Regulations and Curriculum (Modified) for Postgraduate Degree Courses in Medical Sciences (MD/MS)

Amended upto March 2017

[(As per the Medical Council of India Postgraduate Medical Education Regulations, 2000 (Amended upto February, 2016)]

Pre-Clinical, Para-Clinical and Clinical subjects

Subject: MD General Medicine

(Deemed to be University under Section 3 of UGC Act, 1956)
(Placed under Category 'A' by MHRD, Govt. of India, Accredited with 'A' Grade by NAAC)
University Enclave, Deralakatte, Mangaluru – 575 018
Tel: +91-824-2204300/01/02/03 | Fax: 91-824-2204305
Website: www.nitte.edu.in E-mail: info@nitte.edu.in

VISION

To build a humane society through excellence in education and healthcare

MISSION

To develop
Nitte (Deemed to be University)
As a centre of excellence imparting quality education,
generating competent, skilled manpower to face the scientific and social challenges with a high degree of credibility, integrity,
ethical standards & social concern

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No. F.9-13/2007-U.3 (A)
Government of India
Ministry of Human Resource Development
(Department of Higher Education)
U.3(A) Section

Shastri Bhawan, New Delhi,
Dated: 4th June, 2008

NOTIFICATION

1. Whereas the Central Government is empowered under Section 3 of the University Grants Commission (UGC) Act, 1956 to declare, on the advice of the UGC, an Institution of higher learning as a deemed-to-be-university;

2. And whereas, a proposal was received in February, 2007 from Nitte Education Trust, Mangalore, Karnataka seeking grant of status of deemed-to-be-university in the name of Nitte University under Section 3 of the UGC Act, 1956;

3. And whereas, the University Grants Commission has examined the said proposal and vide its communication bearing No. F.26-10/2007(CPP-I/DU) dated the 10th March, 2008 has recommended conferment of status of 'deemed-to-be-university' in the name and style of Nitte University, Mangalore, Karnataka, comprising A.B. Shetty Memorial Institute of Dental Sciences, Mangalore;

4. Now, therefore, in exercise of the powers conferred by section 3 of the UGC Act, 1956, the central Government, on the advice of the University Grants Commission (UGC), hereby declare that Nitte University, Mangalore, Karnataka, comprising A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte, Mangalore, shall be deemed to be a University for the purposes of the aforesaid Act.

Sd/
(Sunil Kumar)
Joint Secretary to the Government of India

(True Extract of the Notification)

University Grants Commission
Bahadurshah Zafar Marg
New Delhi - 110002

No. F.26-5/2008(CPP-1) Dated: 24th March, 2009

OFFICE MEMORANDUM

1. Whereas the Government of India, Ministry of Human Resource Development, Department of Higher Education vide Notification No. F.9-13/2007-U.3(A) dated 4th June, 2008 declared Nitte University, Mangalore, Karnataka comprising A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte, Mangalore as Deemed to be University under Section 3 of UGC Act, 1956.

2. And whereas now, the University Grants Commission, on the recommendation of an Expert Committee constituted by the Chairman, UGC has agreed for bringing (i) K.S. Hegde Medical Academy, Deralakatte, Mangalore, (ii) Nitte Usha Institute of Nursing Sciences, Deralakatte, Mangalore, (iii) Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, Deralakatte, Mangalore, (iv) Nitte Institute of Physiotherapy, Deralakatte, Mangalore under the ambit of Nitte University, Deralakatte, Mangalore.

Sd/
(K.P. Singh)
Joint Secretary
University Grants Commission

(True Extract of the Notification)

Nitte University

(Deemed University under Section 3 of UGC Act 1956)
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University Enclave, Medical Sciences Complex, Deralakatte, Mangalore – 575 018
Tel: 0824-2204300/01/02/03; Fax: 91-824-2204305 E-mail: reg@nitte.edu.in Website: www.nitte.edu.in

Date: 13th May 2009

NOTIFICATION

Sub: The Regulations scheme and syllabi for MD/MS Program

In exercise of the powers conferred under Rule No.R.8 of the MoA, the Academic Council in its 4th meeting held on 13-05-2009 under the agenda item no. AC/4-04/09 has been pleased to approve the curriculum and regulation for MD/MS course in K.S. Hegde Medical Academy.

Sl.No	Specialty
1	MD in Anaesthesiology
2	MD in Dermatology, Venereology and Leprosy
3	MD in General Medicine
4	MD in Paediatrics
5	MD in Pathology
6	MD in Radiodiagnosis
7	MS in General Surgery
8	MS in Obstetrics and Gynaecology
9	MS in Ophthalmology
10	MS in Orthopaedics
11	MS in Otorhinolaryngology (ENT)

The Curriculum and Regulation shall come into force from the academic year 2009-10.

Sd/
(H.V. Sudhaker Nayak)
Registrar, Nitte University

Nitte University

(Deemed University under Section 3 of UGC Act 1956)
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Ref: NU/REG/AC-KSHEMA/2016-17/983 Date: 31-03-2017

NOTIFICATION

Sub: Modified Regulations and Post Graduate Degree Course Curriculum of all clinical and Non-Clinical specialties (MD/MS)

In exercise of the powers conferred under Rule No.R.9 of the MoA, the Academic Council in its 31st meeting held on 14-03-2017 under the agenda item no. AC/3(b)-31/17 has approved the Modified Regulations and Post Graduate Degree Course Curriculum of all clinical and Non-Clinical specialties (MD/MS).

Sl.No	Specialty
1	MD in Anatomy
2	MD in Biochemistry
3	MD in Physiology
4	MD in Forensic Medicine
5	MD in Microbiology
6	MD in Pathology
7	MD in Pharmacology
8	MD in Anaesthesiology
9	MD in Community Medicine
10	MD in Dermatology, Venereology and Leprosy
11	MD in General Medicine
12	MD in Paediatrics
13	MD in Psychiatry
14	MD in Radiodiagnosis
15	MS in General Surgery
16	MS in Obstetrics and Gynaecology
17	MS in Ophthalmology
18	MS in Orthopaedics
19	MS in Otorhinolaryngology (ENT)

Sd/
(M.S. Moodithaya)
Registrar, Nitte University

(Deemed to be University under section 3 of UGC Act 1956)
Placed under Category 'A' by MHRD, Govt. of India
Accredited as 'A' Grade University by NAAC
Mangaluru, Karnataka, India

Regulations and Curriculum (Modified) for Postgraduate Degree Courses in Medical Sciences (MD/MS)

(Amended upto March 2017)

[(As per the Medical Council of India Postgraduate Medical Education Regulations, 2000 (Amended upto February, 2016)]

Pre-Clinical, Para-Clinical and Clinical Subjects

Chapter I

Preamble:

K.S. Hegde Medical Academy imparting education and training in medical sciences since 1999, started postgraduate degree courses in medical sciences (MD/MS) specialities in 2006, in order to carry out quality research and prepare specialists teachers in medical sciences. Consequent to becoming a constituent college of Nitte (Deemed to be University), in 2009-10, the new regulations for the postgraduate degree courses were formulated as under:

1. Introduction:

1.1. These regulations shall be called 'Nitte (Deemed to be University) Regulations for Postgraduate Degree Courses in Medical Sciences (MD/MS)' and govern the policies and procedures including selection, admission, imparting of instructions, conduct of examinations, evaluation and certification of candidate's performance and all amendments there to, leading to the award of MD/MS degree. The regulations has come into effect from the academic year 2017-2018.

1.2. This set of regulations shall be binding on all the candidates undergoing the said degree programs.

1.3. These regulations are in conformance to the Medical Council of India Postgraduate Medical Education Regulations, 2000 (Amended upto February, 2016). These regulations may be modified from time to time as mandated by the statutes of the University and the Medical Council of India (MCI). These provisions shall be applicable to any new specialities that may be introduced from time to time.

1.4. This set of regulations may evolve and get refined or updated or amended or modified or changed through appropriate approvals from the Academic Council and the BoM from time to time and shall be binding on all parties concerned including the candidates, faculty, staff, departments, and authorities of the institution.

1.5. All disputes arising from this set of regulations shall be addressed to the BoM. The decision of the BoM is final and binding on all parties concerned. Further, any legal disputes arising out of this set of regulations shall be limited to jurisdiction of Courts of Mangalore only.

2. Definitions:

Unless the context otherwise requires:

- *BoM* means Board of Management of Nitte (Deemed to be University)
- *BoS* means Board of Studies in Medical Sciences (UG and PG) Pre-clinical, Paraclinical, Clinical, as the case may be
- *Constituent College* means any institution under the ambit of Nitte (Deemed to be University)
- *He* includes both genders he and she; similarly his and/or him, himself includes her, herself as well in all cases
- *Head of the Institution* means the Dean of the College / Institution
- *Institution/College* means K.S. Hegde Medical Academy
- *MCI* means Medical Council of India
- *Regulations* means this set of academic regulations
- *Regulatory Authority* means Authority appointed/constituted by the Central/ State Government/s and statutory bodies to regulate medical education
- *Teaching Hospital* means the Hospital attached to the K.S. Hegde Medical Academy or any other Hospital owned by, or under the management of Nitte (Deemed to be University)
- *University* means Nitte (Deemed to be University)

3. Branches of Study:

The following courses of study may be pursued

3.1. MD (Doctor of Medicine)

3.1.1 Anatomy

3.1.2. Biochemistry

3.1.3. Physiology

3.1.4. Forensic Medicine
3.1.5 Microbiology
3.1.6 Pathology
3.1.7. Pharmacology
3.1.8. Anaesthesiology
3.1.9. Community Medicine
3.1.10. Dermatology, Venereology and Leprosy
3.1.11. General Medicine
3.1.12. Paediatrics
3.1.13. Psychiatry
3.1.14. Radiodiagnosis

and such other subjects that shall be introduced by the Institution from time to time with due permission from the MCI.

3.2. **MS (Master of Surgery):**

3.2.1. General Surgery
3.2.2. Obstetrics and Gynaecology
3.2.3. Ophthalmology
3.2.4. Orthopaedics
3.2.5. Otorhinolaryngology (ENT)

and such other specialties that shall be introduced by the Institution from time to time, with due permission from the MCI.

4. Duration of the Course:

The duration of post graduate degree courses in medical sciences (MD/MS) shall be of three academic years, consisting of six terms. Each academic term shall be of six months duration.

5. Eligibility for Admissions:

A candidate who has passed MBBS examination from a medical college recognized by the MCI and has completed one year compulsory rotatory internship in a teaching institution recognized by the MCI, and has obtained permanent registration of any state medical council shall be eligible for admission to MD/MS degree course.

The candidate seeking admission will have to secure an eligibility certificate from

Nitte(Deemed to be University) by making an application along with the following documents and the prescribed fee:

a. MBBS pass/degree certificate

b. Copies of marks cards of all the university examinations
c. Attempt certificate issued by the Principal of the college
d. Internship completion certificate
e. Certificate regarding the recognition of the last studied medical college by the MCI, issued by Dean/Principal of that college
f. In case internship was done in a non teaching hospital, a certificate of the MCI that the hospital has been recognized for internship
g. Registration Certificate of any state medical council
h. Proof of SC/ST as the case may be
i. Proof of NEET rank

Note:

1. A candidate possessing PG Diploma of 2 year duration and duly recognized by MCI is eligible for admission to MD/MS course in the same speciality. The duration of the course for such candidates shall be two years.
2. Foreign nationals and candidates qualified from a foreign university should obtain the temporary registration and permission from the MCI prior to the admission to the MD/MS Program.

6. Selection of Eligible Candidates:

Selection to the post graduate degree courses in medical sciences (MD/MS) shall be based on the basis of merit obtained in the National Entrance and Eligibility Test (NEET) conducted by the central government or its authorized agency.

7. Withdrawal -Temporary and Permanent:

7.1. Temporary:

7.1.1. A candidate who has been admitted to the course may be permitted to withdraw temporarily for a period of six months or more up to one year on the grounds of prolonged illness, grave calamity in the family etc, provided:

a. He applies stating the reason for withdrawal with supporting documents and endorsement by parent/guardian;
b. The Institution is satisfied that without counting the period of withdrawal the candidate is likely to complete his requirement of the degree within maximum time specified;
c. There are no outstanding dues or demands with the Department, library, hostel, Institution etc;

7.1.2. The tuition fee for the subsequent year may be collected in advance based on the severity of the case before giving approval for any such

temporary withdrawal;

7.1.3. Scholarship holders are bound by the appropriate rules applicable;

7.1.4. The decision of the Institution/University regarding withdrawal of a candidate is final and binding.

7.2. Permanent withdrawal:

7.2.1. A candidate who withdraws admission before the closing date of admission is eligible for refund of fees paid as per rules of the University;

7.2.2. Once the admission for the year is closed, and if a candidate wants to leave the Institution, he will be permitted to do so and take the Transfer Certificate from the Institution, after remitting all the tuition fees for the remaining years;

7.2.3. Those candidates who have received any scholarship/stipend/other forms of financial assistance from the Institution shall repay all such amounts in addition to those mentioned in the clause above;

7.2.4. The decision of the Institution/University regarding withdrawal of a candidate is final and binding.

8. Migration:

Under no circumstance, migration/transfer of a candidate undergoing a post graduate degree course shall be permitted.

9. Conduct and discipline:

9.1. Students shall conduct themselves within and outside the premises and the campus of the institution in a manner befitting a student of a professional institution.

9.2**. As per the order of Honourable Supreme Court of India, ragging in any form is considered as a criminal offence and is banned. Any form of ragging will be severely dealt with.**

9.3. The following act of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures:

9.3.1. Ragging as defined and described by the Honourable Supreme Court of India /Government.

9.3.2. Lack of courtesy and decorum, indecent behavior anywhere within or outside the campus.

9.3.3. Willful damage or stealthy removal of any property/belongings of the institution/hostel or of fellow students/citizens.

9.3.4. Possession, consumption or distribution of alcoholic drinks or

any kind of drugs of abuse.

9.3.5. Mutilation or unauthorized possession of library books.

9.3.6. Noisy or unruly behavior, disturbing studies of fellow students.

9.3.7. Hacking of computer systems (such as entering into other person's domain without prior permission, manipulation and/or damage to the computer hardware or software or any other cyber crimes etc.)

9.3.8. Plagiarism of any nature.

9.3.9. Any other act of gross indiscipline as decided by the institution from time to time.

9.4. Commensurate with the gravity of offence, the punishment may be: reprimand, fine, expulsion from the hostel, debarment from an examination, disallowing the use of certain facilities of the institution, rustication for a specific period or even outright expulsion from the institution, or even handing over the case to appropriate law enforcement authorities or the judiciary, as required by the circumstances.

9.5. For any offence committed in (i) a hostel (ii) a department or in a classroom and (iii) elsewhere, the Chief Warden, the Head of the Department and the Head of the Institution, respectively, shall have the authority to reprimand or penalize the student.

9.6. All cases involving punishment other than reprimand shall be reported to the Head of the Institution.

9.7. Cases of adoption of unfair means and/or any malpractice in an examination shall be reported to the Controller of Examinations for taking appropriate action.

10. Graduation Requirements:

A student shall be declared eligible for the award of the degree if he has:

- Fulfilled all the degree requirements, including passing the required examination;
- No dues to the University, institution, departments, hostels, library, etc; and
- No disciplinary action pending against him.

The award of the degree must be recommended by the BoM.

11. Convocation:

Degrees will be awarded in person to the students who have graduated during the preceding academic year. Degrees will be awarded *in absentia to*

such students who are unable to attend the convocation. Students are required to apply for the convocation along with prescribed fee within the specified date and after having satisfactorily completed all degree requirements.

12. Academic Appeals Board (AAB):

There shall be an Academic Appeals Boards constituted by the University to receive grievances/ complaints in writing from the students regarding anomaly in award of marks due to perceived bias, victimization, erratic evaluation, etc. and to redress the complaints.

Constitution:

Head of the Institution	…	Chairperson
A Professor from a constituent college (Nominated by the Vice-Chancellor)	…	Member
Three faculty members (Nominated by the Vice-Chancellor)	…	Members
Controller of Examinations	…	Member Secretary

The AAB shall interact with the concerned examiner and the student separately, before taking a decision. The recommendation of the AAB shall be communicated to the Vice-Chancellor for further appropriate action.

Note:

- The Chairperson may co-opt and/or invite more members, with prior permission of Vice - Chancellor.
- Depending on the prevailing circumstances, the senior most member in the Board shall act as Chairperson instead of the appointed Chairperson.
- The quorum of each meeting shall be minimum of four members.

13. Attendance and Monitoring Learning Progress:

13.1. **Attendance:**

13.1.1. A student pursuing MD/MS course shall work in the concerned department of the institution for the entire period as a full time candidate. No student is permitted to run a clinic/laboratory/ work in any laboratory / institution / hospital / nursing home etc., during the entire period of study. No student should join any other course of study or appear for any other degree examination conducted by this University or any other university in India or abroad during the period of registration.

13.1.2. Each year shall be taken as a unit for the purpose of calculating attendance.

13.1.3. A student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, Clinico Pathological, Conferences, case presentations, clinics and lectures during each year as prescribed by the Department / Institution / University and not absent himself without a valid reason.

13.1.4. A student is required to attend a minimum of 80% of training during each academic year. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

13.1.5. Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University examinations.

13.2 **Teaching-Learning Activities:**

13.2.1. **Pre-Clinical and Para-Clinical Specialties:**

The teaching and training of the students shall be through lectures, seminars, journal clubs, group discussions, participation in laboratory and experimental work, and involvement in research studies in the concerned speciality and exposure to the 'applied aspects' of the subject relevant to the speciality.

13.2.2. **Clinical Specialties:**

The teaching and training of the students shall include graded responsibility in the management and treatment of patients entrusted to their care; participation in seminars, journal clubs, group discussions, clinical meetings, grand rounds, and clinico-pathological conferences; practical training in diagnosis and medical and surgical treatment and training in the basic medical sciences, as well as in allied clinical specialities.

13.3. **Monitoring Learning Progress:**

13.3.1. A student shall maintain a work diary/ log book and record his participation in the training program such as review of journal, seminars etc. conducted by the department /Institution.

13.3.2. The work diary shall be scrutinized and certified by the Guide, Head of the Department and Head of the Institution and presented during university practical/clinical examinations.

13.3.3. Special mention may be made of the presentations by the student as well as details of clinical or laboratory procedures, conducted by the student.

13.3.4. The concerned department shall conduct three examinations: One examination each at the end of the first and second year, and the third examination, two to three months before the University examination. These examinations shall include written papers, practical / clinical and viva-voce.

13.4. **Procedure for Defaulters:**

Each department shall have a Committee comprising of Head of the Department, three faculty members (maximum) and the respective Guide. A student whose progress is found to be unsatisfactory will be counseled by the Committee giving chances to improve. If the student continues to be defaulting, the Committee can recommend withholding the student from appearing for the University examinations.

14. Dissertation/Thesis:

14.1. Preparation of Dissertation/Thesis:

14.1.1. A student is required to carry out a study on a selected research project under the guidance of a recognized Guide. The results of such a study shall be submitted in the form of a dissertation/thesis.

14.1.2. The dissertation/thesis is aimed at training a postgraduate student in research methodology and techniques, medical ethics and medico–legal aspects. It includes identification of a problem, formulation of a hypothesis, review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

14.1.3. The dissertation/thesis should be written under the following headings in order:

a. Introduction
b. Aims and Objectives of the Study
c. Review of Literature
d. Materials and Methods
e. Results
f. Discussion
g. Summary and Conclusions
h. References
i. Tables
j. Annexures

14.1.4. The written text of dissertation/thesis shall be of not less than 50 pages and shall not exceed 200 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed with double line spacing on one side of the paper (A4 size: 8.27" x 11.69") and bound properly. Spiral binding should be avoided. A soft copy of the dissertation/thesis should also be submitted.

14.1.5. A Guide shall be a full time postgraduate teacher in the respective department of the college and recognized by MCI/Nitte (Deemed to be University) as a Guide for supervision of dissertation/thesis work. A Co-Guide can be opted wherever required with prior permission of the college and university. The Co-Guide should also be a postgraduate teacher, recognized by MCI/Nitte (Deemed to be University).

14.1.6. He shall submit the synopsis of the study to the University through the Guide, HoD and Head of the Institution. The synopsis shall be submitted within six months of commencement of the course or within the date notified by the University. The synopsis should be vetted by the Guide, Department and approved by the Institutional Ethics Committee before submission to the university.

14.1.7. Once the synopsis is approved and registered by the University, no change in the topic or Guide shall be permitted without the prior approval of the University.

14.1.8. In the event of the registered Guide leaving the Institution or in the event of the death of the Guide, the Guide may be changed with prior permission from the University.

14.2. **Submission and Acceptance of Dissertation/Thesis:**

14.2.1 The final dissertation/thesis in the prescribed format and certified by the Guide and Co-Guide (if any), Head of the Department and Head of the Institution should be submitted to the University six months before the University examinations or as per the date notified by the University.

14.2.2 A student is eligible to appear for the University theory, practical/ clinical, and viva-voce examinations only if his dissertation/thesis has been accepted by the University, after due evaluation, subject to satisfying other conditions mentioned below. (see 15.2.1)

15. Examinations:

15.1. University Examinations:

The University examination shall be held at the end of 3 academic years (six academic terms). An academic term shall mean six months training period. The examinations shall consist of dissertation/thesis, theory papers, practical/clinical and viva-voce examinations. The University shall conduct two examinations in an academic year at an interval of not less than four months and not more than six months between the two examinations.

15.2. Scheme of Examinations:

The examination shall consist of dissertation/thesis, written paper (theory), practical/ clinical and viva-voce examinations.

15.2.1 **Eligibility to Appear for University Examinations:**

A student who fulfils all of the following conditions shall be permitted to appear for the University examinations.

- A minimum 80% attendance in each academic year;
- Satisfactory completion of the requirements of the course certified by Head of the Department and Head of the Institution;
- Acceptance of the thesis/ dissertation by the University;
- Presented one poster, read one paper at a national/state conference and presented one research paper which should have been published/accepted for publication/sent for publication during the period of his postgraduate studies; and
- Fulfils any other requirement that may be prescribed by the University from time to time.

15.2.2 A student whose dissertation/thesis has been accepted by the examiners, but who is declared to have failed in the University examination will be permitted to reappear for the subsequent examination without having to prepare a new dissertation/ thesis.

15.2.3 In case the dissertation/thesis of student is rejected, the authorities shall give reasons thereof and suggestion for the improvement of the same and the dissertation/ thesis thus improved will have to be re-submitted to the University for evaluation and be accepted before appearing for the university examination.

15.2.4 **Theory Papers:**

- There shall be four theory papers each of three hours duration and each paper carrying 100 marks.
- Paper I, II III and IV shall consist of two long essay questions of 20 marks each and six short essay questions of 10 marks each.

Note:
Questions on recent advances may be asked in any or all the papers.
The distribution of topics in each paper is given under the respective speciality

15.2.5 **Practical Examination (Pre-Clinical and Para- Clinical specialities):**

The total marks for practical examination shall be 200 marks. Practical examination in subjects in basic medical sciences specialities shall be conducted to test the knowledge and competence of the student for making valid and relevant observations based on the experimental/ laboratory studies and his ability to perform such studies as are relevant to his speciality.

15.2.6 **Clinical Examination (Clinical specialities):**

The total marks for clinical examination shall be 200 marks. Clinical examination in clinical specialities shall be conducted to test the knowledge and competence of the student for undertaking independent work as a specialist/teacher, for which students shall examine a minimum of one long case and two short cases.

15.2.7 **Viva -Voce Examination:**

Viva -Voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be100 marks and the division of marks shall be as under:

Examination of all components of the syllabus:	80 marks
Pedagogy:	20 marks

16. Criteria for Pass:

To pass in the University examinations, a student shall appear for all theory papers scoring a minimum of 40% in each paper and secure a minimum of 50% of total marks allotted for theory subjects (i.e. 200 marks out of 400) in aggregate and 50% marks allotted in practical/ clinical and viva voce put together (minimum of 150 marks out of 300 marks) in aggregate.

16.1.1. A student securing less than 50% marks shall be declared to have failed in the examination. The reasons for failing a student shall be documented in the case sheet and signed by all Examiners. Failed students may reappear in any subsequent examination as notified by the University.

17. Declaration of Class:

Class will be awarded only to those students who pass the entire examination in the first attempt and minimum duration (two years / three years, as the case may be) and the class shall be awarded as follows:

- 75% and above: Passed with Distinction
- 50% and above but below 75%: Pass class

A student who passes the examinations in more than one attempt shall be declared as 'Pass' irrespective of the percentage of marks secured.

18. Supplementary Examination:

Supplementary examination shall be conducted by the University for the benefit of unsuccessful students which will be held within six months from the date of announcement of results.

A student detained for lack of attendance will be barred from appearing for the supplementary examinations unless he has fulfilled the requirement of attendance.

19. Award of Merit Certificates:

Merit Certificate is awarded only if a student passes with 75% and above in the first attempt.

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Chapter II
GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION COURSE

1. Goal

The goal of postgraduate medical education shall be to produce competent specialists and/or medical teachers:

i. 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;
ii. 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;
iii. who shall be aware of the contemporary advance and developments in the discipline concerned;
iv. who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
v. who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

2. General Objectives of Post-Graduate Training:

At the end of the postgraduate training in the discipline concerned the student shall be able to:

i. Recognize the importance to the concerned specialty in the context of the health needs of the community and the national priorities in the health sector;
ii. Practice the specialty concerned ethically and in step with the principles of primary health care;
iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty;
iv. 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 promotive measures strategies;
v. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations;

vi. Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality;
vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation;
viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations;
ix. Play the assigned role in the implementation of national health programs effectively and responsibly;
x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation;
xi. Develop skills as a self-directed learner, recognize continuing education needs and select and use appropriate learning resources;
xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature;
xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers; and
xiv. Function as an effective leader of a health team engaged in health care, research or training;

3. Components of the Postgraduate Curriculum

The major components of the postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Writing dissertation/research articles
- Attitudes including communication skills
- Training in research methodology, medical ethics and medico-legal aspects

[Source: The Medical Council of India Postgraduate Medical Education Regulations, 2000 (Amended upto February, 2016)]

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Chapter III
Curriculum for
MD GENERAL MEDICINE

Programme outcomes:

At the end of the program, graduates will be able to…

1. Practice efficiently internal medicine speciality, backed by scientific knowledge including basic sciences and skills.
2. Diagnose and manage majority of conditions in internal medicine
3. Exercise empathy and caring attitude and maintain professional integrity, honesty and high ethical standards
4. Plan and deliver comprehensive treatment using the principles of rational drug therapy
5. Plan and advise measures for the prevention and rehabilitation of patients belonging to internal medicine
6. Manage emergencies efficiently by providing basic life support and advanced life support in emergency situation
7. Recognise conditions that may be outside the area of the speciality/competence and refer them to an appropriate specialists
8. Demonstrate skills in documentation of case details including epidemiological data
9. Play the assigned roles in implementation of national health programmes
10. Demonstrate competence in basic concepts of methodology and clinical epidemiology and preventive aspects of various disease states
11. Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher-trainer
12. Continue to evince keen interest in continuing education and use appropriate learning resources
13. Be well versed with the medico legal responsibilities
14. Undertake audit, use information technology tools and carryout research, with the aim of publishing/presenting in scientific forums
15. Recognise the mental conditions, behaviour, abnormal functioning in social interaction and / or poor communications

Syllabus

Essential Knowledge:

The course syllabus has been identified, categorized as essential knowledge so as to enable the students to achieve the objectives of the course. The student should also have knowledge of some common problems in allied specialties.

The topics are classified under:

1. Basic Sciences
2. General Medicine topics
3. Speciality topics

I. Basic Sciences:

- Applied aspects of Anatomy, Physiology, Biochemistry, Pathology, Hematology, Microbiology Pharmacology and Preventive aspects of Communicable Diseases.
- Legal implications of acts of Omission and Commission and Consumer Protection Act.

II. *General Medicine Topics:

- Clinical history and examination: Taking history in detail and analysis, thorough clinical examination of various systems and arriving at a provisional diagnosis/ differential diagnosis on clinical grounds.
- Rationale of diagnostic tests : Ordering diagnostic tests either to confirm or rule out the provisional diagnosis/ differential diagnosis, based on the clinical history and examination and considering the socio-economic condition of the patient.
- Therapeutic aspects: To treat the disease, plan and advise measures for prevention and rehabilitation of the patients.
- Statistics : descriptive and analytical statistics, qualitative research methodology and design and critical review of statistical procedures.
- Principles of Evidence based medicine : Understanding journal based literature study, the value of text book, reference book articles, the value of review articles, original articles and their assessment. Understanding the value of retrospective, prospective, randomized controlled and blinded studies – the principles including meanings of various bio- statistical tests applied in these studies.
- Medical Ethics and social responsibilities of Physicians.
- Use of computers in Medicine.

Note: The list of topics are general guidelines. They are neither comprehensive nor exhaustive .

III 1. Introduction to Clinical Medicine :

a. The practice of Medicine
b. Global issues in Medicine
c. Decision – making in Clinical Medicine
d. Screening and Prevention of Disease
e. Principles of Clinical Pharmacology
f. Women's health
g. Medical evaluation of surgical patients
h. Palliative and End-of-Life Care
i. Safety and quality of health care
j. Primary Care in low and middle income countries
k. Complementary, Alternative and Integrative Medicine
l. Economics and ethical issues in clinical medicine

2. Pain:

a. Pathophysiology and Management
b. Chest Discomfort
c. Abdominal pain
d. Headache
e. Back and Neck Pain

3. Alterations in Body Temperature:

a. Fever and Hyperthermia
b. Fever and Rash
c. Fever of Unknown Origin
d. Hypothermia and Frostbite

4. Nervous System Dysfunction

a. Syncope
b. Dizziness and Vertigo
c. Weakness and Paralysis
d. Numbness, Tingling and Sensory loss
e. Gait and Balance Disorders
f. Confusion and Delirium
g. Aphasia, Memory loss and Other Focal Cerebral Disorders
h. Sleep disorders

5. Disorders of Eyes, Ears , Nose and Throat

a. Disorders of Eye
b. Disorders of Smell and Taste
c. Disorders of Hearing
d. Oral Manifestations of Disease.

e. Pharyngitis, Sinusitis, Otititis and Other Upper Respiratory Tract infections

6. Alterations in Circulatory and Respiratory Functions

a. Dyspnea
b. Cough and Haemoptytsis
c. Hypoxia and Cyanosis
d. Edema
e. Palpitations
f. Approach to the patient with a Heart Murmur

7. Alterations in Gastrointestinal functions :

a. Dysphagia
b. Nausea,Vomiting and Indigestion
c. Diarrhea and Constipation
d. Gastrointestinal Bleeding
e. Jaundice
f. Abdominal Swelling and Ascites

8. Alterations in Renal and Urinary Tract Function :

a. Azotemia and Urinary Abnormalities
b. Fluid, Acid - Base and Electrolyte Disturbances
c. Hypercalcemia and Hypocalcemia
d. Acidosis and Alkalosis

9. Alterations in Sexual Function and Reproduction :

a. Sexual dysfunction
b. Hirsuitism and Virilization
c. Menstrual Disorders and Pelvic Pain

10. Alterations in the skin :

a. Approach to the patient with skin disorder
b. Eczema, Psoriasis, Cutaneous Infections, Acne and Other Common Skin Disorders
c. Skin Manifestations of Internal Disease
d. Immunologically Mediated Skin Diseases
e. Cutaneous Drug reactions
f. Photosensitivity and other reactions to light.

11. Haematologic Alterations :

a. Anemia and Polycythemia
b. Bleeding and Thrombosis
c. Enlargement of Lymphnodes and Spleen
d. Disorders of Granulocytes and Monocytes

12. **Genes, Environment and Disease:**
    a. Principles of Human Genetics
    b. Chromosome disorders
    c. Practice of Genetics in Clinical Medicine
    d. The Human Microbiome
13. **Regenerative Medicine:**
    a. Stem Cell Biology
    b. Hematopoietic Stem Cells
    c. Applications of Stem Cell Biology in Clinical Medicine
    d. Gene Therapy in Clinical Medicine
    e. Tissue Engineering
14. **Ageing :**
    a. World demography of ageing
    b. The Biology of ageing
    c. Clinical Problems of ageing.
15. **Nutrition:**
    a. Nutrient Requirement and Dietary Assessment
    b. Vitamin and Trace Mineral Deficiency and Excess
    c. Malnutrition and Nutritional assessment
    d. Entral and Parenteral Nutrition therapy
    e. Biology of Obesity
    f. Evaluation and Management of Obesity
    g. Eating Disorders
    h. Involuntary Weight Loss
16. **Neoplastic Disorders :**
    a. Approach to the patient with cancer
    b. Prevention and early detection of Cancer
    c. Cancer Genetics
    d. Cancer Cell Biology and Angiogenesis
    e. Principles of Cancer treatment
    f. Infections in Patients with Cancer
    g. Cancer of the Skin
    h. Head and Neck Cancer
    i. Neoplasm of the Lung
    j. Breast Cancer
    k. Gastrointestinal Tract Cancer

l. Tumours of Liver and Biliary tree
m. Pancreatic Cancer
n. Bladder and Renal Cell Cancer
o. Benign and Malignant diseases of Prostate Cancer
p. Testicular Cancer
q. Gynecologic Malignancies
r. Soft Tissue and Bone Sarcomas and Bone metastases.
s. Carcinoma of Unknown Origin
t. Paraneoplastic Syndromes: Endocrinal / Haematological
u. Paraneoplastic Neurologic Syndromes
v. Late consequences of Cancer and its treatment

17. Haematopoietic & Haemostasis Disorders :

a. Iron Deficiency and other Hypoproliferative Anamias
b. Disorders of Hamoglobulin
c. Megaloblastic Anamias
d. Haemolytic Anamias and Anamia due to acute blood loss
e. Aplastic Anamia Myelodysplasia and Bone marrow Failure
f. Polycythemia Vera and other Myeloproliferative disorders.
g. Acute and Chronic Myeloid Leukemia
h. Malignancies of Lymphoid cells
i. Plasma Cell Disorders
j. Amyloidosis
k. Transfusion biology and therapy
l. Haematopoietic cell transplantation
m. Disorders of Platelet and Vessel Wall
n. Arterial and Venous thrombosis
o. Antiplatelet, Anticoagulant and Fibrinolytic drugs

18. Infectious diseases :

a. Basic Considerations in Infectious Diseases
b. Clinical Syndromes: Community - Acquired infections
c. Clinical Syndromes: Healthcare - Associated infections
d. Approach to Therapy for Bacterial diseases
e. Diseases caused by Gram –Positive Bacteria
f. Diseases caused by Gram – Negative Bacteria
g. Miscellaneous Bacterial infections
h. Mycobacterial diseases
i. Spirochetal diseases
j. Diseases caused by Rickettsiae, Mycoplasmas and chalamydiae

k. Viral Diseases: General Considerations
l. Infections due to DNA Viruses
m. Infections due to DNA & RNA Respiratory Viruses
n. Infections due to Human Immunodeficiency Virus and other Human Retroviruses
o. Infections due to RNA Virus
p. Fungal Infections
q. Protozoal and Helminthic infections: General considerations
r. Protozoal infections
s. Helminthic infections

19. Terrorism and Clinical Medicine :

a. Microbial Bioterrorism
b. Chemical terrorism
c. Radiation terrorism

20. Disorders of Cardiovascular System :

a. Introduction to Cardiovascular disorders
b. Diagnosis of Cardiovascular disorders
c. Disorders of Rhythm
d. Disorders of the Heart
e. Vascular disease

21. Disorders of Respiratory System :

a. Diagnosis of Respiratory disorders
b. Diseases of Respiratory system

22. Critical Care Medicine :

a. Respiratory Critical Care
b. Shock and Cardiac Arrest
c. Neurologic Critical Care
d. Oncologic emergencies

23. Disorders of Kidney & Urinary Tract :

a. Cellular and Molecular Biology of the Kidney
b. Adaptation of Kidney to renal injury
c. Acute Kidney injury
d. Chronic Kidney disease
e. Dialysis in the Treatment of renal failure
f. Transplantation in the treatment of renal failure
g. Glomerular disease
h. Polycystic Kidney Disease and other inherited tubular disorders
i. Tubulointerstitial diseases of the Kidney

j. Vascular injury to the Kidney
k. Nephrolithiasis
l. Urinary Tract infections, Pyelonephritis and Prostatitis
m. Urinary Tract obstruction

24. Disorders of Gastrointestinal System :

a. Approach to a patient with Gastrointestinal disease
b. Gastrointestinal Endoscopy
c. Diseases of the Oesophagus
d. Peptic Ulcer disease and related disorders
e. Disorders of Absorption
f. Inflammatory Bowel Disease
g. Irritable Bowel Syndrome
h. Diverticular Disease and Common Anorectal disorders
i. Mesenteric Vascular insufficiency
j. Acute Intestinal Obstruction
k. Acute Appendicitis and Peritonitis

25. Liver & Biliary Tract Disease :

a. Approach to a patient with Liver disease
b. Evaluation of Liver function
c. Hyperbilrubinemias
d. Acute Viral Hepatitis
e. Toxic & Drug – induced Hepatitis
f. Chronic Hepatitis
g. Alcoholic Liver disease
h. Cirrhosis and its complications
i. Genetic, metabolic and infiltrative diseases affecting the Liver
j. Liver Transplantation
k. Diseases of the Gall Bladder and Bile Ducts

26. Disorders of Pancreas :

a. Approach to the patient with Pancreatic disease
b. Acute and Chronic Pancreatitis

27. The Immune System in Health & Disease :

a. Introduction to Immune System
b. The Major Histocompatibility complex
c. Primary Immune Deficiency diseases

28. Disorders of Immune - mediated Injury :

a. Allergies, Anaphylaxis and Systemic Mastocyosis

b. Autoimmunity and Autoimmune diseases
c. Systemic Lupus Erythematosus
d. Antiphospho lipid Antibody Syndrome
e. Rheumatoid Arthritis
f. Acute Rheumatic Fever
g. Systemic Sclerosis and related disorders
h. Sjögren's Syndrome
i. Spondyloarthritides
j. Vasculitis Syndromes
k. Behcet's Syndrome
l. Relapsing Polychondritis
m. Circidosis
n. Familial Mediterranean Fever and other Hereditary Recurrent Fever

29. Disorders of Joints & Adjacent Tissues :

a. Approach to articular and musculoskeletal disorders
b. Osteoarthritis
c. Gout and other Crystal – Associated Arthropathies
d. Infectious Arthritis
e. Fibromyalgia
f. Arthritis associated with systemic disease and other Arthritides
g. Periarticular disorders of extremities

30. Endocrinology :

a. Principles of Endocrinology
b. Disorders of the Anterior Pituitary and Hypothalamus
c. Disorders of Neurohypophysis
d. Disorders of Thyroid gland
e. Disorders of Adrenal Cortex
f. Pheochromocytoma
g. Diabetes Mellitus
h. Hypoglycemia
i. Disorders of Testes and male reproductive system
j. Female reproductive system, Infertility and Contraception
k. Menopause Transition and Postmenopausal Hormone Therapy
l. Disorders of Sex Development
m. Endocrine Tumours of Gastrointestinal Tract & Pancreas
n. Disorders Affecting Multiple Endocrine Systems

31. Disorders of Bone Mineral Metabolism :

a. Bone Mineral Metabolism in health & Disease

b. Disorders of Parathyroid Gland and Calcium Homeostasis
c. Osteoporosis
d. Paget's Disease and other Dysplasias of bone

32. Disorders of Intermediary Metabolism :

a. Disorders of Lipoprotein Metabolism
b. Haemochromatosis
c. The Porphyrias
d. Disorders of Purine and Pyrimidine Metabolism
e. Wilson's Disease
f. Glycogen Storage Diseases and other Inherited disorders of Carbohydrate Metabolism
g. Lysosomal Storage Diseases
h. Heritable Disorders of Connective Tissue
i. Inherited Disorders of Amino Acid Metabolism in Adults
j. Inherited Defects of Membrane Transport

33. Neurologic Disorders :

a. Diagnosis of Neurologic disorders
b. Diseases of Central Nervous System
c. Nerve and Muscle disorders
d. Chronic Fatigue Syndrome

34. Psychiatric Disorders :

a. Biology of Psychiatric Disorders
b. Mental Disorders
c. Alcohol and Alcoholism
d. Opioid Drug Abuse and Dependence
e. Cocaine and other Commonly Abused Drugs
f. Nicotine addiction

35. Poisoning, Drug Overdose and Envenomation

a. Heavy Metal Poisoning
b. Disorders caused by venomous snake bites and marine animal exposures
c. Ectoparasite infestations and arthropod bites and stings

36. High Altitude and Decompression Sickness

a. Altitude Illness
b. Hyperbaric and Diving Medicine

37. Medical Ethics: Sensitization and Practice

38. Clinical Trials : Basic Concepts

39. Bio medical Waste disposal

40. Laboratory Values of Clinical importance

***Note: For details, Refer to Harrison's Principles of Internal Medicine** (Latest Edition)

41. Module on Gender Equity

Specific learning outcomes:

At the end of each unit students will be able to

1. Recognize the causes for the current status of women in our society.
2. Discuss the need for women empowerment and related social issues.
3. Summarize the status of women in primary, secondary and higher education in India.
4. Identify the problems faced by women in various forms of occupation
5. Outline the laws governing women rights in India.

SYLLABUS: (10 hours)

- Status of Women: Demographic profile of women related statistics
- Women empowerment: concept, need, Issues related to women, programs for girl child, violence against women, laws protecting women rights, case profile studies.
- Importance of women education: School drop-out rate, causes, prevention and steps taken. The access to higher education. Case profile studies.
- Women and work: Problems faced by working women, Maternity leave, POCSO act. Case profile study of a working woman.

Suggested Teaching-Learning methods

- Lectures / group discussions
- Self-directed learning and Assignments

42. Module on Human Health and Environment

Specific learning outcomes:

At the end of each unit students will be able to

1. Describe the principles of environmental science

2. Define the structure, function and features of ecosystem.
3. Summarize the importance of healthy air, water and soil.
4. Identify the types of pollution, sources, causes and impact on human health.
5. List common aeroallergens and pollution related diseases
6. Describe biological, chemical and physical hazards as determinants of health and disease in human

SYLLABUS (10 hours):

Introduction: Health and Environmental, atmosphere, hydrosphere, lithosphere and biosphere.

Ecosystem: Structure, functions and its features. Weather and climate change: Global warming and greenhouse effect.

Pollution: Classification of pollution, its sources, cause and their impacts. Types of pollutants and its fate: Eutrophication. Water and soil- types and sources; sewage and waste water treatment and recycling; Noise pollution and its impact on human health.

Environmental hazards: Biological, chemical and physical hazard. Toxic chemicals in the environment: air, water and soil

Clean air: Pesticides and carcinogens in the air, Microflora of atmosphere, Identification of aeroallergens, Air pollution related diseases and allergies.

Environmental Ethics and Global imperatives: Legal/environmental policy and different control measures.

Suggested Teaching-Learning methods

- Lectures / group discussions
- Self-directed learning and Assignments

IV. Skills to be Acquired

a. Skill of History taking and Examination

- Should be able to elicit good clinical history - Active and Passive listening, Non-verbal communication , Empathy
- Analysis of the history

- Should be able to do a meticulous general and systemic examination
- To arrive at a sensible diagnosis/ differential diagnosis so as to order for relevant and cost effective investigations
- Should be able to perform diagnostic procedures independently /under supervision of a consultant

b. Interpretation Skills

- Should be able to interpret the clinical and laboratory data so as to confirm the diagnosis
- Formulate a plan on management including referral to a specialist when required
- Communicate the implications of the diagnosis to the patient and family including the pros and cons of the treatment

c. Reporting Skills

- Should be able to communicate verbally or in writing to medical colleagues and lay people
- Promote public education stressing on preventive aspects of the disease

d. Treatment Skills

- Rational drug prescribing skills in a cost effective manner
- Promote compliance with prescribed treatment
- Ensure regular follow up , recognize adverse effects of the drugs at the earliest
- Adequate documentation of the treatment and follow up

e. Learning Skills

- Sustained self directed independent learning: Being a lifelong learner.
- Keeping abreast with advances in medical practice.
- Effective use of library facilities, Electronic media so as to have a critical appraisal of the information

f. Team work Skills

- Develop a professional outlook
- Courteous to Medical, Paramedical healthcare workers

- Develop an attitude for Community services
- Understanding and implementation of national health programmes

g. Competency Skills:

Description of Competencies

Optic fundi examination	Per rectal examination
Test dose and interpretation	Sampling blood and fluid for cultures
IV-Infusions and Cannulations	Venesection
ECG recording and interpretation	Pleural tap
Peritoneal tap	Pericardial tap
Lumbar puncture	Basic and Advanced Life Support
Central line, Central Venous Pressure monitoring	Blood, blood component (Platelet, FFP, etc.) transfusions
Arterial puncture for Blood Gases	Liver biopsy & Liver abscess aspiration
Bone marrow aspiration and biopsy	Peritoneal/Pleural biopsy
Bladder Catheterisation	Naso- gastric tube insertion
Nebulisation and Inhaler therapy	Oxygen delivery by mask & nasal prongs
Endotracheal Intubation	Handling of ventilators
Using defibrillators & temporary pace-maker	Intercostal tube insertion
Access to peritoneal & haemo-dialysis	Treadmill test
Echo cardiographic studies	Upper & lower GI endoscopy
Bronchoscopy	Tracheostomy
Ultrasound guided aspirations & biopsies	Interpretation of MRI/ CT Scans/ NCS/ EMG/EEG

h. Training Program :

The training program shall be organized and structured. A graded responsibility should be given in an integrated manner to make him/her a physician capable of holistic approach to patient -care.

I year:

a. Ability to clerk the patient with a good clinical history and thorough physical examination.
b. Plan, perform and follow up investigation and report.
c. Ability to develop rational treatment plan and execute the same.
d. Identify emergency problems and seek help from seniors/

consultants.

e. Supervise Interns work
f. Prepare synopsis for dissertation and present the same in the department, curriculum development cell, ethics committee and after clearance submit the same to the University (as per University dates).
g. Should be capable of handling bedside classes for undergraduates.
h. To present dissertation work carried out to date in the department at the end of the year.
i. To develop effective counseling and communication skills.
j. To attend at least two CME programmes

II year

a. Develop basic knowledge of subspeciality subjects.
b. Learn indications, contraindications and complications of procedures, so as to take an informed consent from the patient / family members.
c. Witness / perform procedures in the specialties under supervision.
d. Ability for timely referral of the case to subspecialist (use discretion when to and when not to interfere in a case, but always providing basic life support).
e. Data collection for dissertation and complete the review of literature. (By the end of II year data collection, analysis and discussion should be presented in the departmental meeting).
f. Should have had / should make an attempt to present a paper, poster or platform presentation in a state/national conference.
g. Should attend a minimum of four CME programmes

III year

a. Should be capable of handling cases independently
b. Diagnose and Manage Emergencies
c. Identify the cases that need to be referred to specialist
d. Teach and supervise junior residents and interns
e. Teach undergraduates.
f. Complete and submit the dissertation work to the University.
g. Should present one poster , read one paper at a national/state

conference and present one research paper which should be published/accepted for publication/sent for publication. .

h. Should attend a minimum of four CME programmes

Rotation Postings

The postgraduates are posted in the following subspecialities and wherever any subspeciality is not available it has to be ensured that they get adequate exposure of cases in those subspecialties.

Department	Duration of posting	Year of posting
General Medicine	24months	I / III year
Emergency Medicine/ICU	2 months	II year
Oncology	1month	II year
Cardiology + CCU	2months	II year
Neurology	2months	II year
Nephrology	2months	II year
Respiratory diseases	1month	II year
Gastroenterology	1month	II year
Dermatology	15days	II year
Psychiatry	15days	II year
Total	**36 months**	

Part - II : Evaluation Monitoring the learning process (Formative Assessment) :

It shall be monitored each student through continuous appraisal and regular assessment. The methods used consist of a logbook which records participation in various teaching /learning activities by the students. The participation of students is assessed using a check list that assesses various aspects (Annexure 1). The logbook shall be periodically checked (weekly /fortnightly) by the teachers.

Teaching / Learning activities:

- **Subject seminar:** The topic shall be assigned to the students well in advance to facilitate in-depth study and held once a week. The student should learn to do literature search, understand the subject and present the same using appropriate audio visual aids *(Checklist No: 1).*
- **Journal club:** The student should be able to choose an article, understand

the scope, objectives and limitations of the paper, make adequate cross references, analyze the statistical significance and present using appropriate audio visual aids. This shall be held once a week *(Checklist No: 2).*

- **Bedside clinics:** This shall be held at least once a week where the student presents a case to the assigned teacher. Clinics mainly concentrate on analyzing the history, method of clinical examination and arrive at a clinical diagnosis / differential diagnosis *(Checklist No: 3).*
- **General Clinics:** This shall be held once a week wherein a student presents a case in detail and shall be attended by all post graduates and faculty members of the department. The evaluation includes completeness and clarity of history, accuracy of physical examination, ability to arrive at a diagnosis/ differential diagnosis, request for appropriate investigations and treatment plan.*(Checklist No: 3)*
- **Clinical skills (Ward Work):** This pertains to day to day skills in the OPD and wards, ability to maintain the case records, follow up notes, interpretation of investigation reports and treatment plan. The evaluation includes the student's sincerity, punctuality, analytical ability & communication skills. *(Checklist No: 4)*
- **Teaching skills:** Each Student shall be teach undergraduate medical and para medical students. The performance shall be assessed by the faculty members and from student feedback. *(Checklist No: 5)*
- **Dissertation work:** The Guide shall periodically review (Once in six months) the dissertation work carried out by the student and record the same in the log book. *(Checklist No: 6a & 6b)*
- **Log book:** Every student shall maintain a log book and record his participation in training programmes conducted by the department. The log book shall be scrutinized by Guide/ Moderator and Head of the Department and shall be made available to the University /MCI during examination or as and when required.
- **Periodic tests:** Three tests shall be conducted: one each at the end of I and II year, the third test will be held two to three months before the final examination. The test will include a written paper and clinical examination.

Scheme of Examination (Summative Assessment):

M.D. (General Medicine) degree examination shall be held at the end of three academic years and shall consist of dissertation/thesis, written papers (Theory),

clinical and viva voce.

Note: Satisfying all the pre requisites as indicated in Chapter 1 is a must to appear for the University examination. (See 15.2.1 in chapter I)

A. Written Papers (Theory) : (Total Marks - 400)

- Shall consist of four question papers, each of three hours duration, each of 100 marks.
- Each paper shall consist of TWO long essay questions of 20 marks each and
  SIX short essay questions of 10 marks each.
- **Details of distribution of topics for each paper will be as follows:**

  Paper I : Basic Sciences – (Pre & Para clinical subjects) - Applied aspects and General Medicine Topics:

a.	Genetics
b.	Fluid & Electrolyte balance
c.	Shock and Multiorgan failure
d.	Poisoning & Toxicology
e.	Radiodiagnosis
f.	Pregnancy and Adolescent Medicine
g.	Pre anaesthetic and post operative medical problem
h.	Immunology
i.	Regenerative Medicine
j.	Nutrition
k.	Geriatrics
l.	Emergency & Critical Care Medicine

Paper–II : Infectious diseases, Cardiovascular diseases, Gastrointestinal and Hepatobiliary diseases, Diseases of Pancreas.

Paper–III: Respiratory Medicine, Neurology, Rheumatology, Connective Tissue Disorders, Metabolic Bone Disorders, Sexual Medicine.

Paper–IV : Recent Advances, Nephrology, Endocrinology and Metabolism, Haematology including Blood transfusion, Medical Oncology, Psychiatry, Dermatology & Venerology, Occupational Diseases.

Note:

- Strict division of topics may not be possible and some overlapping is inevitable.
- Questions on recent advances may be asked in any or all the papers.

B. Clinical Examination: (Total Marks – 200)

- Aims at examining skills of competence of student for undertaking independent work as a specialist.
- The total marks for clinical examination is 200 marks and is divided as follows:

  One Long Case: 65 marks (time – 1 Hour) and Case viva – 30 minutes

  The student has to write a detailed case sheet and make a thorough physical examination; should have a provisional diagnosis/ differential diagnosis and chart out the investigations.

  Three Short Cases = 45 marks for each case (time – 15 minutes for each case, and Case viva – 15 minutes for each case)

The student shall examine the particular system allotted.

C. Viva Voce Examination (Total marks – 100; 20 minutes for each student)

i. Viva –voce Examination (80 marks)

- This shall test student's comprehension, analytical approach, expression and interpretation of data.
- It consists of ECGs, Charts, X-rays, CT scan/ MRI images, Instruments, Drugs and also includes discussion on Dissertation/Thesis.

ii. Pedagogy Exercise (Teaching skills) (20 marks – Time allotted – 5 to 8 minutes)

A topic shall be given to each student in advance. He/She makes a presentation on the topic for 5-8 minutes and is assessed.

	Theory	Clinical	Viva	Total
Maximum marks for	400	200	100	700

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Recommended Books and Journals (Latest Editions)

Text Books

GENERAL MEDICINE:

1. Harrison's Principles of Internal Medicine
2. Cecil Textbook of Medicine
3. Oxford Textbook of Medicine
4. Davidson's Principles and Practice of Medicine
5. Kumar & Clark Clinical Medicine
6. API Textbook of Medicine
7. Conn's Current Therapy
8. Current Medical Diagnosis and Treatment

EMERGENCY MEDICINE:

1. Tintinalli's Emergency Medicine : Comprehensive study guide
2. Rosen's Emergency Medicine : Concepts and Clinical Practice
3. Harwood – Nuss : Clinical Practice Emergency Medicine
4. Vincent: Textbook of Critical care.
5. Irvin & Kippe's Intensive Care Medicine

CARDIOLOGY

1. Braunwald's Heart Disease : Text book of Cardio vascular Medicine
2. Hurst's : The Heart
3. Perloff : The Clinical Recognition of Congenital Heart Disease.
4. Gold Berger: Clinical Electrocardiography: A Simplified Approach.
5. Leo Schamroth : An Introduction to Electrocardiography
6. Marriott' : Practical Electrocardiography

ENDOCRINOLOGY

1. Degroot Jameson : Endocrinology
2. William's: Textbook of Endocrinology

GASTROENTEROLOGY

1. Sleisenger and Fordtran's: Gastrointestinal and liver disease ; Pathophysiology / Diagnosis/Management.
2. Tadataka Yamada : Textbook of Gastroenterology

3. Netter's Gastroenterology
4. Shiela Sherlock: Diseases of Liver and Biliary system.

HEMATOLOGY

1. Mckenzie : Textbook of Hematology
2. Wintrobe's : Clinical Hematology
3. A.Victor Hoffbrand : Postgraduate Hematology
4. William's : Hematology

RHEUMATOLOGY

1. Kelly's : Rheumatology
2. P.K.Pispati : Manual of Rheumatology

NEUROLOGY

1. Bradley's : Neurology in Clinical Practice ; Principles of Diagnosis & Management
2. Adam's and Victor's : Principles of Neurology
3. Brain's : Disease of Nervous System
4. Merrit's : Neurology
5. Jagjit S. Chopra: Text book of Neurology
6. John Patten : Neurological Differential Diagnosis
7. Dejong 's : Neurological Examination
8. Bickerstaff 's : Neurological Examination in Clinical Medicine

NEPHROLOGY

1. Brenner and Rector : The Kidney
2. Oxford Text Book of Nephrology
3. John Feehaley : Clinical Nephrology

ONCOLOGY

1. Vincent T Devita : Cancer Principles and Practice of Oncology
2. Chang A.E: Oncology Evidence Based Approach
3. Martin D. Abeloff : Clinical Oncology

PULMONOLOGY

1. Crofton & Dougla's : Respiratory Diseases
2. Murray & Nadel's : Textbook of Respiratory Medicine

3. Fishman : Textbook of Pulmonary Medicine
4. Sharma S.K. : Tuberculosis
5. Simon & Schaaff : Tuberculosis : Comprehensive Clinical References
6. Kryger : Principles & Practice of Sleep Medicine

INFECTIOUS DISEASES

1. Richard L.Guerrant: Tropical Infective Diseases; Principles, Pathogens and Practice.
2. Mandell, Douglas & Benett's: Principles & Practice of Infective Diseases.
3. Manson and Barr: Tropical Medicine.
4. Hunter's: Tropical Medicine & Emerging Infectious Diseases.
5. Gorbach's: Five minute Infective Diseases Consult.

CLINICAL METHODS

1. Hutchson's Clinical Methods
2. Macleod's : Clinical Examination
3. Bates : Guide to Physical Examination
4. Chamberlain 's: Symptoms & Signs in Clinical Medicine
5. Vakil: Physical Diagnosis ; Textbook of Symptoms and Physical Science
6. Owen Ebstein: Clinical Examination

DIABETOLOGY

1. Joslin's Diabetes Mellitus
2. RSSDI : Textbook of Diabetes Mellitus
3. Lt.Gen.Y.Sachdev: Clinical Endocrinology & Diabetes Mellitus
4. Jayaram B.M. : Diabetes Care in India.: Today and by 2025

MEDICAL ETHICS

1. Ethical Guidelines of Biomedical Research on Human Subjects: ICMR, New Delhi
2. Francis C M: Medical Ethics

MODULE ON GENDER EQUITY

1. Teacher, Law. (November 2013). Gender Sensitivity and Discrimination Against Women. Retrieved from https://www.google.co.in/?vref=1
2. Siddiqi, F.E. & Ranganathan, S. (2001). Handbook on Women and Human Rights: A guide for Social Activists. (Part-I). New Delhi: Kanishka Publishers.
3. Goel, S.L. (2005). Population Policy and Family Welfare. New Delhi: Deep and Deep Publications.

4. Carole Brugeille and Sylvie Cromer (2015) Promoting gender equity through text books- A methodical guide. Publ: United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris

MODULE ON HUMAN HEALTH AND ENVIRONMENT

1. A Text Book of Environmental Chemistry & Pollution Control, 5th edition (2014), S. S. Dara and D. D. Mishra; S. Chand and Company Ltd, ISBN: 9788121908832.
2. Environmental Pollution: Health and Toxicology, 2nd edition (2013), S. V. S. Rana; Narosa Publishing House, ISBN: 9788173199141.
3. Environmental Chemistry: Pollution and Remedial Perspective, 2nd edition (2017), A. V. Salker; Narosa Publishing House, ISBN: 9788184875935.
4. Wastewater treatment: Concepts and Design Approach, 2nd edition (2013), G. L. Karia, and R.A. Christian; PHI Learning Pvt. Ltd, ISBN: 9788120347359.
5. Pollutants, Human Health and the Environment: A Risk Based Approach, (2011), J. A. Plant, N. Voulvoulis, K. V. Ragnarsdottir; Wiley-Blackwell, ISBN: 978-0-470-74261-7.
6. Environmental Science: A Global Concern, 13th edition (2015), P. C. William and A. C. Mary; McGraw Hill Education, USA, ISBN: 978-9339221263.
7. Pollution: Causes, Effects and Control, 4th edition (2001), R. M. Harrison; Royal Society of Chemistry, UK, ISBN: 0854046216

JOURNALS

1. American Journal of Cardiology
2. British Medical Journal
3. British Medical Journal Student Edition
4. Lancet
5. New England Journal of Medicine
6. Postgraduate Medicine
7. Heart (British Heart Journal)
8. Journal of American Medical Association
9. Journal of Association of Physicians of India
10. Medical Clinics of North America
11. Asian Journal of Diabetology
12. Journal of Neurology, Neurosurgery and Psychiatry
13. Neurology India
14. Indian Journal of Tuberculosis

15. Indian Journal of Tuberculosis and Chest Diseases
16. Indian Journal of Medical Research
17. Journal of Indian Medical Association
18. Indian Journal of Cardiology

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ANNEXURES

Check List No. 1

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Evaluation of Seminar Presentations

Name of the Student: **Date:**

Topic:

Sl. No.	Points to be Observed	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of preparation					
4.	Clarity of presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of audio-visual aids					
9.	Overall Performance					
Remarks :						

Name & Signature of Faculty : .....

Check List No. 2

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Evaluation of Journal Review Presentations

Name of the Student: **Date:**

Title of the Paper:

Journal Details:

Sl. No.	**Points to be Observed**	**Poor 0**	**Below Average 1**	**Average 2**	**Good 3**	**Very Good 4**
1.	Article chosen was					
2.	Extent of understanding of scope and objectives of the paper by the student					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio -Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9	Overall Performance					
Remarks:						

Name & Signature of Faculty : .....

Check List No. 3

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Evaluation of Clinical Presentations

Name of the Student : **Date:**

Case Details:

Sl. No.	Points to be Observed	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required • Complete list					
	• Relevant order					
	• Interpretation of investigation					
11.	Ability of react to questioning whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
Overall Performance						
Remarks :						

Name & Signature of Faculty : .....

Check List No. 4

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Evaluation of Clinical Work in Ward/OPD

(To be completed once in three months by respective Unit Head including posting in other departments)

Name of the Student: **Date :**

Name of the Unit Head:

Sl. No.	Points to be Observed	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work- up					
7.	Bedside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or postmortem and case follow-up					
10.	Overall quality of ward work					
Remarks :						

Signature of Unit Head : .....

Check List No. 5

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Evaluation of Teaching Skill Practice

Name of the Student : **Date :**

Topic :

Sl. No.	Points to be Observed	Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	Introduction		
4.	Sequence of ideas		
5.	Use of practical examples and / or illustration		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effective of the talk		
13.	Uses A-V aids appropriately		
Remarks :			

Name & Signature of Faculty : .....

Check List No. 6a

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Dissertation Presentation

Name of the Student : **Date :**

Name of the Guide :

Sl. No.	**Points to be Observed**	**Poor** **0**	**Below Average** **1**	**Average** **2**	**Good** **3**	**Very Good** **4**
1.	Interest shown in selecting a topic					
2.	Review of literature					
3.	Discussion with Guide and other Faculty					
4.	Quality of protocol					
5.	Preparation of Proforma					
Overall Performance						
Remarks :						

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Name & Signature of Co-Guide (If Any) **Signature of Guide**

Check List No. 6b

K S Hegde Medical Academy

A Constituent College of NITTE (Deemed to be University)

Continuous Evaluation of Dissertation Work by Guide / Co-Guide

Name of the Student : **Date :**

Name of the Guide :

Sl. No.	**Points to be Observed**	**Poor** **0**	**Below Average** **1**	**Average** **2**	**Good** **3**	**Very Good** **4**
1.	Periodic consultation with Guide/Co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
Overall Performance						
Remarks :						

..... **.....**

Name & Signature of Co-Guide (If Any) **Signature of Guide**