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UNIVERSITY OF POONA

Circular No.281 of 1971-72

Pursuant to the resolutions passed by the University Authorities it is hereby notified for the information of all concerned that the curriculums for the M.Sc. (Physiology) as given in Appendix 'A' and for the M.Sc. (Human Anatomy) as given in Appendix 'B' for non-medical persons have been prescribed by the University.

Deans of Medical Colleges are requested to bring the contents of this circular to the notice of persons concerned.

Ganeshkhind, POONA-7  
No. F/BS/Pre-Clinic/185  
Date: 27.1.1972

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G.J. Abhyankar

x Registrar.

Copy forwarded with compliments to :

- 1) The Dean, B.J. Medical College, Poona-1
- 2) The Commandant, Armed Forces Medical College, Poona-1
- 3) The Controller of Examinations.
- 4) Assistant Registrar (Records & Meetings Section)
- 5) Assistant Registrar (General) Statute's Committee  
(E.C. (B)(29)/7-10-71) (E.C. (B)(7)/7-10-71)
- 6) Assistant Registrar (Academic)
- 7) Superintendent, Eligibility Section
- 8) Superintendent, Publication Section
- 9) Members of the Board of Studies in Pre-Clinical Studies.

APPENDIX 'A'

M.Sc. (Physiology)

M.Sc. Degree for non medical persons under  
Faculty of Medicine of Poona University.

Ordinance :

The M.Sc. Degree in Medical Sciences shall be conferred by written and practical examination with dissertation in the following branches of the Medical Sciences :

Human Physiology

1. The examination for the said degree in various branches of Medical Sciences stated above shall be held twice a year.

2. The admission to the said degree course in the subject of Human Physiology shall be given to the applicant,

I Who has obtained the B.Sc. Degree at least in II<sup>nd</sup> Class of the Faculty of Science of Poona University or of any university equivalent to that of Poona University and has studied one of the following subjects for the B.Sc. Degree examination.

- a) Zoology
- b) Chemistry
- c) Physics
- d) Microbiology
- e) Botany

Or

II Who has obtained the B.Sc. Degree at least in II<sup>nd</sup> Class in the subject of Nursing, Dental Sciences or Veterinary Sciences provided these degrees are recognised by the Poona University.

Or

III Who has already obtained the M.Sc. Degree in one of the branches of Medical Sciences and now desires to present himself/herself for some degree examination in another subject provided he/she fulfills all the conditions laid down for a fresh applicant.

IV And, who is declared acceptable for the degree course selected by the applicant, after an interview by the teacher under whom the applicant desires to pursue his/her studies.

3. Along with the application for admission to the said degree examination, the candidate shall also submit to the Registrar, the following documents certifying that,

- I. (For the candidate belonging to the category 2(I) above).

The candidate has satisfactorily completed the course of studies in human physiology for the period of two academic terms.

- II. The candidate has worked satisfactorily for the period of three academic years under the guidance of recognised teacher under whom he/she elected to pursue his/her post-graduate studies.
- III. The candidate has maintained an up-to-date record in the prescribed book, of all the work done by him/her during the entire period of registration for the post graduate studies for the said degree and the same has been assessed and graded by the teacher guide from time to time.

4. The candidate shall submit along with his application, at least three months before the date fixed for the commencement of the said examination, three copies of the dissertation not exceeding 2,500 words incorporating.

- I. The results of his/her own studies or important investigations carried out by him/her under the guidance of the recognised teacher under whom he/she elected to pursue his/her post-graduate studies for the said degree, together with a review of the recent advance pertinent to his/her theme of dissertation.

- II. The acceptance of the dissertation by the examiners shall be a condition precedent to the admission of the candidate for the written and practical examination.

5. Admission to applicants for the said degree course will be given once in a year by registration at the beginning of every academic year and shall be subject to the rules of the University in all other respects.

#### STANDARD FOR PASSING THE EXAMINATION

Regulation :-

- I Successful candidates scoring 50% or more of the total marks will be placed in SECOND CLASS.
- II Successful candidates scoring 60% or more of the total marks will be placed in FIRST CLASS.
- III Successful candidates scoring 75% or more the total marks will be placed in DISTINCTION CLASS.

#### EXAMINATION IN HUMAN PHYSIOLOGY

Regulation :-

The M.Sc. (Hum. Physiol.) Degree Examination shall consist of four papers and the practicals lasting for three days including viva voce.

The characters of the papers shall be as follows :

- I. Each paper shall carry 100 marks.
- II. Each paper shall have a duration of three hours.
- III. There shall be four questions in each paper.
- IV. There shall be two sections in each paper.
- V. There shall be no optional questions.
- VI. The distribution of the topics in the papers shall be as under :-

Paper I : General Physiology, Comparative Physiology, Cell Physiology, Physical principles involved in Physiological Processes and Physiological Methodology.

Paper II : Physiological Chemistry, Dietetics and Metabolism.

Paper III : Systemic and applied Human Physiology

Paper IV : History of Physiology, Biographies, and essay.

Total Maximum Marks 400

B) The character of the practicals will be as follows :

- 1) The practical examination will be spread over three days.
- 2) One day shall be entirely devoted to practical examination in Physiological Chemistry.
- 3) The total number of questions including physiological Chemistry shall not be less than six and more than eight.
- 4) The total marks for the practical examination shall be 300 out of which 100 marks shall be allotted to practical Physiological Chemistry.
- 5) The viva voce shall be for a period 'ad libitum' on the aspects of theory, practical skill, results of experiments interpretations and the dissertation and will carry 100 marks.

Total Maximum Marks 400

- C) The candidate appearing for the practical examination shall present the records of the work done by him/her to the examiners who may give credit to neat records, originality of methods, improvisations, organisation and conclusions drawn from the results obtained and recorded therein.
- D) The candidate shall be expected to exhibit a fairly good knowledge of the recent current developments in the subject.
- E) The records of the work done by the candidate may form the basis of the practical examinations at the said degree examination.

#### SYLLABUS IN HUMAN PHYSIOLOGY

△ Note : In the paras given below an indication of the subject to be studied is given, however, the candidate is expected to possess comprehensive knowledge of the subject in theory and to acquire fairly good skill at practicals and interpretation of the results obtained.

1. THEORY

- A) General Physiology
- B) Comparative Physiology
- C) Cell Physiology
- D) Methodology
- E) Physical Principles involved in Physiological Processes
- F) Physiological Chemistry
- G) Food and Dietetics
- H) Metabolism
- I) Systemic and Applied Human Physiology
- J) History of Physiology
- K) Biographies.

2. PRACTICALS

- A) Methods of stimulation of Animal Tissues in vivo and in vitro.
- B) Mounting of Contractile Tissues of the study Physiologic-al Phenomina in Vivo and in vitro.
- C) Perfusion of Organs to study Physiological Phenomina.
- D) Experimental studies of Mechanisms of the regulations of various systemic functions, in vivo and in vitro.
- E) Experimental studies of the functions of various parts of the Nervous system in vivo and vitro.
- F) Experimental studies of the Hemodynamics.
- G) Physiographic studies of various events in the functions of various systems in Human and in Animals.
- H) Quantitative studies in Hematology, Circulatory functions, Respiratory functions, Locomotor functions, Metabolic functions, Sensory functions, including special senses, Endocrine functions, Digestive function and Re-productive functions.
- I) Clinical studies for the Assessment of Normal functions of various systems in Human body..
- J) Qualitative and Quantitative studies of Physiological Chemistry, Metabolic functions in Isolated tissues, Animals and in Human.
- K) Operative techniques in experimental studies.
- L) Apparates, its use, constructions, maintainance.
- M) Interpretations of the results, and technical details of all work done for the study.

APPENDIX 'B'

M.Sc. in Medical Subjects for Non-medical persons.

Ordinance :

The M.Sc. Degree in Medical sciences shall be conferred by written and practical examination with dissertation in the following branches of the Medical Sciences :- 1. Human Anatomy. 2. Human Physiology 3. Physiological Chemistry. 4. Pharmacology.

1. The examination for the said degree in various branches of Medical Sciences stated above shall be held twice a year.

2. The admission to the said degree course in the subject of Human Anatomy shall be given to the applicant.

I. Who has obtained the B.Sc. Degree at least in II<sup>nd</sup> class of the Faculty of Science of Poona University or of any other University equivalent to that of Poona University, with Zoology as principal subject.

Or  
II Who has obtained the B.Sc. Degree at least in II<sup>nd</sup> Class in the subject of Veterinary Sciences provided this degree is recognised by the Poona University.

Or

III who has already obtained the M.Sc. Degree in one of the branches of Medical Sciences and now desires to present himself/herself for the same degree examination in another subject provided he/she fulfills all the conditions laid down below for a fresh applicant.

3. Alongwith the application for admission to the said degree examination, the candidate shall also submit to the Registrar, the following documents certifying that

I (for the candidate belonging to the categories 2 (I & II) above)

The candidate has satisfactorily completed the course of studies in Human Anatomy and Human Physiology as an orientation course for the period of the first two academic terms.

II The candidate has worked satisfactorily for the further period in continuity of four academic terms under the guidance of a recognised teacher under whom he/she elected to pursue his/her post-graduate studies.

III The candidate has maintained an up-to-date record in the prescribed book, of all the work done by him/her during the entire period of registration for the post graduate studies for the said degree and the same has been assessed and graded by the teacher Guide from time to time.

4. The candidate shall submit along with his application, at least three months before the date fixed for the commencement of the said examination, four copies of the dissertation not exceeding 2,600 words incorporating.

- I. The results of his/her own studies, or important investigations carried out by him / her under the guidance of the recognised teacher under whom he/she elected to pursue his/her post-graduate studies for the said degree, together with a review of the recent advance pertinent to his/her theme of dissertation.
  - II. The acceptance of the dissertation by the examiners shall be a condition precedent to the admission of the candidate for the written and practical examination.
5. Admission to applicants for the said degree course will be given once in a year by registration at the beginning of every academic year and shall be subject to the rules of the University in all other respects.

Standard for passing the Examination :

Regulation :

- I. Successful candidates scoring 50% or more of the total marks will be placed in SECOND CLASS.
- II. Successful candidates scoring 60% or more of the total marks will be placed in FIRST CLASS.
- III. Successful candidates scoring 75% or more the total marks will be placed in DISTINCTION CLASS.

Examination in Human Anatomy

The examination for the degree of M.Sc. (Human Anatomy) shall be conducted in the following manner.

- 1) Written examination shall consist of four papers, each of 100 marks and of three hours duration.

The first three papers shall have each four questions, all compulsory. The fourth paper of essay shall carry only one question and shall have choice.

Paper I : Human Anatomy etc.  
Paper II : Human Anatomy etc.  
Paper III ; Human Anatomy etc.  
Paper IV : Essay.

- 11) Practical and oral examinations of a total of 400 marks spread over two to four days and consisting of :

- I. Dissection of human cadaver with viva on the same 100 Marks.
- II. Vive Voce on Human Anatomy 100 marks
- III. Practicals and crals in Histology and Embryology 100 marks
- IV. Discussion on the subject of dissertation and general vive-voce on the allied branches of Anatomy, including the estimate of candidate's capacity to teach the undergraduates. 100 Marks.

SYLLABUS IN HUMAN ANATOMY

The following shall be the syllabi for the subject :

- i) A detailed study of Systemic Anatomy comprising of bones, joints, muscles, nervous system, special senses, organs of cardio-vascular, respiratory, digestive, urogenital systems and endocrine glands.
- ii) Regional Human Anatomy of head, face, neck, thorax, abdomen, extremities, and the back.
- iii) Topographical and Radiological anatomy.
- iv) Details of Human Embryology including organogenesis.
- v) Detail study of Human Foetus.
- vi) Details of Human Histology
- vii) Elements of Cytology.
- viii) Comparative Anatomy and Embryology of Vertebrates.
  - ix) Principles of Organic Evolution.
  - x) Principles of Genetics.
  - xi) Elements of Physical Anthropology.
  - xii) History of Anatomy and allied branches.
- xiii) Practical work in the laboratories comprising of :
  - a) Dissection of entire human cadaver
  - b) Dissection of human foetus
  - c) Histological techniques and histological study of various tissues and organs of human body.
  - d) Embryological techniques and microscopic examination of embryological materials.
  - e) Museum techniques including indexing.

N.B. All the laboratory work shall be recorded in the respective journals and certified by the recognised teachers prior to signing up a candidate for the ensuing examination.