SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH
(A Deemed to be University Declared under Section 3 of UGC Act, 1956)
Comprising Sri DevarajUrs Medical College
[Constituent Unit of Sri DevarajUrs Educational Trust for Backward Classes (Regd.)]
TAMAKA, KOLAR-563103, KARNATAKA, INDIA
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(With effect from 2015-2016 batches)

Curriculum for Doctor of Medicine

General Medicine

Approved as per BOM-34-2015, (Resolution No-**XXX**IV-05) Dated-19/06/2015

REGULATIONS GOVERNING

POST GRADUATE DEGREE COURSES

Pre and Para Clinical Subjects

REVISED CURRICULUM

2015-16

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

COMPRISING SRI DEVARAJ URS MEDICAL COLLEGE

DEEMED TO BE UNIVERSITY

Declared under Section 3 of UGC Act, 1956,
MHRD GOI No.F.9-36/2006-U.3(A) Dt.25th May 2007
POST BOX NO.62, TAMAKA, KOLAR—563103, KARNATAKA, INDIA
Ph:08152-210604, 210605, 243003, 243009, Fax: 08152-243008
Website : www.sduu.ac.in

REGULATIONS GOVERNING

POST GRADUATE DEGREE COURSES

Medicine and Allied Subjects

REVISED CURRICULUM

2015-2016

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH

Comprising Sri Devaraj Urs Medical College

POST BOX NO. 62, TAMAKA, KOLAR - 563 103, KARNATAKA, INDIA.

ADEEMED TO BE UNIVERSITY

Declared Under Section 3 of UGC Act 1956, MHRD

GOI No. F.9-36/2006-U.3 (A), Dt. 25th May 2007

Ph: 08152-243003,210604,210605,Fax : 08152-243008,

Web : www.sduu.ac.in

Edition Year: 2015 **Published by SDUAHER**

VISION:

"UNIVERSITY OF EXCELLENCE - KNOWLEDGE FOR POSTERITY"

MISSION:

1) To be a global center of excellence for Teaching, Training and Research in the field of Higher education.

2) To inculcate scientific temper, research attitude and social accountability amongst faculty and students.

3) To promote with value based education for the overall personality development and leadership qualities to serve the humanity.

OBJECTIVES:

1) To provide need based infrastructure and facilities to students to become responsible professionals with social commitment and accountability.

2) To implement effectively innovative programs in teaching learning and evaluation.

3) To impart scientific and socio cultural temperament among students to forge national identity and needs.

4) To provide instruction and training in Basic and advanced branches of learning.

5) To provide facilities for research for the advancement and dissemination of knowledge.

6) To undertake extra mural studies, consultancy, extension programmes and field outreach services for the development of society.

7) To collaborate with other Universities, Institutions of excellence and research organizations within the country and outside for the purpose of teaching, training and research.

8) To undertake need based activities for the betterment of socially and educationally backward society.

At a glance this logo is abstract, yet it contains the vital ingredients for an institution like Sri Devaraj Urs Academy of Higher Education and Research, Tamaka, Kolar.

The institution's medical background, Humanitarian values, Compassion, Approachability, Social Commitment and the subsequent research towards the most precious thing, the human life, is the core theme.

The graphic form of a person in the centre of a bud represents the humanity. It denotes the growing process of life and its existence. And the two hands safeguarding them show the care and a sense of security. It is also capable of holding something within the vast expanse of knowledge by the University for the People's benefit. Hence, the motto "Knowledge for Posterity" is very appropriate and gives a punch in Red. The four light blue half circles (smaller to bigger) depict the unending quest for knowledge and imparting it to a wider horizon, growing higher and higher.

And finally, the whole unit is embedded in a "D" shaped graphic template as background to give it a corporate identity.

COLORS USED:

Deep Blue: Credible, Confident and Dependable. Represents Peace, Tranquility, Stability, Harmony, Trust, Security, Cleanliness and Loyalty

Light Blue: For Sky and Water (color scheme for 4 half circles)

Red: A dominant color for strengths.

Green: For Nature, Health and Generosity. It's cool quality soothes and has great Healing Powers. As Approved by the Board of Management of The Academy

SDUAHER

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
Comprising Sri Devaraj Urs Medical College
A-DEEMED-TO-BE-UNIVERSITY
Declared under Section 3 of UGC Act, 1956, MHRD GOI No.F.9-36/2006-U.3(A) Dt. 25th May 2007
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No: SDUAHER/KLR/ADMN/1676 / 2015-16 **Date: 10.07.2015**

NOTIFICATION

Sub: Revised Regulations, Curricula and Syllabi of Postgraduate Medical Degree courses in Pre-Clinical subjects, Para-Clinical subjects, Medicine & Allied subjects and Surgery & Allied subjects-reg.

Ref: 1. Proceedings of the 21st meeting of Academic Council held on 25.04.2015.
2. Proceedings of the 34th meeting of Board of Management held on 19.06.2015.
3. Notification No. SDUAHER/KLR/ADMN/5432/2014-15 dt. 05.02.2015.

Sri Devaraj Urs Academy of Higher Education and Research was declared as Deemed to be University under Section 3 of UGC Act, 1956, MHRD GOI No.F.9-36/2006-U.3(A), Dated 25th May 2007. In accordance with the resolutions of 21st meeting of Academic Council and 34th meeting of Board of Management, it was decided to approve Regulations and Curriculum for the P.G. Degree Courses.

In exercise of the power conferred on the University under Section 6 of MoA rules as per UGC Regulations – 2010, the University is pleased to notify the Regulations and Curriculum for students admitted to Postgraduate Degree and Diploma courses from 2015-16 batch onwards.

By Order,
Sd/-
Registrar

Sri Devaraj Urs University, Tamaka, Kolar-563 103

CHAPTER-I

REGULATIONS FOR POST GRADUATE DEGREE AND DIPLOMA COURSES IN MEDICAL SCIENCES

1. Branches of Study

1.1 Postgraduate Degree **Courses**

The following courses of studies may be pursued.

A. M.D. {Doctor of Medicine)

1. Anatomy
2. Physiology
3. Biochemistry
4. Pharmacology
5. Pathology
6. Microbiology
7. Forensic Medicine
8. Community Medicine
9. General Medicine
10. Dermatology, Venereology and Leprosy
11. Anesthesiology
12. Paediatrics
13. Radio-Diagnosis

B. M.S. (Master of Surgery)

1. General Surgery
2. Obstetrics and Gynecology
3. Ophthalmology
4. Orthopedics
5. Oto-Rhi no-Laryngology

1.2 Postgraduate Diploma Courses

Post graduate diploma course may be pursued in the following subjects:

Child Health (D.C.H.), Obstetrics and Gynaecology (D.G.O.), Otorhinolaryngology (D.L.O.), Ophthalmology (D.O.), Orthopaedics (D.Ortho), Anaesthesiology (D.A.), Radio-Diagnosis (DMRD), Dermatology, Venereology and Leprosy (DVLD).

2. Eligibility for Admission

2.1 MD / MS Degree and Diploma Courses: A candidate affiliated to this university and who has passed final year M.B.B.S. examination after pursuing a study in a medical college recognised by the Medical Council of India, from a recognised Medical College affiliated to any other University recognised as equivalent thereto, and has completed one year compulsory rotating internship in a teaching Institution or other Institution recognised by the Medical Council of India, and has obtained permanent registration of any State Medical Council shall be eligible for admission.

3. Obtaining Eligibility Certificate by the University before making Admission

No candidate shall be admitted for any postgraduate degree/diploma course unless the candidate has obtained and produced the eligibility certificate issued by the University. The candidate has to make an application to the University with the following documents along with the prescribed fee:

1. MBBS pass / degree certificate issued by the University.
2. Marks cards of all the university examinations passed MBBS course.
3. Attempt Certificate issued by the Principal.
4. Certificate regarding the recognition of the medical college by the Medical Council of India.
5. Completion of internship certificate.

6. In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognised for internship.
7. Registration by any State Medical Council and
8. Proof of SC/ ST or Category I, as the case may be.

Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the University.

A candidate who has been admitted to postgraduate course should register his / her name in the University within a month of admission after paying the registration fee.

4. Intake of Students

The intake of students to each course shall be in accordance with the ordinance in this behalf.

5. Duration of Study

a) M.D /M.S Degree Courses

The course of study shall be for a period of 3 years consisting of 6 terms.

b) Diploma courses:

The course of study shall be for a period of 2 years consisting of 4 terms.

6. Method of training

The training of postgraduate for degree/diploma shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate should be required to participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Similarly, students working in clinical departments should be posted to basic medical sciences and allied speciality departments or institutions.

- ❖ A Postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published / accepted for publication/sent for publication during the period of postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
  Ref: As MCI Notification dated 09-12-2009, vide No.MCI.18(1)/2009-Med.55455 and Para No.4.

7. Attendance, Progress and Conduct

7.1 A candidate pursuing degree/diploma course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course.

7.2 Each year shall be taken as a unit for the purpose of calculatingattendance.

7.3 Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons. (Please see chapter IV for details).

7.4 Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course.

Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period everyyear.

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

8. Monitoring Progress of Studies:

8.1 Work diary / Log Book - Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc (Please see chapter IV for model check lists and log book specimen copy). Special mention may

be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution and presented to the University at the end of each year. The copy of the Log book of final year has to be submitted duringexaminations.

8.2 **Periodic tests:** the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when calledfor.

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

8.3 Records: Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University orMCI.

9. Dissertation

Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawingconclusions.

Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the properchannel.

Such synopsis will be reviewed and the dissertation topic will be registered

by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

The dissertation should be written under the following headings:

i. Introduction
ii. Aims or Objectives of study
iii. Review of Literature
iv. Material and Methods
v. Results
vi. Discussion
vii. Conclusion
viii. Summary
ix. References
x. Tables
xi. Annexures

9.6 The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

9.7 Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

9.8 The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

9.9 **Guide:** The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work is as per Medical Council of India, Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

A Co-guide may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching/training by Sri Devaraj Urs University /Medical Council of India. The co-guide shall be a recognised post

graduate teacher of Sri Devaraj Urs University.

9.10 **Change of guide;** In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.

10. Schedule of Examination

The examination for M.D / M.S courses shall be held at the end of three academic years (six academic terms). The examination for the diploma courses shall be held at the end of two academic years (four academic terms). The university shall conduct two examinations in a year at an interval of four to six months between the two examinations. Not more than two examinations shall be conducted in an academic year.

11. Scheme of Examination

11.1 M.D./M.S. Degree: M.D. / M.S. Degree examinations in any subject shall consist of dissertation, written paper (Theory), Practical/Clinical and Viva voce.

11.1.1 . 1 Dissertation: Every candidate shall carryout work and submit a dissertation as indicated in S1.NO.9. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

11.1.2 Written Examination (Theory): A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1st paper shall be on Basic Medical Sciences and IVth Paper on Recent advances in addition to the other topics.

11.1.3 Practical / Clinical Examination:

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.

In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine atleast one long case and two short cases.

The total marks for Practical / clinical examination shall be 200.

11.1.4 Viva Voce: Viva Voce Examination shall aim at assessing depth of

knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:

(i) For examination of all components of syllabus	80 Marks
(ii) For Pedagogy	20 Marks

Examiners: There shall be atleast four examiners in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

No person shall be appointed as internal examiner in any subject unless he/she has three years experience as recognized PG teacher in the concerned subject.

Criteria for declaring as pass in University Examination:* A candidate shall secure not less than 50% marks in each head of passing which shall include
(1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).

11.1.7 Declaration of distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above.
Distinction will not be awarded for candidates passing the examination in more than one attempt.

Diploma Examination:

Candidates should submit record of 10 different case sheets and discussion including recent references three months before the examination.

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva - Voce.
Theory: There shall be **three** written question papers each carrying 100 marks. Each paper will be of three hours duration. In clinical subjects first paper out of this shall be on basic medical sciences. In basic medical subjects and para clinical subjects, questions on applied

clinical aspects should also be asked. Recent advances may be asked in III Paper.

Practical / Clinical Examination:
In case of practical examination it should be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.
In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist.
Each candidate should examine atleast one long case and two short cases. The maximum marks for Practical / Clinical shall be 150.

Viva Voce Examination: Viva Voce examination should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50.

Criteria for declaring as pass in University Examination* : A candidate shall secure not less than 50% marks in each head of passing which shall include
(1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks a described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).
11.3.5 5 Declaration of distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt in minimum time of the course.

11.3.6 Examiners: There shall be atleast four examiners in each subject. Out of them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.
12. Number of Candidates per day. The maximum number of candidates for practical/clinical and viva-voce examination shall be as under:
MD / MS Course: Maximum of 6 per day Diploma Course: Maximum of 8 per day

CHAPTER II

GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

GOAL

The goal of postgraduate medical education shall be to produce a competent specialist and /or a medical teacher:

(i) who shall recognise 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, relating 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 advances 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.

GENERAL OBJECTIVES

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

i) Recognise the importance of the concerned speciality in the context of the health need of the community and the national priorities in the health sector.

ii) Practice the speciality concerned ethically and in step with the principles of primary health care.

iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and lake 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 appropriatelyselected and conducted investigations.

vi) Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to thespeciality.

vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assignedsituation,

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 programmes, effectively and responsibly.

x) Organise 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, recognise continuing educational needs; select and use appropriate learning resources.

xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse 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 healthworkers.

xiv) Function as an effective leader of a health team engaged in health care, research or training.

STATEMENT OF THE COMPETENCIES

Keeping in view the general objectives of postgraduate training, each disciplines shall aim at development of specific competencies, which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

COMPONENTS OF THE PG CURRICULUM

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in Thesis.
- Attitudes, including communication.
- Training in research methodology.

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2006 and 2008.

M.D. General Medicine

Undertaking :

The postgraduate students have to undertake that they have read the regulations put forward by the institution and follow it.

Goal:

The postgraduate education is intended to produce a well-informed, well trained doctor in medicine who is able to take care of patients, understand the essence of modern medicine, and scrutinize the published literature while maintaining acceptable standards in discipline. It is expected that during the tenure of the course he develops optimum communication skills. The postgraduate education exposes the student to not only to Internal medicine, but also to other well established departments and sub specialties and allied subjects. The staff of all these departments will be involved in the PG programme. A well, motivated and monitored student is the key to the success of thisprogramme.

The clinical rotation is intended to provide opportunity to post graduate student (PG) to the patient care and hands on experience. He/She is expected to acquire skills to be competent clinician in General Medicine. Most importantly, learn to formulate diagnosis, plan diagnostic procedures / investigations and plan rational therapy. Meticulous documentation of patients medical record by PG is encouraged. During this time PG is encouraged to learn the art of lengthy as well as brief presentations.

The PG is rotated through the subspecialty departments during second year of. the three years course. This roster is provided to PGs at the entry to the course. One faculty member should be selected by the department and he/she should act as friend, guide, counselor and philosopher for PG throughout the training course.

The medical post graduate after completion of MD (Gen. Med.) should be able to manage patient independently as a specialist. He should be able to plan and carry

out research activity in the field of General Medicine. He should be able to teach under graduate medical student subject of General Medicine.

Objectives:

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate completes the course. The Objectives may be considered under the subheadings

1. Knowledge (Cognitive domain)
2. Skills (Psycho motor domain)
3. *Human values, Ethical practice and Communication abilities*

Knowledge:

- Describe aetiology, pathophysiology, principles of diagnosis and management of common problems including emergencies, in adults.
- Describe indications and methods for fluid and electrolyte replacement therapy
  including blood transfusion
- Describe common malignancies and their management including prevention
- Demonstrate understanding of basic sciences relevant to this specialty
- Identify social, economic, environmental and emotional determinants in a given case, and take them into account for planning therapeutic measures.
- Recognize conditions that may be outside the area of his specialty/competence and to refer them to the proper specialist.
- Advise regarding the operative or non,operative management of the case and to carry out this management effectively.
- Update oneself by self,study and by attending courses, conferences and seminars relevant to the speciality.
- Teach and guide his team, colleagues and other students.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific forum.

Skills

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition.
- Perform common procedures relevant to the specialty.
- Provide basic and advanced life saving support services (BLS) in emergency situations
- Undertake complete monitoring of the patient.

Human values, Ethical practice and Communication abilities

- Adopt ethical principles in all aspects of his/her practice. Professional honesty and integrity are to be fostered. Care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Develop communication skills, in particular the skill to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.
- The goal is to provide learning opportunities for acquisition of knowledge, human values and skills that may enable to diagnose and treat relevant diseases and disorders as a specialist.

Course Contents:

Theory:

INTRODUCTION TO CLINICAL MEDICINE: The practice of medicine ,ethical issues in clinical medicine , quantitative aspects of clinical reasoning , host and disease: influence of demographic and socioeconomic factors , influence of environmental and occupational hazards on disease , women's health , medical disorders during pregnancy , adolescent health problems , geriatric medicine ,principles of disease prevention , cost awareness in medicine.

CARDINAL MANIFESTATIONS AND PRESENTATION OF DISEASES:

PAIN , pathophysiology and management , chest discomfort and palpitation ,abdominal pain , headache , back and neck pain

ALTERATIONS IN BODY TEMPERATURE: fever and hyperthermia , fever and rash , hypothermia

NERVOUS SYSTEM DYSFUNCTION: faintness, syncope, dizziness, and vertigo , weakness, abnormal movements, and imbalance , episodic muscle spasms, cramps and weakness ,numbness, tingling and sensory loss , acute confusional states and coma , aphasia and other focal cerebral disorders , memory loss and dementia, disorders of sleep and circadian rhythms.

DISORDERS OF THE EYES, EARS, NOSE AND THROAT , disorders of the eye, disorders of smell, taste and hearing , infections of the upper respiratory tract, oral manifestations of disease.

ALTERATIONS IN CIRCULATORY AND RESPIRATORY FUNCTIONS , dyspnea and pulmonary edema , cough and hemoptysis , approach to the patient with a heart murmur , approach to the patient with hypertension , hypoxia, polycythemia and cyanosis , edema , shock , cardiovascular collapse, cardiac arrest, and sudden cardiac death.

ALTERATIONS IN GASTROINTESTINAL FUNCTION , dysphagia, nausea, vomiting and indigestion , diarrhea and constipation , gain and loss in weight ,gastrointestinal bleeding ,jaundice , abdominal swelling, ascites.

ALTERATIONS IN URINARY FUNCTION AND ELECTROLYTES , cardinal manifestations of renal disease , voiding dysfunction, incontinence, and bladder pain ,fluid and electrolyte disturbances , acidosis and alkalosis.

ALTERATIONS IN THE UROGENITAL TRACT , impotence , disturbances of menstruation and other common gynecologic complaints in women – hirsutism, virilization and infertility.

ALTERATION IN THE SKIN , approach to the patient with skin disorders , eczema, psoriasis, cutaneous infections, acne, and other common skin disorders , cutaneous drug reactions , skin manifestations of internal disease , photosensitivity and other reactions to light.

Hematological alterations , anemia , bleeding and thrombosis , enlargement of lymph nodes and spleen , disorders of granulocytes and monocytes.

MANIFESTATIONS OF CANCER , presentations of the patient with cancer: solid tumors in adults,evaluation of breast masses in men and women.

GENETICS AND DISEASE , genetics and disease , cytogenetic aspects of human disease , treatment and prevention of genetic disease.

CLINICAL PHARMACOLOGY , principles of drug therapy , adverse reactions to drugs , physiology and pharmacology of the autonomic nervous system , nitric oxide biologic and medical implications.

NUTRITION , nutrition and nutritional requirements , assessment of nutritional status , protein and energy malnutrition , obesity , anorexia nervosa and bulimia nervosa , diet therapy , enteral and parenteral nutrition therapy , vitamin deficiency and excess ,disturbances in trace elements.

ONCOLOGY AND HEMATOLOGY NEOPLASTIC DISORDER , approach to the patient with cancer , prevention and early detection of cancer , cell biology of cancer ,cancer genetics , invasion and metastasis , principles of cancer therapy , infections in patients with cancer , melanoma and other skin cancers,head and neck cancer ,neoplasms of the lung , breast cancer , gastrointestinal tract cancer , tumors of the liver and biliary tract , pancreatic cancer , endocrine tumors of the gastrointestinal tract and pancreas , bladder and renal cell cancer , hyperplasia and carcinoma of the prostate ,

testicular cancer , gynecologic malignancies , sarcomas of soft tissue and bone , metastatic cancer of unknown primary site , paraneoplastic syndromes , paraneoplastic neurologic syndromes , oncologic emergencies and GVHD.

DISORDERS OF HEMATOPOIESIS , hematopoiesis , iron deficiency and other hypoproliferative anemias disorders of hemoglobin , megaloblastic anemias ,hemolytic anemias and acute blood loss , aplastic anemia and myelodysplasia ,polycythehmia vera and other myloproliferative diseases , acute and chronic myeloid leukemias , malignancies of lymphoid cells, plasma cell disorders transfusion biology and therapy , bone marrowtransplantation.

DISORDERS OF HEMOSTASIS , disorders of the platelet and vessel wall , disorders of coagulation and thrombosis , anticoagulant, fibrinolytic, and antiplatelet therapy.

INFECTIOUS DISEASES :

BASIC CONSIDERATIONS IN INFECTIOUS DISEASES , Introduction to infectious diseases: host parasite interaction , laboratory diagnosis of infectious diseases , immunization principles and vaccine use , health risks to travelers.

CLINICAL SYNDROMES , COMMUNITY ACQUIRED , sepsis and septic shock , fever of unknown origin , infective endo carditis , intraabdominal infections and abscesses , acute infectious diarrhoea! diseases and bacterial food poisoning , sexually transmitted diseases: overview and clinical approach , pelvic inflammatory disease , urinary tract infections and pyelonephritis , osteomyelitis ,infections of the skin, muscle, and soft tissues , infections (excluding AIDs) in injection drug users , infections from bites scratches and burns.

CLINICAL SYNDROMES ,NOSOCOMIAL INFECTIONS infections in transplant recipients – Health Care delivery associatied infection and intravascular device , related infections , infection control in the hospital.

BACTERIAL DISEASES: general considerations , molecular , mechanisms of bacterial pathogenesis , treatment and prophylaxis of bacterial infections.

DISEASES CAUSED BY GRAM,POSITIVE BACTERIA pneumococcal infections staphylococcal infections , streptococcal and enterococcal infections , diphtheria, other corynebacterial infections, and anthrax , infections caused by listeria monocytogenes

,tetanus , botulism , gas gangrene, antibiotic , associated colitis, and other clostridial infections.

DISEASES CAUSED BY GRAM , NEGATIVE BACTERIA meningococcal infections , gonococcal infections , moraxella (branchamella) catarrhalis other moraxella species and kingella , infections due to heamophilus influenzae, other haemophilus species, the hacek group, and other gram , negative bacilli , legionella infection , pertussis diseases caused by gram , negative enteric bacilli , helicobacter infections , infections due to pseudomonas species and related organisms , salmonellosis , shigellosis, infections due to campylobacter and related species , cholera and other vibrios , brucellosis , tularemia , plague and other yersinia infections , bartonella infections, including cat , scratch disease , Donovanosis (ganuloma inguinale)

MISCELLANEOUS BACTERIAL INFECTIONS , nocardiosis , actinomycosis ,infections due to mixed anaerobic organisms.

MYCOBACTERIAL DISEASES ,antimycobacterial agents , tuberculosis , leprosy (hansen's disease) , infections due to nontuberculous myco bacteria.

SPIROCHAETAL DISEASES , syphilis , endemic treponematoses , leptosprirosis , relapsing fever , lyme borreliosis .

RICKETTSIA, MYCOPLASMA AND CHLAMYDIA , rickettsial diseases , mycoplasma infections ,chlamydial infections.

VIRAL DISEASES , medical virology , antiviral chemotherapy

DNA VIRUSES , herpes simplex viruses , varicella , zoster virus infections ,epsteinbarr virus infections, including infectious mononucleosis , cytomegalovirus and human herpesvirus types 6, 7 and 8 , smallpox, vaccinia and other poxviruses ,parvovirus , human papillomavirus infections.

DNA AND RNA RESPIRATORY VIRUSES , common viral respiratory infections.

RNA VIRUSES , the human retroviuses – influenza, Avian flu, swine flu (H1N1), viral gastroenteritis, enteroviruses and reoviruses, measles (rubeola), rubella (german measles), mumps, rabies virus and other rhabdoviruses, infections caused by arthropod and rodent , borne viruses, marburg and ebolaviruses (filoviridae)

FUNGAL INFECTIONS , diagnosis and treatment of fungal infections ,histoplasmosis – coccidioidomycosis, blastomycosis, cryptococcosis candidiasis, aspergillosis, mucormycosis, miscellaneous mycoses and prothotheca infections, pneumocystis carini infection.

PROTOZOAL AND HELMINTHIC INFECTIONS: general considerations , approach to the patient with parasitic infections, laboratory diagnosis of parasitic infections, therapy for parasitic infections.

PROTOZOAL INFECTIONS , amoebiasis and infection with free , living amoebas, malaria and other diseases caused by red blood cell parasites leishmaniasis, trypanosomiasis, toxoplasma infection, protozoal intestinal infections and trichomoniasis.

HELMINTHIC INFECTIONS , trichinosis and infections with other tissue nematodes, intestinal nematodes, filariasis and related infections (loiasis, onchocericiasis, and dracunculaiasis), schistosomiasis and other trematode infections, cestodes.

DISORDERS OF THE CARDIOVASCULAR SYSTEM , DIAGNOSIS , approach to the patient with heart disease, physical examination of the cardio vascular system, electrocardiography, diagnostic cardiac catheterization and angiography.

DISORDERS OF RHYTM , the bradyarrhythmias: disorders of sinus node function and av conduction disturbances, the tachyarrhythmias.

DISORDERS OF THE HEART ,normal and abnormal myocardial function, heart failure, cardiac transplantation congenital heart disease in the adult, rheumatic fever, valvular heart disease, corpulmonale, the cardiomyopathies, myocarditis, pericardial disease, cardiac tumors, cardiac manifestations of sytemic diseases, toxic induced cardiac diseases and traumatic cardiac injury.

VASCULAR DISEASE , atherosclerosis , acute myocardial infarction, ischemic heart disease, coronary angioplasty and other therapeutic applications of cardiac catheterization, hypertensive vascular disease, diseases of the aorta and vascular diseases of the extremities.

DISORDERS OF THE RESPIRATORY SYSTEM:

DIAGNOSIS ,approach to the patient with disease of the respiratory system, disturbances of respiratory system, disturbances of respiratory function and diagnostic procedures in respiratory disease.

DISEASE OF THE RESPIRATORY SYSTEM – asthma, hypersensivity pneumonitis and eosinophilic pneumonias, environmental lung diseases, pneumonia, including narcotizing pulmonary infections (lung abscess bronchiectasis, cystic fibrosis, chronic bronchitis, emphysema, and airway obstruction, interstitial lung diseases, primary pulmonary hypertension pulmonary thromboembolism, disorders of the pleura, mediastinum and diaphragm, disorders of ventilation, sleep apnea,acute respiratory distress syndrome , mechanical ventilatory support & Lung transplantation.

DISORDERS OF THE KIDNEY AND URINARY TRACT , approach to the patient with diseases of the kidneys and urinary tract, disturbances of renal function, acute renal failure chronic renal failure, dialysis and transplantation in the treatment of renal failure, pathogenetic mechanisms of glomerular injury, the major glomerulopathies, glomerulopathies associated with multisystem diseases. Tubulointerstitial diseases of the kidney, Adult polysystic kidney diseases, Tumors of the kidney and bladder, vascular injury to the kidney, hereditary tubular disorders,nephrolithiasis, urinary tract obstruction and UTI.

DISORDERS OF THE GASTROINTESTINAL SYSTEM , DISORDERS OF THE ALIMENTARY TRACT , approach to the patient with gastrointestinal disease, gastrointestinal endoscopy, diseases of the esophagus, peptic ulcer and related disorders, disorders of absorption, inflammatory bowel disease: ulcerative colitis and crohn's disease, irritiable bowel syndrome , diverticular, vascular, and other disorders of the intestine and peritoneum, acute intestinal obstruction and acute appendicitis and G.I. bleeding.

LIVER AND BILIARY TRACT DISEASE , approach to the patient with liver disease , evaluation of liver function, derangements of hepatic metabolism, bilirubin metabolism and hyperbilirubinemia, acute viral hepatitis, toxic and drug induced hepatitis, chronic hepatitis, cirrhosis and alcoholic liver disease, major

complications of cirrhosis, infiltrative and metabolic diseases affecting the liver, liver transplantation, diseases of the gallbladder and bile ducts.

DISORDERS OF THE PANCREAS , approach to the patient with pancreatic disease, acute and chronic pancreatitis.

DISORDERS OF THE IMMUNE SYSTEM, CONNECTIVE TISSUE, AND JOINTS

DISORDERS OF THE IMMUNE SYSTEM ,introduction to the immune system, the major histocompatibility gene complex, primary immune deficiency disease, human immunodeficiency virus (HIV) disease: aids and related disorders and amyloidosis.

DISORDERS OF IMMUNE MEDIATED INJURY ,

diseases of immediate type hypersensitivity , immunologically mediated skin diseases, systemic lupus erythematosus, rheumatoid arthritis, systemic sclerosis (seleroderma) dermatomyositis and poly myositis, Sjogren's syndrome, ankylosing spondylitis, reactive arthritis and undifferentiated spondyloarthropathy, Behcet's syndrome, the vasculitis syndromes and sarcoidosis.

DISORDERS OF THE JOINTS , approach to articular and musculoskeletal disorders, osteoarthritis, arthritis due to deposition of calcium crystals, uriacid crystals, Rhemotoid artherids, infectious arthritis, psoriatic arthritis and arthritis associated with gastrointestinal disease, relapsing polychondritis and other arthritides.

ENDOCRINOLOGY AND METABOLISM , ENDOCRINOLOGY , approach to the patient with endocrine and metabolic disorders, neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus, disorders of growth, disorders of the neurohypophysis, diseases of the thyroid, diseases of the adrenal cortex, pheochromocytoma, diabetes mellitus, Metabolic syndrome and obbsity, hypoglycemia, disorders of the testes, disorders of the ovary and female reproductive tract, endocrine disorders of the breast, disorders of sexual differentiation and disorders affecting multiple endocrine systems

DISORDERS OF INTERMEDIARY METABOLISM , disorders of lipoprotein metabolism , hemochromatosis , the porphyries , gout and other disorders of Purine metabolism , Wilson's disease , lysosomal storage diseases , glycogen storage

diseases , inherited disorders of connective tissue , inherited disorders of amino acid metabolism and storage , inherited defects of membrane transport , galactosemia, galactokinase deficiency and other rare disorders of carbohydrate metabolism , the lipodystrophies and other rare disorders of adipose tissue.

DISORDERS OF BONE AND MINERAL METABOLISM , calcium, phosphorus, and bone metabolism: calcium , regulating hormones, diseases of the parathyroid glands and other hyper ,and hypolcalcemic disorders , metabolic bone disease , disorders of phosphorus metabolism , disorders of magnesium metabolism , Paget's disease of bone. Hyperostosis, fibrous dysplasia, and other dysplasia of bone and cartilage.

NEUROLOGIC DISORDERS :

DIAGNOSIS OF NEUROLOGIC DISORDERS , approach to the patient with neurologic disease, electrophysiologic studies of the central and peripheral nervous systems, neuroimaging in neurologic disorders ,molecular diagnosis of neurologic disorders.

DISEASES OF THE CENTRAL NERVOUS SYSTEM , migraine and the cluster headache syndrome , seizures and epilepsy , alzheimer's disease and other primary dementias , parkinson's disease and other extrapyramidal disorders , ataxic disorders , the motor neuron diseases ,disorders of the autonomic nervous system , disorders of the cranial nerves , diseases of the spinal cord. Traumatic injuries of the head and spine tumors of the nervous system , multiples sclerosis and other demyelinating diseases , bacterial meningitis, brain abscess, and other suppurative intra cranial infections , chronic and recurrent meningitis , aseptic meningitis, viral encephalitis, and prion diseases , nutritional and metabolic diseases of the nervous system.

DISORDERS OF THE NERVE AND MUSCLE , diseases of the peripheral nervous system , myasthenia gravis and other diseases of the neuromuscular junction , diseases of muscle.

CHRONIC FATIGUE SYNDROME , chronic fatigue syndrome.

PSYCHIATRIC DISORDERS , mental disorders

GERIATRIC MEDICINE – Physiology of Aging, Osteoporosis, Apoptosis, Alzhiemers disease and other dementias and rehabilitation of the aged.

ALCOHOLISM AND DRUG DEPENDENCY , alcohol and alcoholism ,opioid drug abuse and dependence , cocaine and other commonly abused drugs ,nicotine addiction.

ENVIRONMENTAL AND OCCUPATIONAL HAZARDS , specific environmental and occupational hazards.

ILLNESSES DUE TO POISONS, DRUG OVERDOSAGE AND ENVENOMATION,

Organophosporus and organochloride opoisoning and drug overdosage, disorders caused by reptile bites and marine animal envenomations , ectorparasite infestations and arthropod bites and stings

SPECIFIC ENVIRONMENTAL AND OCCUPATIONAL HAZARDS , drowning and near.

Drowning , electrical injuries , radiation injury ,heavy metal poisoning, hanging and partial hanging.

Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below:

1. *Lectures :* Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.

a) *Didactic Lectures:* Recommended for selected common topics for post graduate students of all specialties. Few topics are suggested as examples:

1) Bio,statistics
2) Use of library,
3) Research Methods
4) Medical code of Conduct and Medical Ethics
5) National Health and Disease Control Programmes
6) Communication Skills etc.

These topics may preferably taken up in the first few weeks of the 1st year.

b) *Integrated Lectures:* These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, Thyroid, Neuroanatomy, etc,

2. *Journal Club :* Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s), selected articles at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See Checklist in Chapter IV). A time table with names of the student and the moderator should be announced well in advance so has to provide adequate time for proper preparation.
3. *Subject Seminar:* Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See Checklist in Chapter IV). A timetable for the subject with names of the student and the moderator should be scheduled well in advance so has to provide adequate time for proper preparation.
4. *Student Symposium:* Recommended as an optional multi disciplinary programme.

   The evaluation may be similar to that described for subject seminar.
5. *Ward Rounds:* Ward rounds may be service or teaching rounds.

a) Service Rounds: Postgraduate students and Interns should do every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.

b) Teaching Rounds : Every unit should have 'grand rounds' for teaching purpose. A diary should be maintained for day to day activities by the students. Entries of (a) and (b) should be made in the Log book.

6. *Clinico,Pathological Conference:* Recommended once a month for all post graduate students. Presentation be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.
7. *Inter Departmental Meetings:* Strongly recommended particularly with departments of Pathology and Radio,Diagnosis at least once a week. These meetings should be attended by post graduate stuuents and relevant entries must be made in the Log Book.

   Pathology: A dozen interesting cases may be chosen and presented by the post graduate students and discussed by them as well as the senior staff of Medicine department. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions the advance immuno,histo,chemical techniques, the burgeoning markers other recent developments can be discussed.

   Radio,diagnosis: Interesting cases and the imaging modalities should be discussed.
8. *Teaching Skills :* Post graduate students must teach under graduate students (Eg. medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc. Assessment is made using a checklist by medicine faculty as well as students. (See model check list in Chapter IV). Record of their participation be kept in Log book. Training

   of post graduate students in Educational Science and Technology is recommended.
9. *Continuing Medical Education Programmes (CME) :* Recommended that at least 2 state level CME programmes should be attended by each student in 3 years.
10. Conferences: Attending conferences is optional. However it is encouraged.

Method of Training:

Emphasis is on hospital training with candidates given graded responsibility in the management and treatment of patients entrusted to them, while rotating in General medicine units and of subspecialty units. PG also attend respective units outpatient and inpatient activities and consultations.

Didactic lecture and demonstrations by basic and clinical departments to orient all new post graduate house staff to various departmental services and introduce basic concept of acute care management of medical / surgical emergencies. Involving Laboratory, Radiology, Blood bank services Also orientation to medical records and library facility. Lectures are organised over a period of two months and serve as introduction to all new post graduates to promote the need for integrated approach between various disciplines. Preferably these should be organized between 8,9 AM / 3,4 PM to minimise interference with the working of parent departments.

Special orientation to bio statistics, research methodology, legal medicine and computer skills should be organised through lectures for all first year post graduates during first six months.

Clinical seminar once a week involving participation of all staff of the department of Medicine to ensure combined staff moderated teaching.

Bedside clinics once a week involving one individual senior Professor or Associate Professor or Specialist.

Hospital conference / Academic Council Meet once in fortnight involving multidisciplinary approach. Case selection to be done by senior faculty members to emphasize current diagnostic ,therapeutic advances.

Journal club once a week 3,4 Journals by P.G's and Junior faculty under supervision of Senior faculty.

Subject seminar once a week Topics to be selected carefully and should not be repeated unnecessarily within 2 years (Total period of PG training is 3 years).

Mortality , CPC once a month (instead of Journal Club). Two to three cases are discussed and moderated by senior faculty. Other consultants invited based on the need.

Besides traditional OHP and 35 mm slide presentations, use of other forms of audio , visual aids like LCD are encouraged

Dissertation Work

1. Every candidate pursuing degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the

form of a dissertation.

2. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

3. Every candidate shall submit to the Registrar (Academic), SDUU, in the prescribed proforma, a synopsis containing particulars of proposed dissertation work six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

4. Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

5. The dissertation should be written under the following headings:

i. Introduction
ii. Aims or Objectives of study
iii. Review of Literature
iv. Material and Methods
v. Results
vi. Discussion
vii. Conclusion
viii. Summary
ix. References (Vancouver style)
x. Tables
xi. Annexures

6. The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

7. Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

8. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

9. For some more details regarding Guide etc., please see Chapter I and for books on research methodology, ethics, etc., see Chapter IV.

Rotation

Details of rotation including ancillary postings year wise as follows:

PG , I Year:

General Medicine , First four months in parent medical unit and next eight months in two or three other units. (PG will return to parent unit during III year of rotation for six months)

PG , II Year:

Cardiology, Neurology , Two months each = 4 months

One month each in Pulmonary medicine, Immunology, Pharmacology Oncology, Hematology, Endocrinology, Nephrology, Gastroenterology, Dermatology & Psychiatry = 6 months

Special Elective rotation: 2 months

Special elective rotation should be encouraged like Cancer Institutes, Cardiology Institute, Neurology Institute and Multi,speciality centers of national & international repute. Candidate should make arrangement much in advance with approval of H.O.D of medicine.

Medical departments with less number of specialities, may rotate post graduates in general medicine department with postings in Medical intensive care unit. Coronary care unit and Emergency departments.

PG , III Year:

General Medicine , Parent Medical Unit: 6 months

Two or three medical units: 6 months

During 3rd year rotation PG student works six months in parent unit and three months each in other two medical units. Postgraduate in III year training is expected to assume more responsibilities in managing patients and assist in first year residents and interns in wards, critical care unit and emergency rooms. Also should participate actively in teaching undergraduate medical students and prepare himself or herself for the role of General Medical Specialist.

The students are encouraged to attend local, state and national level conferences of API, CSI, Diabetes Association etc. as part of CME programme.

Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

The learning outcomes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

i) ***Personal Attitudes.*** The essential items are:

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

ii) ***Acquisition of Knowledge*** *:* The methods used comprise of Log Book which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio, visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist ,1, Chapter IV)

Seminars / Symposia: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio, visual aids are to be assessed using a checklist (see Model Checklist,H, Chapter IV)

Clinico,pathological conferences : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

Medical Audit: Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

iii) Clinical skills

Day to Day work : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist HI, Chapter IV).

Clinical meetings : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter IV).

Clinical and Procedural skills : The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter IV)

iv) ***Teaching skills*** *:* Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter IV)

v) ***Dissertation in the Department*** *:* Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work (See Model Checklist VI & VII, Chapter IV)

vi) ***Periodic tests:*** The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

vii) **Work diary / Log Book**, Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

viii) ***Records:*** Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

Log book

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in Tables 1,2 and 3 of Chapter IV. Copies may be made and used by the institutions.

Every student must maintain a record book (diary/log book) and the work carried out by him and the training programme undergone by him during the training, including details of rotation, night calls, procedure and consultations done as M.D. candidates. These record books should be checked and assessed by faculty members imparting the training and certified by the head of the department.

Postgraduate student diary should include following activities.

Format for PG Diary (Log Book)

1. Cases seen on rounds , description of interesting cases and other miscellaneous topics discussed.
2. Outpatient cases seen and details of interesting cases with follow up.
3. Procedures done on inpatients and outpatients and consultation done.
4. Undergraduate teaching done during the day with details.
5. PG training programmes attended , details of bedside clinics, basic sciences, subject and clinical seminars, Journal clubs, mortality meet and hospital conference.
6. Night duties , details of patients managed and emergencies, consultation. Ward calls attended.
7. Details of study with topics covered during off hours in library / home. Periodicals and Journals reviewed with notes on interesting articles.
8. Medical meetings, Seminars, Local API / CSI meetings or other interesting CME, seminars attended.
9. Diary should be reviewed on weekly basis by unit faculty and certified on monthly basis for P.G.'s benefit at the end of each Medical/speciality rotation. Faculty should comment regarding absences and irregularities (Late arrivals and early departure) and make appropriate comments and suggest remedial measure
   for problematic prodigies.

   Satisfactory progress and 80% attendance mandatory before student allowed to appear for University examination.

10. Size of note book: 15 cm x 21 cm with 200 pages. All note books should have seal of college and H.O.D.s approval: Extra note books utilised as and when

necessary. Diaries should be presented at the time of University clinical exam for review by examiners as per University regulations.

Internal evaluation of P.G. Students performance during three years

I Year of M.D. Students

Assessment of students with multiple choice questions multiple short notes covering wide range of topics and practical examination with attention to history taking, symptomtology, clinical skills, relevant diagnostics and therapeutic plans ascertained. Suggested time of evaluation after first six months and at the end of first year rotation.

II Year of M.D. Students

Students should be evaluated at the end of cardiology and neurology postings with Theory and Practical Examinations by concerned specialities along with one faculty from General Medicine and make appropriate recommendation to meet minimal satisfactory guidelines expected of second year PG students. Other specialities with short rotations of one month, should be evaluated with MCQ format and Viva regarding candidates comprehension of the subject.

III Year of M.D. Students

P.G's should be evaluated at the beginning of his 3 rd year training by panel of senior Postgraduate teachers. Suggested pattern of assessment with two essay type theory papers and multiple choice questions, clinical skills, diagnostic and therapeutic skills evaluated intermittently by unit faculties.

Mock examination suggested , 3 to 4 months prior to final university exam should consist of two question papers each 3 hours duration, one MCQ with 200 questions and practical and viva,voce similar to university examination under the supervision of senior faculty.

Results of all evaluations should be entered into P.G's diary and departmental file for documentation purposes. Main purpose of periodic examination and accountability is to ensure clinical expertise of students with practical and communication skills and balance broader concept of diagnostic and therapeutic challenges.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

Scheme of Examination

A. Written Papers (Theory)

There shall be four question papers, each of three hours duration. Each paper shall consist of ten essay questions each question carrying 10 marks and making of the total of 100 marks. Questions on recent advances may be asked in the fourth paper. Details of distribution of topics for each paper will be as follows.

Paper,I will include Basic Medical Sciences, Current Advances in Genetics, Nutrition, and Clinical Pharmacology

Paper,II will include Cardiovascular system , Gastro Intestinal system , Infectious diseases including Tropical Medicine

Paper,III will include Central Nervous system, Respiratory system, Immune system connective tissue and joint disorders

Paper IV will include Nephrology, Endocrinology & Metabolism, Haematology, Oncology, Dermatology, Psychiatry Poisoning, Environmental and Occupational hazards including recent advances.

Note: The distribution of chapters / topics shown against the papers are suggestive only.

B. Clinical Examination	***Total marks 200***
To elicit competence in clinical skills and	One Long case , 80 marks
Differential diagnostic formulations	Three Short cases, 40 x 3

C. *Viva,Voce Examination* **Marks 100**

Aims to elicit candidates knowledge and investigative / therapeutic skills.

1) Viva,voice Examination: (80 marks)

All examiners will conduct viva,voice conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens, Histo pathology slides, x,rays, ultrasound, CT scan images, etc., for interpretation. Questions on use of instruments will be asked. It includes discussion on dissertation also.

2) Pedagogy Exercise: (20 marks)

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8,10 minutes.

D) Maximum marks

Theory	Practical	Viva	Grand Total
400	200	100	700

Recommended Books

I. Clinical Methods

1. Hutchison's Clinical Methods, E. D. Michael Swash, 20th Edition, 1998 (ELBS W.B. Saunders).
2. Chambelain's Symptoms and Signs in Clinical Medicine, Ogilvie & Christopher, 12th Edition, 1997 (Butterworth H)

II. General Medicine

1. Harrison's Principles of Internal Medicine. 14th edition.
2. A.P.I. Textbook of Medicine , G. S. Sainani, 6th edition.
3. Cecil's Textbook of Medicine , Bennet & Plum. 20th edition (Saunders)
4. Oxford Textbook of Medicine, D. J. Seatherall, 3rd edition (Oxford University Press)
5. Davidson's Principles & Practice of Medicine. 19th edition.
6. Current Medical Diagnosis and Treatment , 2000. Lawrence. 39th edition (Mcgraw Hill)
7. Clinical Medicine , Kumar & Clark. 4th edition.
8. Medical Complications during Pregnancy , Bunow & Duffy, 5th edition.
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