

# KERALA UNIVERSITY OF HEALTH SCIENCES

THRISSUR – 680 596, KERALA



## REGULATIONS, CURRICULUM, AND SYLLABUS OF POST GRADUATE MEDICAL COURSES

**(M.D./M.S./Diploma)**  
*(With effect from 01.06.2010 onwards)*

## **CONTENTS**

### **1. Introduction**

- 1.1 Preamble
- 1.2 Nomenclature of Degree

### **2. Aims and Objectives of MD/MS/Diploma Courses**

- 2.1 Goal
- 2.2 General Objectives of Post Graduate Training
- 2.3 Components of Post Graduate Curriculum

### **3. Regulations**

- 3.1 Academic Eligibility for Admission
- 3.2 Selection of Students
- 3.3 Registration
- 3.4 Duration of course
- 3.5 Medium of Instruction
- 3.6 Attendance
- 3.7 Post Graduate Department
- 3.8 Faculty
- 3.9 Student Teacher Ratio
- 3.10 Training Programme
- 3.11 Log Book
- 3.12 Teaching
- 3.13 Research
- 3.14 Thesis
- 3.15 Examinations
- 3.16 Criteria for Pass
- 3.17 Declaration of Class
- 3.18 Award of Degree
- 3.19 Migration and Transfer

### **4. Course Content**

- 4.1 Syllabus
- 4.2 Scheme of Examination
- 4.3 Sample Question Papers
- 4.4 Model of Log Book

# **1. INTRODUCTION**

## **1.1.PREAMBLE**

The regulations of the MD/MS/DIPLOMA COURSES being conducted by the Kerala University of Health Sciences is in accordance with the recommendations of the Medical Council of India (M.C.I.), with an emphasis on the health needs of the State of Kerala.

## **1.2.NOMENCLATURE OF THE DEGREE**

Specialties / Subjects in which Postgraduate Degree and Diploma awarded by the University are as follows:-

### **1.2.1. M.D. (DOCTOR OF MEDICINE)**

- i. Anaesthesiology
- ii. Aviation Medicine
- iii. Anatomy
- iv. Biochemistry
- v. Biophysics
- vi. Community Medicine
- vii. Dermatology, Venerology and Leprosy
- viii. Family Medicine
- ix. Forensic Medicine
- x. General Medicine
- xi. Geriatrics
- xii. Health Administration
- xiii. Hospital Administration
- xiv. Immuno Haematology and Blood Transfusion
- xv. Medical Genetics
- xvi. Microbiology
- xvii. Nuclear Medicine
- xviii. Pathology
- xix. Paediatrics
- xx. Pharmacology
- xxi. Physical Medicine Rehabilitation
- xxii. Physiology
- xxiii. Psychiatry
- xxiv. Radio-diagnosis
- xxv. Radio-therapy
- xxvi. Rheumatology
- xxvii. Sports Medicine
- xxviii. Tropical Medicine
- xxix. Tuberculosis & Respiratory Medicine or Pulmonary Medicine

**1.2.2. M.S. (MASTER OF SURGERY)**

- i. Otorhinolaryngology
- ii. General Surgery
- iii. Ophthalmology
- iv. Orthopaedics
- v. Obstetrics & Gynaecology

**1.2.3. DIPLOMA**

- i. Anaesthesiology (D.A.)
- ii. Clinical Pathology (D.C.P.)
- iii. Community Medicine (D.C.M.)
- iv. Dermatology, Venerology and Leprosy (DDVL)
- v. Forensic Medicine (D.F.M.)
- vi. Health Education (D.H.E.)
- vii. Health Administration (D.H.A.)
- viii. Immuno-Haematology & Blood Transfusion (D.I.H.B.T.)
- ix. Marine Medicine (Dip. M.M.)
- x. Microbiology (D.Micro)
- xi. Nutrition (D.N.)
- xii. Obstetrics & Gynecology (D.G.O.)
- xiii. Occupational Health (D.O.H.)
- xiv. Ophthalmology (D.O.)
- xv. Orthopaedics (D.Ortho.)
- xvi. Oto-RhinoLaryngology(D.L.O.)
- xvii. Paediatrics(D.C.H.)
- xviii. Physical Medicine & Rehabilitation (D.Phy. Med. & R.)
- xix. Psychiatry (D.P.M.)
- xx. Public Health (D.P.H.)
- xxi. Radio-diagnosis (D.M.R.D.)
- xxii. Radio-therapy (D.M.R.T.)
- xxiii. Radiological Physics (D.R.P.)
- xxiv. Sport Medicine (D.S.M.)
- xxv. Tropical Medicine & Health (D.T.M. & H.)
- xxvi. Tuberculosis & Chest Diseases (D.T.C.D.)
- xxvii. Virology (D.Vir.)
- xxviii. Radiation Medicine (D.R.M.)

## **2. AIMS AND OBJECTIVES OF MD/MS/DIPLOMA COURSES**

### **2.1.GOAL**

The goal of Post Graduate medical education shall be to produce competent specialists and / or Medical teachers.

- 2.1.1. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the National health policy.
- 2.1.2. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system.
- 2.1.3. Who shall be aware of the contemporary advance and developments in the discipline concerned.
- 2.1.4. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology.
- 2.1.5. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

### **2.2.GENERAL OBJECTIVES**

At the end of the Post Graduate training in the discipline concerned the student shall be able to;

- 2.2.1. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health sector.
- 2.2.2. Practice the speciality concerned ethically and in step with the principles of primary health care.
- 2.2.3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
- 2.2.4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.
- 2.2.5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- 2.2.6. Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.
- 2.2.7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
- 2.2.8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

- 2.2.9. Play the assigned role in the implementation of National health programme, effectively and responsibly.
- 2.2.10. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- 2.2.11. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.
- 2.2.12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
- 2.2.13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
- 2.2.14. Function as an effective leader of a health team engaged in health care, research and training.

### **2.3.COMPONENTS OF THE POSTGRADUATE CURRICULUM**

The major components of the Postgraduate curriculum shall be:-

- 2.3.1. Theoretical knowledge
- 2.3.2. Practical and clinical skills
- 2.3.3. Writing thesis/Research articles
- 2.3.4. Publishing scientific articles in accredited journals.
- 2.3.5. Improving attitudes including communication skills.
- 2.3.6. Training in research methodology, medical ethics including medico legal aspects.

The students undergoing Post Graduate courses shall be exposed to the following:-

- i. Basics of statistics to understand and critically evaluate published research paper.
- ii. Lectures related to human behaviour studies.
- iii. Basic understanding of pharmaco-economics.
- iv. Introduction to the non-linear mathematics.

## **3. REGULATIONS**

### **3.1.ACADEMIC ELIGIBILITY FOR ADMISSION**

- 3.1.1. A candidate must possess MBBS or equivalent Degree from recognized University.
- 3.1.2. A candidate should qualify an Entrance Examination as per the existing Rules of Government of Kerala and the Medical Council of India (M. C. I.).

### **3.2.SELECTION OF STUDENTS**

The selection of students for the Post Graduate course shall be made based strictly on merit as decided by the Entrance Examination conducted by the competent authority approved by the Government of Kerala/Kerala University of Health Sciences and as per guidelines of the Medical Council of India (M. C. I.).

### **3.3.REGISTRATION**

A candidate on admission to the MD/MS/Diploma course shall apply to the University for Registration

- 3.3.1. By making a formal application in the prescribed format.
- 3.3.2. Original degree certificate and mark lists of qualifying examination.
- 3.3.3. Original Council registration certificate.
- 3.3.4. Allotment letter from the competent authority who conducted the Entrance Examination/ allotment letter from the Principal in the case of NRI candidates.
- 3.3.5. Equivalency and migration certificate wherever needed.
- 3.3.6. Original SSLC/equivalent certificate.
- 3.3.7. The fees prescribed for the course.

### **3.4.DURATION OF COURSE**

Every candidate seeking admission to the training programme to qualify for the Degree of MD/MS in the subjects conducted under the University shall pursue a regular course of study, in the concerned Department under the guidance of a recognized Post Graduate teacher for a period of three years and for Diploma, shall be two years. The duration of course of Diploma holders pursuing MD/MS in the same speciality shall be two years.

### **3.5.MEDIUM OF INSTRUCTION**

The medium of instruction is English.

### **3.6.ATTENDANCE**

All the candidates joining the Post Graduate training programme shall work as full time residents during the period of training and shall attend not less than 80 percent of the imparted training during each calendar year including assignments, full time responsibilities and participation in all facets of the educational process. The student will be permitted to avail casual leave for 20 days, but not more than 10 days at a stretch. 365 days of the year are working days for post graduate students. Condonation of attendance will be allowed as per Rules. The candidate will also be eligible for leave supported by medical certificates (subject to verification by medical board) and other “leave under exceptional circumstances” recommended by the Head of Department and sanctioned by the Head of the Institution concerned subject to a maximum of 73 days per year inclusive of sundays and weekly offs (except casual leave). Any type of leave taken during the P. G. course other than the 20 days casual leave will not be considered for calculating attendance for that calendar year (from date of joining to corresponding date of next year). For appearing for University Examination, a candidate should secure 80% attendance (separate attendance is not needed for theory and practical) in each subject.

### **3.7.POST GRADUATE DEPARTMENT**

- 3.7.1. Only a Department, defined as an independent academic entity of a teaching Institution, having the minimum facilities as per Norms of the Medical Council of India (M. C. I.) shall be permitted to commence a Post Graduate training programme to qualify for the award of the MD/MS Degree /Diploma.
- 3.7.2. Minimum requirements for a Post Graduate Institution, bed strength in clinical Department, out-patient Departments, laboratory facilities, equipments, prescribed strength of faculty, number of Post Graduate students to be admitted and general aspects of training programme are in accordance with the M. C. I. Regulations.

### **3.8. FACULTY**

- 3.8.1. A clinical Department or its unit training candidates for broad or super specialities shall have a minimum of three full time faculty members belonging to the concerned disciplines of whom one shall be a Professor, one Associate Professor/ Reader/ and one Assistant Professor/ Senior Lecturer, possessing the qualification and experience prescribed by the Medical Council of India (M. C. I.); provided that the second or subsequent additional unit may be headed by an Associate Professor.
- 3.8.2. Of these faculty members only those who possess eight years teaching experience out of which at least five years teaching experience as Assistant Professor / Lecturer gained after obtaining the Post Graduate Degree in the concerned speciality shall be recognised as Post Graduate teachers.
- 3.8.3. In addition to the faculty staff, the strength of Residents / Registrars / Lecturers/Tutors /Demonstrators, as well as technical and other para medical staff shall be as per the staff strength prescribed for 50/100/150 students in the “Minimum Requirements for 50/100/150 MBBS Admissions Annually Regulations.’



### 3.9. STUDENT TEACHER RATIO

- 3.9.1. The ratio of recognized Post Graduate teacher to the number of students to be admitted for the degree course where Diploma is not prescribed shall be 1:2 for a Professor and 1:1 for other cadres in each unit per year subject to a maximum of 4 P. G. seats for the degree per unit per academic year provided a complement of 10 teaching beds is added to the prescribed bed strength of 30 for the unit for broad specialities.
- 3.9.2. The requirement of units and beds shall not apply in the case of Post Graduate Degree or Diploma courses in basic and para-clinical departments, provided that against the very same units, teaching personnel and infrastructure, no other Post Graduate courses under any other streams are permitted.

### 3.10. TRAINING PROGRAMME

- 3.10.1. The training given with due care to the Post Graduate students in the recognized Institutions for the award of various Post Graduate medical Degrees / Diploma shall determine the expertise of the specialist and / or medical teachers produced as a result of the educational programme during the period of stay in the Institution.
- 3.10.2. All candidates joining the Post Graduate training programme shall work as full time residents during the period of training, attending not less than 80 percent of the training, and given full time responsibility, assignments and participation in all facets of the educational process.
- 3.10.3. (i) Every Institution undertaking Post Graduate training programme shall set up an Academic cell or a Curriculum Committee, under the chairmanship of a Senior faculty member, which shall work out the details of the training programme in each speciality in consultation with other Department faculty staff and also coordinate and monitor the implementation of these training Programmes.
- (ii) The training programmes shall be updated as and when required. The structured training programme shall be written up and strictly followed, to enable the examiners to determine the training undergone by the candidates and the Medical Council of India (M. C. I.) inspectors to assess the same at the time of inspection.
- (iii) Post Graduate students shall maintain a record (log) book of the work carried out by them and the training programme undergone during the period of training including details of surgical operations assisted or done independently similar to the model prescribed by the University.
- (iv) The record books shall be checked and assessed by the faculty members imparting the training, monthly.

- 3.10.4. During the training for Degree / Diploma to be awarded in clinical disciplines, there shall be proper training in basic medical sciences, in applied aspects of the subject and in allied subjects related to the disciplines concerned. In all Post Graduate training programmes, both clinical and basic medical sciences, emphasis is to be laid on preventive and social aspects and emergency care facilities.
- 3.10.5. The Post Graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- 3.10.6. Training in Medical Audit, Management, Health Economics, Health Information System, basics of statistics, exposure to human behaviour studies, knowledge of pharmaco – economics and introduction to non- linear mathematics shall be imparted to the Post Graduate students.

### **3.11. LOGBOOK**

Logbooks serve as a document of the trainee's work. The trainee shall maintain this Logbook of the special procedures/ operations assisted / performed by him / her during the training period right from the point of entry and its authenticity shall be assessed monthly by the concerned Post Graduate Teacher / Head of the Department. This shall be made available to the Board of Examiners for their perusal at the time of his / her appearing at the Final examination. The logbook should record clinical cases seen and presented, & procedures & tests performed & seminars, journal club and other presentations. Logbook entries must be qualitative and not merely quantitative, focusing on learning points and recent advances in the area and must include short review of recent literature relevant to the entry. Diploma students, also, should maintain a similar logbook. The guidelines for preparing the logbook will be available in the Kerala University Health Sciences website ([www.kuhs.ac.in](http://www.kuhs.ac.in)). Logbooks may be prepared by the Institutions and departments.

### **3.12. TEACHING**

All Post Graduate students should take part in the teaching of Under Graduate medical students and paramedical students.

### **3.13. RESEARCH**

An M.D. /M.S. candidate shall be required to prepare a Thesis and personally present at least one paper/poster at conferences of State, National or International levels. Besides, he/she must have attended at least two State/National conferences during his/her training period. Diploma students shall present at least one paper/poster presentation at a State/National conference during their course.

### **3.14. THESIS**

Every candidate shall carry out work on an assigned research project under the guidance of a recognised Post Graduate Teacher as a guide. All Post Graduate students except Diploma students should submit the title and synopsis of thesis duly attested by the competent authorities in the prescribed proforma along with the required fees within six months after the date of admission.

Five copies of the thesis duly certified, shall be submitted by the candidate to the University 6 months before commencement of his/her final Examination for onward transmission to the experts for evaluation.

The thesis submitted shall be examined by three experts; one Internal and two External experts, who shall not be the examiners for the Theory and Clinical. Only on the acceptance of the thesis by two experts, the candidate shall be permitted to appear for the examination. On evaluation, if two experts are of the opinion that the thesis needs modification it has to be resubmitted with modifications within 45 days along with prescribed fees and it will be re evaluated by the University. If thesis is rejected by 2 experts, the candidate will loose one chance of appearing for the examination and has to resubmit a fresh thesis for further evaluation i.e. the candidates are not allowed to appear for the examination with their parent batch.

### **3.15. EXAMINATIONS**

The examinations shall be organised on the basis of marking system to evaluate and certify candidate's level of knowledge, skill and competence at the end of the training. The examination for M.S. /M.D. shall be held at the end of third academic years and for Diploma at the end of 2<sup>nd</sup> academic year.

#### ***3.15.1. Examiners***

- i. All the Post Graduate Examiners shall be Post Graduate Teachers holding recognised Post Graduate qualifications in the subject concerned as per M. C. I. Rules i.e. he/she should hold recognised Post Graduate degree in the concerned speciality and have teaching experience of not less than 8 years as Lecturer/Assistant Professor, out of which he/she should have minimum 5 years teaching experience after obtaining Post Graduate Degree. External examiners should have minimum 3 years experience as a postgraduate examiner in the concerned subject.
- ii. For all Post Graduate Examinations, the minimum number of Examiners shall be four, out of which at least two (50%) shall be External Examiners from outside the State. One of the Internal examiners shall be a Professor or Head of the Department.

#### ***3.15.2. Number of candidates***

The maximum number of candidates to be examined in Clinical / Practical and Viva voce on any day shall not exceed six for M.D. /M.S. Degree, and eight for Diploma.

#### ***3.15.3. Number of examinations***

The University shall conduct not more than two examinations in a year.

### **3.15.4. Pattern of Examination**

#### **A. MD/MS course**

- ***Theory***

(i) There shall be four theory papers.

(ii) Out of these one shall be of Basic Medical Sciences and one shall be of recent advances with regard to that speciality.

(iii) The theory examinations shall be held sufficiently earlier than the Clinical and Practical examination, so that the answer books can be assessed and evaluated by a system of evaluation by all examiners (Internal/External), before the start of the Clinical/Practical and Oral examination. Average of the marks for each paper will be taken after multiple valuation.

- ***Clinical / Practical and Oral***

(i) Clinical/Practical examination for the subjects shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a Specialist/Teacher, for which candidates shall examine one long case and minimum of two short cases. In the case of Non Clinical / Paraclinical subjects where there are no clinical cases, appropriate changes can be made in the practical examination to evaluate the skill and knowledge of the candidate.

(ii) The clinical / practical examinations shall also assess the candidate's knowledge of Basic Medical Sciences as are relevant to his subject. Case selection for examination should be comprehensive and include all the different systems.

(iii) The Oral examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty.

#### **B. Post Graduate Diploma**

Diploma examination in any subject shall consist of Theory, Clinical and Oral.

- ***Theory***

There shall be three theory papers. One paper out of these shall be on Basic Medical Sciences. The theory examinations shall be held sufficiently earlier than the Clinical and Practical examination, so that the answer books can be assessed and evaluated by a system of evaluation by all examiners (Internal/External), before the start of the Clinical/Practical and Oral examination. Average of the marks for each paper will be taken after multiple valuation.

- ***Clinical/Practical/Oral***

Clinical/Practical examination for the subject shall be conducted to test /aimed at assessing the knowledge and competence of the candidate for undertaking independent work

as a Specialist / Teacher for which a candidate shall examine one long case and two short cases. The oral examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality.

### **3.16. CRITERIA FOR PASS – MD/MS/DIPLOMA COURSES**

A candidate who has secured minimum of 50 percent marks for theory (40 percent separate minimum for each paper), 50 percent for Clinical/Practical including oral shall be declared to have passed in that subject.

A candidate who fails in one subject either theory/practical shall have to appear for all the papers including theory and practical.

### **3.17. DECLARATION OF CLASS**

- i. Distinction – 75percent and above
- ii. First Class – 65percent and above, less than 75percent
- iii. Second Class – 50percent and above, less than 65percent

Candidates who fail in the first attempt in any subject and pass in subsequent examination shall not be ranked in Distinction or First class.

### **3.18. AWARD OF DEGREE**

A candidate who has passed in all subjects of MD/MS/Diploma will be eligible for award of Degree during the ensuing convocation.

### **3.19. MIGRATION AND TRANSFER**

Migration/ Transfer of students undergoing any Postgraduate course (Degree/Diploma) shall not be permitted under any circumstances.

## **4. COURSE CONTENT**

### **4.1. SYLLABUS AND SCHEME OF EXAMINATION OF EXISTING MD/MS/DIPLOMA COURSES.**

The syllabus, scheme of examination and model question papers of existing M.D/M.S./Diploma courses is appended herewith.

\*\*\*\*\*