of the Clinical/Practical and oral examinations.

C. Practical : Total Marks : 550 (Practical 150 + 400 including Oral)

- (i) Practical and Oral examination for the subjects of first year (40+10 marks each) will be held at the end of first year of training.
- (ii) Practical examination for the subject of concerned degree (300 marks) and Oral examination (100 mark) will be held at the end of third year of training.
- (iii) Practical examination for the 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.
- (iv) 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.

- (v) A candidate will have to secure not less than 50% marks separately in each head for passing which shall include (B) theory (C) Clinical/Practical examination including oral examination.

11. Group of Subjects

The following shall be the various courses for the Master of Science examination:-

1. M.Sc., Anatomy
2. M.Sc., Physiology
3. M.Sc., Biochemistry
4. M.Sc., Pathology
5. M.Sc., Microbiology
6. M.Sc., Pharmacology

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

Anatomy

Paper-I	:	Gross Human Anatomy
Paper-II	:	Embryology and Microscopic Anatomy
Paper-III	:	Neuro-anatomy
Paper-IV	:	Applied Anatomy

Physiology

Paper-I	:	Applied Physiology including recent advances
Paper-II	:	General Principles of Physiology and other allied disciplines (Bio-Chemistry, Histology and Statistics)
Paper-III	:	Systematic Physiology comprising Neurophysiology and Endocrinology.
Paper-IV	:	Systematic Physiology excluding Neurophysiology and Endocrinology.

Biochemistry

Paper-I	:	Clinical Biochemistry
Paper-II	:	General Biochemistry, biochemical techniques & Biostatistics
Paper-III	:	Metabolism, Endocrinology and inborn errors of metabolism
Paper-IV	:	Molecular Biology, Nutrition, Immunochemistry and Biochemistry of Tissues.

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.

Microbiology

Paper-I	:	General Principles of Microbiology and Immunology
Paper-II	:	Systematic Bacteriology and Mycology
Paper-III	:	Parasitology and Virology
Paper-IV	:	Applied Microbiology and Recent Advances in Microbiology

Pharmacology

Paper-I	:	Clinical Sciences as related to Pharmacology
Paper-II	:	General Pharmacology including Chemotherapy and Therapeutics
Paper-III	:	Experimental Pharmacology, Bioassay and Statistics
Paper-IV	:	Applied Pharmacology and Toxicology including recent Advances

Note: There are no water-tight compartments and there can be an over-lapping of questions from one paper to another

13. Board of Examiners

- 13.1 The examination shall be conducted by a Board of four examiners on the recommendation of the Faculty of Medical Sciences.
- 13.2 All the Postgraduate Examiners shall be University recognized Postgraduate Teachers holding recognized postgraduate qualifications in the subject concerned.
- 13.3 For all Postgraduate examinations the minimum number of Examiners shall be four out of which at least two (50%) shall be External Examiners who shall be invited from other recognized Universities. If any examiner does not report to accept examinership, the Dean Faculty of Medical Sciences shall be entitled to make alternative arrangement and appoint another eligible examiner (External or Internal) so that the examination could be conducted in time.
- 13.4 Under the exceptional circumstances examinations may be conducted with 3 (three) examiners provided two of them are external.
- 13.5 In the event of there being more than one centre in one city the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination the University shall appoint a Supervisor to co-ordinate the examination on its behalf.
- 13.6 The appointing authorities shall follow the guidelines regarding appointment of examiners as prescribed by the Medical Council of India from time to time i.e
 - (i) The concerned Post Graduate Board of Studies shall recommend a Panel of four External Examiners, out of which any two will be appointed by the Vice Chancellor.
 - (ii) The concerned Post Graduate Board of Studies shall also recommend the names of two Internal Examiners in which Head of the concerned department will be a regular Internal Examiner (Convener) and the second Internal Examiner shall be appointed by rotation and seniority from amongst the eligible Teachers available in the department who possess at least 5 years teaching experience as Asstt. Professor / Lecturer and hold the rank of Associate Professor or above.
 - (iii) Theory Paper I & II will be set by External Examiners and III & IV by Internal Examiners. There will be a Moderator who will moderate the theory papers and ensure that there is no duplication of questions and papers have been set according to the syllabus.
 - (iv) Theory Paper I & II shall be evaluated by the External Examiners and Theory Paper III & IV by the Internal Examiners.
 - (v) The same set of four Examiners (2 External and 2 Internal) will conduct the Clinical/Practical examination and evaluate the theory papers as stated above.
 - (vi) Ordinarily there will be same set of Examiners for regular and supplementary examinations.
 - (vii) The Head of the Department (Convener) will forward the result prepared by the Board of Examiners to the Controller of Examinations immediately after the

examination is over who in turn will declare/publish the result at the earliest (after ensuring that the thesis of the concerned students have already been accepted by the thesis examiners)

14. Number of Candidates

The maximum number of candidates to be examined in Clinical/practical and Oral on any day shall, not exceed eight.

15. General

Notwithstanding the integrated nature of this course which is spread over more than one academic year, the Ordinance in force at the time a student joins the course shall hold good only for the examination held during or at the end to the training and nothing in this Ordinance shall be deemed to debar the University from amending the Ordinance and the amended Ordinance, if any, shall apply to all students whether old or new.

16. Syllabus:

General guidelines of Syllabus are as enclosed. However, any questions especially on recent advances, can be given in the paper or asked during clinical/practical / oral examination.

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* **Approved by the Academic Council vide Res. No. 10 dated 19.12.2009 and Board of Management vide Res. No. 11 dated 21.12.2009)**

@ approved/amended vide AC Res. No. 8 dated 7-2-11 and BOM Res. No. 12 dated 19-2-2011, w.e.f. the session 2010-11.

€ Approved vide AC Res. No. 6 dated 17-7-2015 (AC Res. No. 15 and BOM Res. No. 6 dated 17-7-2015)