

Faculty of Medicine



**JSS Academy of Higher Education & Research**

(Deemed to be University)

Accredited "A" Grade by NAAC

Sri Shivarathreshwara Nagar, Mysuru – 570 015

# Regulation & Syllabus

Post Graduate Degree Programs  
**GENERAL MEDICINE 2016**

**MD**

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## **MD GENERAL MEDICINE**

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# **REGULATION AND SYLLABUS FOR POST GRADUATE DEGREE PROGRAMS 2016**

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## **MD GENERAL MEDICINE**

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### **CONTENTS**

|             |                              | <b>Page No</b> |
|-------------|------------------------------|----------------|
| Chapter I   | Regulation                   | 04             |
| Chapter II  | Goals and General Objectives | 11             |
| Chapter III | Monitoring Learning Process  | 13             |
| Chapter IV  | Ethics                       | 26             |
| Chapter V   | Syllabus - Degree            | 28             |

## CHAPTER I

### REGULATION FOR POST GRADUATE DEGREE AND DIPLOMA COURSES

#### 1. Branch of study

##### Post graduate degree courses

###### Doctor of Medicine

- a) Anaesthesiology
- b) Anatomy
- c) Biochemistry
- d) Community medicine
- e) Dermatology, venereology and leprosy
- f) Emergency medicine
- g) Forensic medicine
- h) General medicine
- i) Hospital administration
- j) Microbiology
- k) Pathology
- l) Paediatrics
- m) Pharmacology
- n) Physiology
- o) Psychiatry
- p) Tuberculosis and Respiratory Medicine
- q) Radio Diagnosis

###### Master of Surgery

- a) General surgery
- b) Obstetrics and gynaecology
- c) Ophthalmology
- d) Orthopaedics
- e) Otorhinolaryngology

###### Post graduate diploma courses

- a) Anaesthesiology (DA)
- b) Child Health (DCH)
- c) Clinical Pathology (DCP)
- d) Dermatology, Venereology & Leprosy (DDVL)
- e) Medical Radio Diagnosis (DMRD)
- f) Obstetrics & Gynaecology (DGO)
- g) Ophthalmology (DO)
- h) Orthopaedics (D Ortho)
- i) Otolaryngology (DLO)
- j) Psychiatric Medicine (DPM)

## **2. Eligibility for admission**

**MD / MS Degree and Diploma courses:** A candidate who has passed final year MBBS examination after pursuing a study in a medical college recognized by the Medical Council of India and has completed one year compulsory rotating internship in a teaching institution or other institution recognized by the Medical Council of India, and has obtained permanent registration of any State Medical Council, shall be eligible for admission.

## **3. Admission**

A candidate desirous of admission to Post Graduate Medical Programmes MD/MS / PG Diploma Courses is required to complete the application form and submit to the Deemed to be University along with prescribed documents on or before the scheduled date. Eligibility criteria, application form and details of documents to be submitted are available in the Deemed to be University website: [www.jssuni.edu.in](http://www.jssuni.edu.in).

## **4. Registration**

A candidate who has been admitted to postgraduate course shall register in the Deemed to be University within a month of admission after paying the registration fee.

## **5. Intake of students**

The intake of students to each course shall be in accordance with the MCI.

## **6. Duration of study**

**MD, MS Degree Courses:** The course of study shall be 3 completed years including the period of examination.

Provided that in case of students having a recognized 2 years postgraduate diploma course in the same subject, the period of training including the period of examination shall be 2 years.

**Diploma courses:** The course of study shall be 2 completed years including the examination period.

## **7. Methodology 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 shall 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, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

## **8. Attendance, progress and conduct**

A candidate pursuing degree/diploma course, shall work in the concerned department of the institution for the full period as full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course, nor can he/she work in a nursing home or other hospitals/

clinic/laboratory while studying postgraduate course.

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

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.

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 every year.

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

## 9. Monitoring progress of study

**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 shall 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 scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the Deemed to be University practical/clinical examination.

**Periodic tests:** In case of degree courses of three years duration (MD/MS), the concerned departments shall conduct three tests, two of them be annual tests, one at the end of first year and the other at the end of the second year. The third test shall be held three months before the final examination. The tests shall include written papers, practical / clinical and viva voce. Records and marks obtained in such tests shall be maintained by the Head of the Department and sent to the Deemed to be University, when called for.

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

**Records:** Records and marks obtained in tests shall be maintained by the Head of the Department and shall be made available to the Deemed to be University or MCI.

## 10. 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 postgraduate 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, and comparison of results and drawing conclusions.

Every candidate shall submit to the Controller of Examinations of the Deemed to be 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 Deemed to be University. The synopsis shall be sent through proper channel.

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

The dissertation should be written under the following headings:

- a) Introduction
- b) Aims or Objectives of study
- c) Review of Literature
- d) Material and Methods
- e) Results
- f) Discussion
- g) Conclusion
- h) Summary
- i) References
- j) Tables
- k) Annexure
- l) Proof of Paper presentation and publication

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexure. 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.

Four copies of dissertation thus prepared shall be submitted to the Controller of Examinations, six months before final examination, on or before the dates notified by the Deemed to be University.

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

Guide: The academic qualification and teaching experience required for recognition as a guide for dissertation work is as per MCI Minimum Qualifications for Teachers in Postgraduate Medical Education Regulations, 2000. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

Co Guide: 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 JSS Deemed to be University / Medical Council of India.

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 Deemed to be University.

A postgraduate student is 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 his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.



## 11. Schedule of examination

The examination for MD / MS 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.

For students who have already passed Post Graduate Diploma and appearing for MD examination, the examination shall be conducted after two academic years including submission of dissertation. The Deemed to be 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.

## 12. Scheme of examination

### MD/MS

**Dissertation:** Every candidate shall carry out work and submit a dissertation as indicated in Sl. No. 10. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

**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 in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers. In basic medical subjects and para-clinical subjects, questions on applied clinical aspects shall also be asked.

### Pattern of Theory Examination Question Paper:

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying 10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

**Practical/Clinical Examination:** In case of Practical examination for the subjects in Basic Medical Sciences Practical Examination shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the experimental/Laboratory studies and his ability to perform such studies as are relevant to his subject.

Clinical examination for the subjects in Clinical Sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a specialist/Teacher, for which candidates shall examine a minimum one long case and two short cases.

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

**Viva Voce:** Viva Voce shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which form a part of the examination.

The total marks shall be 100 and the distribution of marks shall be as under:

- |     |   |    |
|-----|---|----|
| i)  | For examination of all components of syllabus | 80 |
| ii) | For Pedagogy                                  | 20 |

If there is skills evaluation, 10 marks shall be reserved for Pedagogy and 10 marks for skill evaluation.

**Examiners.** There shall be at least 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.

**Criteria for declaring as pass in Deemed to be University Examination:**

A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the four papers for post graduate degree examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the four papers for postgraduate degree examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

**Declaration of class:** A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

## **Post Graduate Diploma Examinations**

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 one paper out of this shall be on basic medical sciences. In basic medical subjects and Para-clinical subjects, questions on applied clinical aspects shall also be asked.

**Pattern of Theory Examination Question Paper:**

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying 10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

**Practical Clinical Examination:** In case of practical examination it shall 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 shall aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate shall examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 150.

**Viva Voce Examination:** Viva Voce examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which shall form a part of the examination. The total marks shall be 50.

**Examiners.** There shall be at least 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.

**Criteria for declaring as pass in Deemed to be University Examination:**

A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the three papers for post graduate diploma examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the three papers for post graduate diploma examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

**Declaration of class:** A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

**13. Number of candidates per day**

The maximum number of candidates to be examined in Clinical/ practical and Oral on any day shall not exceed eight for M.D./M.S. degree, eight for diploma.

## **CHAPTER II**

### **GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM**

#### **GOAL**

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

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

#### **GENERAL OBJECTIVES**

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

1. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.
2. Practice the specialist concerned ethically and in step with the principles of primary health care.
3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.
5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
9. Play the assigned role in the implementation of national health programme, effectively and responsibly.

10. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
11. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.
12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
14. 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 discipline 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 POSTGRADUATE CURRICULUM:**

The major components of the Postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Dissertation skills.
- Attitudes including communication skills.
- Training in Research Methodology, Medical Ethics and Medicolegal aspects.

(Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000)

## CHAPTER III

### Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring shall 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. Model checklists are given in this chapter which may be copied and used.

The learning outcomes to be assessed should include:

1. Personal Attitudes.
2. Acquisition of Knowledge.
3. Clinical and operative skills and
4. Teaching skills.

**1. Personal Attitudes:** The essential items are:

- a) Caring attitude.
- b) Initiative.
- c) Organisational ability.
- d) Potential to cope with stressful situations and undertake responsibility.
- e) Trustworthiness and reliability.
- f) To understand and communicate intelligibly with patients and others.
- g) To behave in a manner that establishes professional relationships with patients and colleagues.
- h) Ability to work in a team.
- i) 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.

**2. 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.

- a) **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 – I, Chapter III)
- b) **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-II, Chapter III)

- c) **Clinico-pathological conferences.** This should be a multidisciplinary 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.
- d) **Medical Audit.** Periodic morbidity and mortality meeting shall be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### 3. Clinical skills:

- a. **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 III, Chapter III).
  - b. **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 III).
  - c. **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 III).
4. **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 III).
5. **Periodic tests:** In case of degree courses of three years duration, the department 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. In case of diploma courses of two year duration, the departments may conduct two tests. One of them 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, practical / clinical and viva voce.
6. **Work diary:** 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.
7. **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 Deemed to be University or MCI.
8. **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 III. Copies may be made and used by the institutions.

**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 him or herself right.

### Format of Model Check Lists

#### Check List-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

| Sl No | Items for observation during presentation                                   | Poor 0 | Below Average 1 | Average 2 | Good 3 | Very Good 4 |
|-------|---|--------|-----------------|-----------|--------|-------------|
| 1.    | Article chosen was  |        |                 |           |        |             |
| 2.    | Extent of understanding of scope & objectives of the paper by the candidate |        |                 |           |        |             |
| 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.    | Any other observation   |        |                 |           |        |             |
|       | <b>Total Score</b>  |        |                 |           |        |             |



## Check List – II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

| <b>Sl No</b> | <b>Items for observation during presentation</b> | <b>Poor<br/>0</b> | <b>Below<br/>Average<br/>1</b> | <b>Average<br/>2</b> | <b>Good<br/>3</b> | <b>Very<br/>Good<br/>4</b> |
|--------------|--|-------------------|--------------------------------|----------------------|-------------------|----------------------------|
| 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                              |                   |                                |                      |                   |                            |
| 10.          | Any other observation                            |                   |                                |                      |                   |                            |
|              | <b>Total Score</b>                               |                   |                                |                      |                   |                            |

### Check List - III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads,  
including posting in other departments)

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

| SI No | Points to be considered   | 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.    | Beside 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  |        |                 |           |        |             |
|       | <b>Total Score</b>  |        |                 |           |        |             |

**Check List - IV**  
**EVALUATION FORM FOR CLINICAL PRESENTATION**

**Name of the Student:**

**Name of the Faculty:**

**Date:**

| <b>Sl No</b> | <b>Points to be considered</b>  | <b>Poor<br/>0</b> | <b>Below<br/>Average<br/>1</b> | <b>Average<br/>2</b> | <b>Good<br/>3</b> | <b>Very<br/>Good<br/>4</b> |
|--------------|---|-------------------|--------------------------------|----------------------|-------------------|----------------------------|
| 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:<br>Whether it follows logically from history and findings  |                   |                                |                      |                   |                            |
| 10.          | Investigations required <ul style="list-style-type: none"> <li>• Complete list</li> <li>• Relevant order</li> <li>• Interpretation of investigations</li> </ul> |                   |                                |                      |                   |                            |
| 11.          | Ability to react to questioning Whether it follows logically from history and findings  |                   |                                |                      |                   |                            |
| 12.          | Ability to defend diagnosis   |                   |                                |                      |                   |                            |
| 13.          | Ability to justify differential diagnosis   |                   |                                |                      |                   |                            |
| 14.          | Others  |                   |                                |                      |                   |                            |
|              | <b>Total Score</b>  |                   |                                |                      |                   |                            |

## Check List - V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

| SI No |   | Strong Point | Weak Point |
|-------|---|--------------|------------|
| 1.    | Communication of the purpose of the talk              |              |            |
| 2.    | Evokes audience interest in the subject               |              |            |
| 3.    | The introduction                                      |              |            |
| 4.    | The sequence of ideas                                 |              |            |
| 5.    | The use of practical examples and/or illustrations    |              |            |
| 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.   | Effectiveness of the talk                             |              |            |
| 13.   | Uses AV aids appropriately                            |              |            |

## Check List - VI

### MODEL CHECK LIST FOR DISSERTATION PRESENTATION

**Name of the Student:**

**Name of the Faculty:**

**Date:**

| <b>Sl No</b> | <b>Points to be considered</b><br><b>divine</b> | <b>Poor</b><br><b>0</b> | <b>Below</b><br><b>Average</b><br><b>1</b> | <b>Average</b><br><b>2</b> | <b>Good</b><br><b>3</b> | <b>Very</b><br><b>Good</b><br><b>4</b> |
|--------------|---|-------------------------|--|----------------------------|-------------------------|--|
| 1.           | Interest shown in selecting a topic             |                         |  |                            |                         |  |
| 2.           | Appropriate review of literature                |                         |  |                            |                         |  |
| 3.           | Discussion with guide & other faculty           |                         |  |                            |                         |  |
| 4.           | Quality of Protocol                             |                         |  |                            |                         |  |
| 5.           | Preparation of proforma                         |                         |  |                            |                         |  |
|              | <b>Total Score</b>                              |                         |  |                            |                         |  |

**Check List - VII**

**CONTINUOUS EVALUATION OF DISSERTATION WORK  
BY GUIDE / CO GUIDE**

**Name of the Student:**

**Name of the Faculty:**

**Date:**

| <b>Sl No</b> | <b>Items for observation during presentations</b> | <b>Poor<br/>0</b> | <b>Below<br/>Average<br/>1</b> | <b>Average<br/>2</b> | <b>Good<br/>3</b> | <b>Very<br/>Good<br/>4</b> |
|--------------|---|-------------------|--------------------------------|----------------------|-------------------|----------------------------|
| 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                           |                   |                                |                      |                   |                            |
| 6.           | Others  |                   |                                |                      |                   |                            |
|              | <b>Total Score</b>                                |                   |                                |                      |                   |                            |

**LOG BOOK**

**Table 1:** Academic activities attended

Name:

Admission Year:

| <b>Date</b> | <b>Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching</b> | <b>Particulars</b> |
|-------------|--|--------------------|
|             |  |                    |
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## LOG BOOK

**Table 3:** Diagnostic and Operative procedures performed

Name:

Admission year:

College:

| <b>Date</b> | <b>Name</b> | <b>ID No.</b> | <b>Procedure</b> | <b>Category<br/>O, A, PA, PI*</b> |
|-------------|-------------|---------------|------------------|-----------------------------------|
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |
|             |             |               |                  |                                   |

**\* Key:**

O - Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior Surgeon  
PI - Performed independently

## Model Overall Assessment Sheet

| SI No | Faculty Member & Others             | Name of Student and Mean Score* |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
|-------|-------------------------------------|---------------------------------|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|
|       |                                     | A                               | B | C | D | E | F | G | H | I | J |  |  |  |  |  |  |  |  |  |  |
| 1.    | <b>Journal Review Presentations</b> |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| 2.    | <b>Seminars</b>                     |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| 3.    | <b>Clinical work in wards</b>       |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| 4.    | <b>Clinical presentation</b>        |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| 5.    | <b>Teaching skill practice</b>      |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
|       | <b>Total Score</b>                  |                                 |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |

Note: Use separate sheet for each year.

**Signature of HOD**

**Signature of Principal**

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

\* KEY:

**Mean score** : Is the sum of all the scores of checklists 1 to 7.  
**A, B, .....** Name of the trainees.

## Chapter IV

### Medical Ethics Sensitisation and Practice

#### Introduction

There is now a shift from the traditional individual patient- doctor relationship and medical care. With the advances in science and technology and the needs of patients, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal and General Objective stated in Chapter II and develop human values it is urged that ethical sensitisation be achieved by lectures or discussion on ethical issues, clinical discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

#### Course Contents

##### 1. Introduction to Medical Ethics

- What is Ethics?
- What are values and norms?
- Relationship between being ethical and human fulfillment.
- How to form a value system in one's personal and professional life.
- Heteronomous Ethics and Autonomous Ethics.
- Freedom and personal Responsibility.

##### 2. Definition of Medical Ethics

- Difference between medical ethics and bio-ethics
- Major Principles of Medical Ethics
  - Beneficence = fraternity
  - Justice = equality
  - Self determination (autonomy) = liberty

##### 3. Perspective of Medical Ethics

- The Hippocratic Oath.
- The Declaration of Helsinki.
- The WHO Declaration of Geneva.
- International code of Medical Ethics. (1993)
- Medical Council of India Code of Ethics.

##### 4. Ethics of the Individual

- The patient as a person.
- The Right to be respected.
- Truth and Confidentiality.
- The autonomy of decision.
- The concept of disease, health and healing.
- The Right to health.
- Ethics of Behaviour modification.
- The Physician – Patient relationship.
- Organ donation.

##### 5. The Ethics of Human life

- What is human life?
- Criteria for distinguishing the human and the non-human.

- Reasons for respecting human life.
- The beginning of human life.
- Conception, contraception.
- Abortion.
- Prenatal sex-determination.
- In vitro fertilization (IVF).
- Artificial Insemination by Husband (AIH).
- Artificial Insemination by Donor (AID).
- Surrogate motherhood.
- Semen Intra-fallopian Transfer (SIFT).
- Gamete Intra-fallopian Transfer (GIFT).
- Zygote Intra-fallopian Transfer (ZIFT).
- Genetic Engineering.

## **6. The Family and Society in Medical Ethics**

- The Ethics of human sexuality.
- Family Planning perspectives.
- Prolongation of life.
- Advanced life directives – The Living Will
- Euthanasia
- Cancer and Terminal Care

## **7. Profession Ethics**

- Code of conduct.
- Contract and confidentiality.
- Charging of fees, Fee-splitting.
- Prescription of drugs.
- Over-investigating the patient.
- Low – Cost drugs, vitamins and tonics.
- Allocation of resources in health care.
- Malpractice and Negligence.

## **8. Research Ethics**

- Animal and experimental research / humaneness.
- Human experimentation.
- Human volunteer research — Informed Consent Drug trials.

## **9. Ethical workshop of cases**

- Gathering all scientific factors.
- Gathering all human factors.
- Gathering all value factors.
- Identifying areas of value — conflict, setting of priorities
- Working out criteria towards decisions.

## **Recommended Reading**

1. Francis C.M., Medical Ethics, 1 Ed, 1993, Jaypee Brothers, New Delhi.
2. Good Clinical Practices:GOI Guidelines for clinical trials on Pharmaceutical Products in India ([www.cdsco.nic.in](http://www.cdsco.nic.in))
3. INSA Guidelines for care and use of Animals in Research – 2000.
4. CPCSEA Guidelines 2001 ([www.cpcsea.org](http://www.cpcsea.org).)
5. Ethical Guidelines for Biomedical Research on Human Subjects, 2000, ICMR, New Delhi.
6. ICMR Guidelines on animal use 2001, ICMR, New Delhi.

## Chapter V – Syllabus

### M D GENERAL MEDICINE

#### 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 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 this programme.

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

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

The medical PG after completion of MD (Gen Med) should be able to manage patients 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 the 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 and adolescents.
- Describe indications and methods for fluid and electrolyte replacement therapy including blood transfusion.

- Describe common malignancies in the country and their management including prevention.
- Demonstrate understanding of basic sciences relevant to this speciality
- 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.
- Advice 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 fora.

## **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 clinical condition.
- Perform common procedures relevant to the speciality.
- Provide basic and advanced life saving support services (BLS & ACLS) 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. Also to be able to work as an active team member in appropriate settings.
- 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:**

#### **I. Introduction to Clinical Medicine:**

1. The practice of medicine
2. Ethical issues in clinical medicine



3. Quantitative aspects of clinical reasoning, host and disease
4. Influence of demographic and socio-economic factors
5. Influence of environmental and occupational hazards on disease
6. Women's health
7. Medical disorders during pregnancy
8. Adolescent health problems
9. Geriatric medicine
10. Principles of disease prevention,
11. Cost awareness in medicine.

## **II. Cardinal Manifestations and Presentation of Diseases:**

### **1. Pain:**

- i. Pathophysiology and management
- ii. Chest discomfort and palpitation
- iii. Abdominal pain
- iv. Headache
- v. Back and neck pain

### **2. Alterations in body temperature:**

- i. Fever and hyperthermia,
- ii. Fever and rash,
- iii. Hypothermia

### **3. Nervous system dysfunction:**

- i. Faintness,
- ii. Syncope
- iii. Dizziness, and vertigo
- iv. Weakness,
- v. Abnormal movements and imbalance,
- vi. Episodic muscle spasms,
- vii. Cramps and weakness,
- viii. Numbness, tingling and sensory loss,
- ix. Acute confusional states and coma,
- x. Aphasia and other focal cerebral disorders, memory loss and dementia
- xi. Disorders of sleep and circadian rhythms.

### **4. Disorders of the eyes, ears, nose and throat:**

- i. Disorders of the eye
- ii. Disorders of smell, taste and hearing,
- iii. Infections of the upper respiratory tract,
- iv. Oral manifestations of disease.

### **5. Alterations in Circulatory and Respiratory Functions:**

- i. Dyspnoea and pulmonary oedema ,
- ii. Cough and hemoptysis,
- iii. Approach to the patient with a heart murmur,
- iv. Approach to the patient with hypertension,
- v. Hypoxia
- vi. polycythemia and cyanosis
- vii. Edema,
- viii. Shock ,cardiovascular collapse, cardiac arrest, and sudden cardiac death.

- 6. Alterations in Gastrointestinal Function:**
  - i. Dysphagia,
  - ii. Nausea, vomiting and indigestion,
  - iii. Diarrhea and constipation,
  - iv. Gain and loss in weight,
  - v. Gastrointestinal bleeding,
  - vi. Jaundice
  - vii. Abdominal swelling, ascites.
  
- 7. Alterations in Urinary Function and Electrolytes:**
  - i. Cardinal manifestations of renal disease,
  - ii. Voiding dysfunction, incontinence, and bladder pain,
  - iii. Fluid and electrolyte disturbances,
  - iv. Acidosis and alkalosis.
  
- 8. Alterations in the Urogenital Tract:**
  - i. Impotence,
  - ii. Disturbances of menstruation and other common gynecologic complaints in women
  - iii. hirsutism and virilization
  
- 9. Alteration in the Skin:**
  - i. Approach to the patient with skin disorders:
  - ii. Eczema, psoriasis, cutaneous infections, acne, and other common skin disorders.
  - iii. Cutaneous drug reactions,
  - iv. Skin manifestations of internal disease,
  - v. Photosensitivity and other reactions to light.
  
- 10. Hematological alterations:**
  - i. Anemia,
  - ii. Bleeding and thrombosis.
  - iii. Enlargement of lymph nodes and spleen,
  - iv. Disorders of granulocytes and monocytes.
  
- 11. Manifestations of Cancer:**
  - i. Presentations of the patient with cancer,
  - ii. Solid tumors in adults,
  - iii. Evaluation of breast masses
  
- 12. Genetics and Disease:**
  - i. Genetics and disease,
  - ii. Cytogenetic aspects of human disease,
  - iii. Treatment and prevention of genetic disease.
  
- 13. Clinical Pharmacology:**
  - i. Principles of drug therapy,
  - ii. Adverse reactions to drugs,
  - iii. Physiology and pharmacology of the autonomic nervous system,
  - iv. Nitric oxide- biologic and medical implications.

### **III. Nutrition:**

- i. Nutrition and nutritional requirements

- ii. assessment of nutritional status ,
- iii. Protein and energy malnutrition ,
- iv. Obesity,
- v. Anorexia nervosa and bulimia nervosa,
- vi. Diet therapy,
- vii. vii.Enteral and parenteral nutrition therapy.
- viii. viii.Vitamin deficiency and excess,
- ix. ix.Disturbances in trace elements.

#### **IV. Oncology and Hematology.**

##### **1. Neoplastic Disorder:**

- i. Approach to the patient with cancer,
- ii. Prevention and early detection of cancer
- iii. Cell biology of cancer,
- iv. Cancer genetics,
- v. Invasion and metastasis,
- vi. Principles of cancer therapy,
- vii. Infections in patients with cancer,
- viii. Melanoma and other skin cancers,
- ix. Head and neck cancer,
- x. Neoplasms of the lung,
- xi. Breast cancer,
- xii. Gastrointestinal tract cancer,
- xiii. Tumors of the liver and biliary tract,
- xiv. Pancreatic cancer,
- xv. Endocrine tumors of the gastrointestinal tract and pancreas,
- xvi. Bladder and renal cell cancer,
- xvii. Hyperplasia and carcinoma of the prostate,
- xviii. Testicular cancer,
- xix. Gynecologic malignancies,
- xx. Sarcomas of soft tissue and bone,
- xxi. Metastatic cancer of unknown primary site,
- xxii. Paraneoplastic syndromes,
- xxiii. Paraneoplastic neurologic syndromes,
- xxiv. Oncologic emergencies.

##### **2. Disorders of Hematopoiesis:**

- i. Hematopoiesis,
- ii. Iron deficiency and other hypoproliferative anemias
- iii. Disorders of hemoglobin,
- iv. Megaloblastic anemias,
- v. Hemolytic anemias and acute blood loss,
- vi. Aplastic anemia and myelodysplasia,
- vii. polycythemia vera and other myeloproliferative diseases,
- viii. Acute and chronic myeloid leukaemias,
- ix. Malignancies of lymphoid cells,
- x. Plasma cell disorders transfusion biology and therapy,
- xi. Bone marrow transplantation

##### **3. Disorders of Hemostasis:**

- i. Disorders of the platelet and vessel wall,
- ii. Disorders of coagulation and thrombosis,
- iii. Anticoagulant, fibrinolytic and antiplatelet therapy

## **V. Infectious Diseases:**

### **1. Basic Considerations in infectious diseases**

- i. Introduction to infectious diseases: host parasite interaction,
- ii. Laboratory diagnosis of infectious diseases,
- iii. Immunization principles and vaccine use,
- iv. Health risks to travelers.
- v. Emergent and emerging infections

### **2. Clinical syndromes, community acquired:**

- i. Sepsis and septic shock,
- ii. Fever of unknown origin,
- iii. Infective endocarditis
- iv. Intraabdominal infections and abscesses,
- v. Acute infectious diarrheal diseases and bacterial food poisoning,
- vi. Sexually transmitted diseases: overview and clinical approach,
- vii. Pelvic inflammatory disease,
- viii. Urinary tract infections and pyelonephritis,
- ix. Osteomyelitis,
- x. Infections of the skin, muscle, and soft tissues.
- xi. Infections (excluding AIDs) in injection drug users,
- xii. Infections from bites scratches and burns.

### **3. Clinical Syndromes: nosocomial infections,**

- i. Infections in transplant recipients,
- ii. Hospital acquired and intravascular device, related infections
- iii. Infection control in the hospital.

### **4. Bacterial Diseases:**

- i. General considerations,
- ii. Molecular, mechanisms of bacterial pathogenesis,
- iii. Treatment and prophylaxis of bacterial infections.

### **5. Diseases Caused by Gram-Positive Bacteria:**

- i. Pneumococcal infections,
- ii. Staphylococcal infections,
- iii. Streptococcal
- iv. Enterococcal infections,
- v. Diphtheria, other corynebacterial infections,
- vi. Anthrax,
- vii. Infections caused by listeria monocytogenes,
- viii. Tetanus,
- ix. Botulism,
- x. Gas gangrene,
- xi. Antibiotic, associated colitis, and other clostridial infections.

### **6. Diseases caused by Gram negative bacteria:**

- i. Meningococcal infections,
- ii. Gonococcal infections,
- iii. moraxella (branchamella) catarrhalis other moraxella species and kingnella,
- iv. Infections due to haemophilus influenzae, other haemophilus species, the haeck group, and other gram, negative bacilli,
- v. Legionella infection,
- vi. Pertussis

- vii. Diseases caused by gram, negative enteric bacilli,
- viii. Helicobacter infections,
- ix. Infections due to pseudomonas species and related organisms
- x. salmonellosis,
- xi. Shigellosis,
- xii. Infections due to campylobacter and related species,
- xiii. Cholera and other vibrios,
- xiv. Brucellosis,
- xv. Tularemia,
- xvi. Plague and other yersinia infections,
- xvii. Bartonella infections, including cat scratch disease,
- xviii. Donovanosis (granuloma inguinale).

#### **7. Miscellaneous Bacterial Infections:**

- i. Nocardiosis,
- ii. Actinomycosis,
- iii. Infections due to mixed anaerobic organisms.

#### **8. Mycobacterial Diseases:**

- i. Antimycobacterial agents,
- ii. Tuberculosis,
- iii. Leprosy (Hansen's disease),
- iv. Infections due to nontuberculous mycobacteria

#### **9. Spirochetal Diseases:**

- i. Syphilis,
- ii. Endemic treponematoses,
- iii. leptospirosis,
- iv. Relapsing fever,
- v. Lyme borreliosis

#### **10. Rickettsia, Mycoplasma and Chlamydia:**

- i. rickettsial diseases,
- ii. Mycoplasma infections,
- iii. Chlamydial infections.

#### **11. Viral Diseases: medical virology, antiviral chemotherapy.**

##### **DNA Viruses:**

- i. Herpes simplex viruses,
- ii. Varicella, zoster virus infections,
- iii. Epstein Barr virus infections, including infectious mononucleosis,
- iv. Cytomegalovirus and human herpesvirus types 6, 7 and 8,
- v. Smallpox, vaccinia and other poxviruses,
- vi. Parvovirus,
- vii. Human papillomavirus infections.

##### **12. DNA and RNA Respiratory Viruses:**

- i. Common viral respiratory infections.

##### **13. RNA Viruses :**

- i. The human retroviruses,
- ii. Influenza,
- iii. Viral gastroenteritis,
- iv. Enteroviruses and reoviruses,

- v. Measles (rubeola) ,
- vi. Rubella (German measles),
- vii. Mumps,
- viii. Rabies virus and other rhabdoviruses infections caused by arthropod and rodent borne viruses,
- ix. Marburg and Ebola viruses

**14. Fungal Infections:**

- i. Diagnosis and treatment of fungal infections,
- ii. Histoplasmosis,
- iii. coccidioidomycosis,
- iv. blastomycosis,
- v. cryptococcosis candidiasis,
- vi. Aspergillosis,
- vii. mucormycosis,
- viii. Miscellaneous mycoses and prothotheca infections,
- ix. Pneumocystis carini infection.

**15. Protozoal and Helminthic Infections:**

- i. General considerations
- ii. approach to the patient with parasitic infections,
- iii. Laboratory diagnosis of parasitic infections,
- iv. Therapy for parasitic infections.

**16. Protozoal Infections:**

- i. amoebiasis and infection with free, living amoebas,
- ii. Malaria and other diseases caused by red blood cell parasites
- iii. leishmaniasis,
- iv. Trypanosomiasis,
- v. Toxoplasma infection,
- vi. Protozoal intestinal infections and trichomoniasis.

**17. Helminthic Infections:**

- i. Trichinosis and infections with other tissue nematodes,
- ii. Intestinal nematodes,
- iii. filariasis and related infections (loiasis, onchocerciasis, and dracunculiasis),
- iv. Schistosomiasis and other trematode infections,
- v. cestodes.

**VI. Disorders of the Cardiovascular System:**

**1. Diagnosis, approach to the patient with heart disease,**

- i. Physical examination of the cardio vascular system,
- ii. Electrocardiography,
- iii. Diagnostic cardiac catheterization and angiography
- iv. Disorders of Rhythm:
  - v. The bradyarrhythmias: disorders of sinus node function and AV conduction disturbances,
  - vi. The tachyarrhythmias.

**2. Disorders of the Heart:**

- i. Normal and abnormal myocardial function,
- ii. Heart failure,

- iii. Cardiac transplantation,
- iv. Congenital heart disease in the adult,
- v. Rheumatic fever,
- vi. valvular heart disease,
- vii. corpulmonale,
- viii. The cardiomyopathies and myocarditis,
- ix. Pericardial disease,
- x. Cardiac tumors,
- xi. Cardiac manifestations of sytemic diseases,
- xii. Traumatic cardiac injury

### **3. Vascular Disease:**

- i. Atherosclerosis,
- ii. Acute myocardial infarction,
- iii. Ischemic heart disease,
- iv. Coronary angioplasty and other therapeutic applications of cardiac catheterization,
- v. Hypertensive vascular disease,
- vi. Diseases of the aorta,
- vii. Vascular diseases of the extremities.

## **VII. Disorders of the Respiratory System:**

### **1. Diagnosis, approach to the patient with disease of the respiratory system**

- i. Disturbances of respiratory system,
- ii. Disturbances of respiratory function,
- iii. Diagnostic procedures in respiratory disease

### **1. Disease of the respiratory system:**

- i. Asthma,
- ii. hypersensitivity pneumonitis and eosinophilic pneumonias,
- iii. Environmental lung diseases,
- iv. Pneumonia, including narcotizing pulmonary infections (lung abscess bronchiectasis, cystic fibrosis)
- v. chronic bronchitis, emphysema, and airway obstruction,
- vi. Interstitial lung diseases,
- vii. Primary pulmonary hypertension
- viii. Pulmonary thromboembolism,
- ix. Disorders of the pleura, mediastinum and diaphragm,
- x. Disorders of ventilation,
- xi. Sleep apnea,
- xii. Acute respiratory distress syndrome,
- xiii. Mechanical ventilatory support
- xiv. Lung transplantation

## **VIII. Disorders of the Kidney and Urinary Tract :**

- i. Approach to the patient with diseases of the kidneys and urinary tract,
- ii. Disturbances of renal function,
- iii. Acute renal failure
- iv. Chronic renal failure,
- v. Dialysis and transplantation in the treatment of renal failure,

- vi. pathogenetic mechanisms of glomerular injury,
- vii. The major glomerulopathies,
- viii. glomerulopathies associated with multisystem diseases,
- ix. tubulointerstitial diseases of the kidney,
- x. Vascular injury to the kidney,
- xi. Hereditary tubular disorders,
- xii. Nephrolithiasis,
- xiii. Urinary tract obstruction.

## **IX. Disorders of the Gastrointestinal System:**

### **1. Disorders of the alimentary tract:**

- i. Approach to the patient with gastrointestinal disease,
- ii. Gastrointestinal endoscopy,
- iii. Diseases of the esophagus,
- iv. Peptic ulcer and related disorders,
- v. Disorders of absorption,
- vi. Inflammatory bowel disease: ulcerative colitis and Crohn's disease,
- vii. Irritable bowel syndrome,
- viii. Diverticular, vascular, and other disorders of the intestine and peritoneum,
- ix. Acute intestinal obstruction,
- x. Acute appendicitis

### **2. Liver and Biliary tract disease:**

- i. Approach to the patient with liver disease,
- ii. Evaluation of liver function,
- iii. Derangements of hepatic metabolism,
- iv. Bilirubin metabolism and hyperbilirubinemia,
- v. Acute viral hepatitis,
- vi. Toxic and drug, induced hepatitis, Chronic hepatitis,
- vii. Cirrhosis and alcoholic liver disease,
- viii. Major complications of cirrhosis,
- ix. Infiltrative and metabolic diseases affecting the liver,
- x. Liver transplantation,
- xi. Diseases of the gallbladder and bile ducts

### **3. Disorders of the pancreas:**

- i. Approach to the patient with pancreatic disease,
- ii. Acute and chronic pancreatitis.

## **X. Disorders of the immune system, connective tissue, and joints**

### **1. Disorders of the immune system:**

- i. Introduction to the immune system,
- ii. The major histocompatibility gene complex,
- iii. Primary immune deficiency disease,
- iv. Human immunodeficiency virus (HIV) disease: aids and related disorders.
- v. Amyloidosis

### **2. Disorders of immune, mediated injury:**

- i. Diseases of immediate type hypersensitivity,
- ii. Immunologically mediated skin diseases,



- iii. Systemic lupus erythematosus,
- iv. Rheumatoid arthritis,
- v. Systemic sclerosis (scleroderma)
- vi. Dermatomyositis and poly myositis,
- vii. Sjogren's syndrome,
- viii. Ankylosing spondylitis,
- ix. Reactive arthritis and undifferentiated spondyloarthropathy,
- x. Behcet's syndrome,
- xi. The vasculitis syndromes,
- xii. Sarcoidosis.

## **2. Disorders of the joints :**

- i. Approach to articular and musculoskeletal disorders,
- ii. Osteoarthritis,
- iii. Arthritis due to deposition of calcium crystals,
- iv. Infectious arthritis,
- v. Psoriatic arthritis and arthritis associated with gastrointestinal disease,
- vi. Relapsing polychondritis and other arthritides

## **XI. Endocrinology and Metabolism:**

### **1. Endocrinology**

- i. Approach to the patient with endocrine and metabolic disorders,
- ii. Neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus,
- iii. Disorders of growth ,
- iv. Disorders of the neurohypophysis ,
- v. Diseases of the thyroid,
- vi. Diseases of the adrenal cortex,
- vii. pheochromocytoma,
- viii. Diabetes mellitus,
- ix. Hypoglycemia,
- x. Disorders of the testes,
- xi. Disorders of the ovary and female reproductive tract,
- xii. Endocrine disorders of the breast,
- xiii. Disorders of sexual differentiation,
- xiv. Disorders affecting multiple endocrine systems.

### **2. Disorders of intermediary Metabolism:**

- i. Disorders of lipoprotein metabolism,
- ii. Hemochromatosis,
- iii. The porphyrias,
- iv. Gout and other disorders of Purine metabolism,
- v. Wilson's disease,
- vi. Lysosomal storage diseases,
- vii. Glycogen storage diseases,
- viii. Inherited disorders of connective tissue,
- ix. Inherited disorders of amino acid metabolism and storage,
- x. Inherited defects of membrane transport,
- xi. galactosemia,
- xii. galactokinase deficiency and other rare disorders of carbohydrate metabolism,

xiii. The lipodystrophies and other rare disorders of adipose tissue.

**3. Disorders of Bone and Mineral Metabolism:**

- i. Calcium, phosphorus, and bone metabolism,
- ii. Calcium regulating hormones,
- iii. Diseases of the parathyroid glands and other hyper, and hypocalcemic disorders,
- iv. Metabolic bone disease,
- v. Disorders of phosphorus metabolism,
- vi. Disorders of magnesium metabolism,
- vii. Paget's disease of bone, hyperostosis, fibrous dysplasia, and other dysplasia of bone and cartilage.

**XII. Neurologic Disorders:**

**1. Diagnosis of neurologic disorders,**

- i. Approach to the patient with neurologic disease,
- ii. Electrophysiological studies of the central and peripheral nervous systems,
- iii. Neuroimaging in neurologic disorders,
- iv. Molecular diagnosis of neurologic disorders.

**2. Diseases of the Central Nervous System :**

- i. Migraine and the cluster headache syndrome,
- ii. Seizures and epilepsy,
- iii. Alzheimer's disease and other primary dementias,
- iv. Parkinson's disease and other extrapyramidal disorders,
- v. Ataxic disorders,
- vi. The motor neuron diseases,
- vii. Disorders of the autonomic nervous system,
- viii. Disorders of the cranial nerves,
- ix. Diseases of the spinal cord.
  - x. Traumatic injuries of the head and spine tumors of the nervous system,
  - xi. Multiple sclerosis and other demyelinating diseases,
  - xii. Bacterial meningitis,
  - xiii. Brain abscess, and other suppurative intracranial infections ,
  - xiv. Chronic and recurrent meningitis - aseptic meningitis, viral encephalitis, and prion diseases,
  - xv. Nutritional and metabolic diseases of the nervous system.

**3. Disorders of the nerve and muscle:**

- i. Diseases of the peripheral nervous system,
- ii. Myasthenia gravis and other diseases of the neuromuscular junction,
- iii. Diseases of muscle.

**4. Chronic fatigue syndrome:**

- i. Chronic fatigue syndrome.

**5. Psychiatric Disorders:**

- i. Mental disorders.
- ii. Alcoholism and Drug Dependency:
- iii. Alcohol and alcoholism,
- iv. Opioid drug abuse and dependence,

- v. Cocaine and other commonly abused drugs,
- vi. Nicotine addiction

### **XIII.Environmental and Occupational Hazards:**

#### **1.Illnesses due to poisons, drug overdose and envenomation:**

- i. Poisoning and drug overdose
- ii. disorders caused by reptile bites and marine animal envenomations,
- iii. ectoparasite infestations
- iv. Arthropod bites and stings.

#### **2. Specific Environmental and Occupational Hazards**

- i. Drowning and near drowning,
- ii. Electrical injuries,
- iii. Radiation injury,
- iv. Heavy metal poisoning

### **I. POSTGRADUATE SKILLS**

#### **A. PROCEDURES:**

- Adult resuscitation (BLS, ACLS)
- Intravenous injections
- Intravenous cannulation
- Lumbar puncture
- Test doses
- Infusions
- Blood transfusions
- ABG
- Central line, CVP
- Bone marrow aspiration, trephine biopsy
- Pleural tap
- Paracentesis — diagnostic and therapeutic
- Mantoux test
- Adult vaccinations
- Sampling for fluid cultures
- Liver biopsy
- Echocardiogram(Basic, Bed side)
- Basic ultrasound
- Ryles tube placement, stomach wash
- Urinary catheterization
- Restraining a patient for a procedure
- Sedation
- Analgesia
- Intercostal tube placement with underwater seal
- Respiratory management
  1. Nebulization
  2. Inhaler therapy
  3. Oxygen delivery
- Monitoring and managing critically ill patient

#### **B. Laboratory- Diagnostic skills**

- Urine protein, sugar, microscopy
- Peripheral blood smear

- Malarial smear
- Ziehl Nielson smear — sputum, gastric aspirate
- Grams smear — CSF, pus
- Stool pH, reducing substances, microscopy
- KOH smear
- Blood grouping & cross matching

### **C. Clinical Assessment skills**

- History taking
- Clinical examination
- Anthropometry
- Dietary recall, calorie and protein estimation
- Fundoscopy
- Otoscopy
- Examination of external genitalia - male and female
- Per rectal examination
- Brain death
- Prognostication

### **D. Interpretation Skills**

- Interpretation of Clinical History and Physical examination findings
- Blood, Urine, CSF and Fluid investigations – hematology & biochemistry
- Chest X-ray
- ECG
- Echocardiogram
- ABG interpretation
- EEG interpretation
- Abdominal X-ray
- Bone and joint X-ray
- CT /MRI scan brain
- Barium studies
- Ultrasound abdomen

### **E. Communication Skills**

- Teaching skills
- Communicating about health, disease
- Communicating about a seriously ill adult patient
- Communicating death
- Informed consent
- Empathy with a family
- Referral letters, replies
- Discharge summaries
- Death certificates
- Pre-counseling for HIV
- Post counseling for HIV
- Basic Pedagogy sessions— teaching students, adults
- Lectures, bedside clinics, discussions
- Medline search, internet, Computer usage
- Genetic counseling

## **II. TEACHING LEARNING ACTIVITIES**

## TEACHING SESSIONS

|    | ACTIVITY                   | FREQUENCY        | MODERATOR          | EVALUATOR                    |
|----|----------------------------|------------------|--------------------|------------------------------|
| 1  | Speciality Case discussion | Once in a week   | Faculty            | Faculty other than moderator |
| 2  | Journal club               | Once in a month  | Faculty            | Faculty other than moderator |
| 3  | Clinical Seminar           | Once in a week   | Faculty            | Faculty other than moderator |
| 4  | Bed side clinics           | Once a week      | Faculty            | Faculty other than moderator |
| 5  | Integrated teaching        | Once in 2 months | Faculty            | Faculty other than moderator |
| 6  | Mortality meeting          | Once in a month  | Faculty            | Faculty other than moderator |
| 7  | Grand rounds               | Once in a week   | Unit chief/<br>HOD | Faculty other than moderator |
| 8  | Subject seminar            | Once in a week   | Faculty            | Faculty other than moderator |
| 9  | Tutorials                  | Twice a week     | Faculty            | Faculty                      |
| 10 | Faculty lectures           | Once a month     |                    |                              |

Additional Sessions on Basic Sciences, Biostatistics, Medical Ethics, Legal Issues, clinicopathological conferences may be organised as an Institutional Activity

### Methods suggested for General Medicine Postgraduate Training Programs:

#### Didactic Lectures: (Faculty lectures)

- Objective: To introduce a broad-based concept in an important area of learning to orient the postgraduate student.
- Examples: Potential introductory topics like BLS, ACLS, recognizing a sick patient, fluid and electrolytes, early recognition of shock and respiratory failure,
- Frequency: Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

#### Seminars:

- Objective: To enable a student to study in depth an important area of learning, important to the training of the student.
- Examples: Examples of potential seminar topics would be cardiac failure, epilepsy, COPD, motor neuron diseases, etc
- Frequency: Four times a month. Topic to be shared among 2-3 students and to be equally distributed depending upon the number of postgraduate students in the department. Ideally, MD students should be given more conceptual topics needing a higher degree of understanding and indepth

study. Seniors should have also a more difficult part of the topic when presented as a two-person seminar. Juniors can present after a preliminary month of observation of seminar and ideally could be in combination with senior postgraduates.

#### **Journal Club:**

- Objective: To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals, studies, reviews.
- Examples: Articles like the study on prophylactic Zidovudine to HIV positive pregnant women in prevention of vertical transmission to the fetus, Digoxin versus Captopril in VSD in CCF, etc.
- Frequency: once in a month . junior PG's will get the first opportunity .

#### **Undergraduate Teaching Clinics**

- Objective: To teach effectively undergraduates.
- Methodology: During the 2nd and 3rd year of MD course, postgraduate students will be given opportunities to teach undergraduates.
- Examples: Bedside Clinic, lecture on a small topic, BLS, ACLS.
- Frequency: During undergraduate postings in the department each postgraduate should have a minimum of 4 opportunities per year after the first year of the postgraduate course is completed.

#### **Bedside Clinics**

- Objective: To learn bedside techniques –clinical interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
- Examples: patient with CVA, hepatosplenomegaly, anemia, jaundice, etc.
- Frequency: twice in a month is the minimum as it forms the basis of good - clinical training activities conducted by senior faculty.

#### **Case discussion:**

- Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
- Examples: Patient with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.
- Frequency: once in a week is the minimum as it forms the basis of good - clinical training activities

#### **Mortality Review Meeting**

- Objective: To analyze, discuss and learn from mortalities.
- Methodology: Once a month, all mortalities in the concerned department are presented to the department, both faculty and residents and pre-chosen cases are presented in detail. These cases are discussed further, and after analysis, shortcomings in diagnosis and treatment are identified to prevent future similar mortalities.
- Examples: snake bite mortalities due to inadequate antivenom, failure to recognize early compensated circulatory failure or inadequate treatment of hyperkalemia.
- Frequency : Once in a month preferably in the first week to allow the previous months mortality to be presented for discussion.

#### **Grand Rounds**

- Objective: To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.
- Frequency: Once in a week , Head of Unit or Department will conduct the rounds without any interference to daily care of patients.

### **Inter-departmental meetings**

- Objective: To experience inter-departmental cooperation and develop a healthy professional respect for each other's opinions in addition to the subject learning experience.
- Methodology: Case discussions or students present investigations to members of both faculty. The discussion is a learning experience and improves communications between departments.
- Examples: Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of intra-cranial pathology, Tracheo-esophageal fistulae and supportive care.
- Frequency: Once in 2 months and rotated between departments — radiology, cardiology, nephrology, neurology, clinical hematology, etc.

### **Clinical Pathological Conference/ CPC**

- Objective: To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.
- Frequency: Once in two months. 2nd year PG will get an opportunity to present.

### **Records Round**

- Objective: To appreciate the importance of documentation of facts and record keeping.
- Methodology: Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.
- Frequency: Once a week with the entire team present at the session.

### **III. Dissertation Work**

- 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.
- 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, and comparison of results and drawing conclusions.
- Every candidate shall submit to the Registrar (Academic), 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 Deemed to be University. The synopsis shall be sent through the proper channel.
- Such synopsis will be reviewed and the dissertation topic will be registered by the Deemed to be University. No change in the dissertation topic or guide shall be made without prior approval of the Deemed to be University.
- The dissertation should be written under the following headings:

- a. Introduction
  - b. Aims or Objectives of study
  - c. Review of Literature
  - d. Material and Methods
  - e. Results
  - f. Discussion
  - g. Conclusion
  - h. Summary
  - i. References (Vancouver style)
  - j. Tables
  - k. Annexure
- 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.
  - 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 Deemed to be University.
  - The dissertation shall be valued by examiners appointed by the Deemed to be University. Approval of dissertation work is an essential precondition for a candidate to appear in the Deemed to be University examination. For some more details regarding Guide etc please see Chapter I and for books on research methodology, ethics, etc see Chapter IV.

## II. ROTATION POSTINGS

### Rotation

Details of rotation including ancillary postings year wise as follows:

#### 1. 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 before submission of dissertation)

#### 2. PG II Year:

Cardiology, Neurology - one month each = **2 months.**

Pulmonary medicine, Nephrology, Rheumatology, Gastroenterology, Dermatology & Psychiatry, Endocrinology, Geriatrics = **7 months.**

Rural posting – suttur, Critical care unit(MICU/ICCU) **2 months.**

Opportunity will be provided to pursue choice based curriculum like Clinical reasoning, Geriatrics etc..

#### 3. PG III Year:

General Medicine — parent medical unit: 6 months Three medical units: 6 months (2 months each)

During 3rd year rotation PG student works six months in parent unit and three months each in other two medical units. PG 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 etc. as part of CME programme.

## **II. 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 out comes to be assessed should include: (1) Personal Attitudes, (2) Acquisition of Knowledge, (3) Clinical and operative skills, (4) Teaching skills and (5) Dissertation (6) Mock examination on the same pattern as final examination

### **1. Personal Attitudes.** The essential items are:

- a. Caring attitudes
- b. Initiative
- c. Organisational ability
- d. Potential to cope with stressful situations and undertake responsibility
- e. Trust worthiness and reliability
- f. To understand and communicate intelligibly with patients and others
- g. To behave in a manner which establishes professional relationships with patients and colleagues
- h. Ability to work in a team
- i. 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.

**2. 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.

- 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
- 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
- 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.

### **3. 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 III, chapter IV).

- Clinical meetings: Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list
- 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)

**4. 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)

**5. Periodic tests:** In case of degree courses of three years duration, the department 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. In case of diploma courses of two year duration, the departments may conduct two tests. One of them 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, practical / clinical and viva voce.

**6. Work diary:** 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.

**7. 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 Deemed to be University or MCI.

**8. 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.

**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 him or herself right.

## **VI - LOG BOOK EVALUATION**

At the end of first year, second year and 3 months before final examination, the logbook will be evaluated considering the following parameters:

1. Skills and procedures learned independently, under supervision or assisted by seniors
2. Presentations in journal clubs

3. Cases presented in clinical meetings
4. Presentation in departmental seminars
5. Intra and interdepartmental training and evaluation details
6. Teaching activities
7. Conferences/workshops/CME attended
8. Papers presented/published
9. Side lab procedures done
10. Thesis progress and evaluation in detail

## **VII - SCHEME OF EXAMINATION**

### **Paper -01**

**100marks**

- |                                     |            |
|-------------------------------------|------------|
| 1. Basic Sciences & applied aspects | (50 Marks) |
| 2. Radiology                        |            |
| 3. Genetics                         |            |
| 4. Nutrition                        | 50 Marks   |
| 5. Nephrology                       |            |
| 6. Poisoning                        |            |
| 7. Psychiatry                       |            |

### **Paper II**

**100marks**

- |                          |          |
|--------------------------|----------|
| 1. Cardiovascular system | 25 Marks |
| 2. Endocrinology         | 25 Marks |
| 3. Respiratory system    | 25 Marks |
| 4. Emergency Medicine    | 25 Marks |

### **Paper III**

**100marks**

- |                                   |          |
|-----------------------------------|----------|
| 1. Neurology                      | 25 Marks |
| 2. Haematology & Medical oncology | 25 Marks |
| 3. GIT & Hepatobiliary System     | 25 Marks |
| 4. Geriatric /Dermatology         | 25 Marks |

### **Paper IV**

**100marks**

- |  |          |
|--|----------|
| 1. Infective disorders & Tropical Medicine |          |
| 2. Connective tissue disorders             |          |
| 3. Immune system.                          | 50 Marks |
| 4. Environmental Medicine                  |          |
| 5. Recent advances                         | 50 Marks |

**Recent advances can be incorporated in ALL THE PAPERS**

## **MD – General Medicine Examination**

### **Paper-1**

**Note** : All question are compulsory.  
Your answer should be specific to the questions asked.  
Draw neat labelled diagrams wherever necessary.  
**Time** :3hours

**Max. Marks** :100

**MAIN QUESTIONS:**

**(2X20)=40**

1. Describe the anatomy of circle of Willis. Describe the clinical features of various stroke syndromes involving the brain stem. (5+5+10)=20

2. Define nephrotic syndrome. Describe the etiology, pathophysiology, clinical features, investigations and management of nephrotic syndrome. (2+4+4+5+5)=20

**SHORT ESSAYS:**

**(3X10)=30**

3. Describe calcium metabolism in the body. Discuss the etiology, clinical features, investigations and treatment of Hypocalcaemia. (5+5)=10

4. Classify poisonous snakes. Discuss the clinical manifestations, diagnosis and management of snake bites. (5+5)=10

5. Describe the anatomy of conduction system of the heart and various heart blocks. (5+5)=10

**SHORT ANSWERS**

**(6x5)=30**

6. Describe the etiology and clinical features of Down's syndrome.
7. Clinical features and management of pellagra.
8. Gene therapy.
9. Maintenance of acid base balance in the body.
10. Panic disorder.
11. X ray findings in Emphysema.

**MD – General Medicine Examination**

**Paper-2**

**Note** : All question are compulsory.  
Draw neat labelled diagrams wherever necessary.  
Your answer should be specific to the questions asked.  
**Time** :3hours

**Max. Marks** :100

**MAIN QUESTIONS:**

**(2x20)=40**

1. Discuss Etiology, pathogenesis, Clinical Features, management and complications of infective Endocarditis. (4+4+4+4+4)=20

2. Define and classify respiratory failure. Describe in detail the management of respiratory failure. (3+5+12)=20

**SHORT ESSAYS**

**(3x10)=30**

3. Discuss Pathophysiology, Clinical Features and Management of diabetic ketoacidosis. (3+3+4) =10

4. Discuss Etiology clinical features, Investigations and Management of Pneumonia. (2+2+3+3)=10

5. Classification of seizure disorders and management of Status Epilepticus.  
(5+5)=10

**SHORT ANSWERS** (6x5)=30

6. Hypertensive crisis.
7. Subclinical Hypothyroidism
8. Adrenal crisis
9. cystic fibrosis
10. Acute severe Asthma
11. Management of Hyponatremia

### **MD – General Medicine Examination**

#### **Paper-3**

**Note** : All question are compulsory.

Draw neat labelled diagrams wherever necessary.

Your answer should be specific to the questions asked.

**Time** :3hours

**Max. Marks** :100

**MAIN QUESTIONS:** (2X20)=40

1. Describe the Etiology, Clinical Features, diagnosis and Management of Acute ischemic stroke. (5+5+5+5)=20

2. Describe the Etiology, Clinical Features, Diagnostic and Management of Hepatic Encephalopathy (5+5+5+5)=20

**SHORT ANSWERS** (3X10)=30

3. Describe the classification, Clinical Features, Diagnosis and Treatment of Acute Myeloid leukaemia. (3+2+2+3)=10

4. Describe the various dermatological manifestations of systemic diseases. 10

5. describe the pathophysiology and various hypothesis of ageing. 10

**SHORT ANSWERS:** (6x5)=30

6. megaloblastic anemia.
7. Tumor lysis syndrome
8. Bells palsy
9. Falls in elderly
10. Diagnosis and management of Hepatitis C infection
- 11 . paraneoplastic syndrome

### **MD – General Medicine Examination**

#### **Paper-4**

**Note** : All question are compulsory.

Draw neat labelled diagrams wherever necessary.

Your answer should be specific to the questions asked.

**Time** :3hours

**Max. Marks** :100

**MAIN QUESTIONS:** (2X20)=40

1. Discuss in detail about etiology, pathophysiology and clinical features and management of Dengue Fever. (4+5+5+6)=20

2. Discuss about stem cell therapy in various diseases. 20

**SHORT ESSAYS:** (3X10)=30

3. discuss about clinical features, diagnosis and management of SLE (2+3+5)=10

4. Discuss about human endothelial progenitor cells and its clinical uses. 10

5. describe the etiopathogenesis, clinical features and management of Macrophage Activation syndrome. (3+3+4) =10

**SHORT ANSWERS:** (6x5)=30

6. Recent advances in the management of Heart Failure

7. New Therapies for anaemia of chronic kidney disease

8. Rituximab

9. Heat Stroke

10. Immunotherapy

11. MCTD

### **INSTRUCTIONS FOR SETTING PAPERS**

1. Questions should be drawn only from the specified topics.
2. Each main question should have sub questions for which marks should be specified.
3. No repetition of questions.
4. Questions should be framed as to enable a student to answer within stipulated time of 3 hours.
5. Question to be on specific points for short questions.
6. In paper 1 - 1 long essay, 2 short essays, 2 short answers should be from Basic sciences.
7. In paper 4 - 1 long essay, 2 short essays, 2 short answers from Recent advances.

### **Recommendations from the Dept. of Medicine regarding Internal assessment of PGs**

1. Internal Assessment every year concentrating on Basic sciences, clinical skills, and teaching skills/ demonstration for 1st year PGs and concentrating on Internal Medicine & basic sciences for 2nd & 3rd year PGs
2. Mock clinical exams for exam going PGs 2 months prior to their Final exams based on the pattern of their Deemed to be University exams

### **Pattern of practical examination.**

**Total marks** 200 for Practical  
80 for viva voce (10 for Pedagogy and 10 for Log book )  
Total: 300

### **Practical Examination**

1. 1. One Long Case - 80 marks, 60 mins. The clinical scenario with good physical signs, preferably multisystem disorder or Neurological case. The objective of long case examination is to evaluate the candidate's ability to take detailed history, clinical skill, clinical decision making, interpretation of signs, analytical skill of relevant investigations and plan of line of manage-

- ment.
2. One Short case - 40 marks, 20mins. The candidate has to do GPE, systemic examination specified and to look for relevant features in other systems. The objective of short case examination is to evaluate the ability of the candidate to diagnose based on clinical findings and consider differential diagnosis and plan of investigation.
  3. One Short case preferably from OPD case - 40marks, 20 mins. The cases will be chosen from medical OPD. The cases with common symptoms like Fever, Headache, Pain abdomen, vomiting, cough, general weakness & easy fatigability will be kept, with an objective to evaluate the candidates ability to interpret common symptoms and elicit physical findings and to arrive at provisional diagnosis and to choose relevant investigations on outpatient basis. Two of the examiners (one internal and one external) will go to the area and complete the examination of the candidate.
  4. One Emergency Case - 40marks, 20 mins. The case will be chosen in emergency department, or any of the critical areas. Two of the examiners (one internal and one external) will go to the area and complete the examination of the candidate. The candidate may be given the available investigation reports at the end of discussion for interpretation and reasoning. The objective is to evaluate the candidate`s ability to elicit history & examine, and interpret the history and physical findings in emergency situation.

**TIME schedule : 8 AM TO 5 PM**

**Maximum of five candidates per day.**

- Cases are selected by external examiners and are allotted in the presence of internal examiners. The cases allotted are:

| CASES                                 | NO       | MARKS      | TIME FOR      |                       |
|---------------------------------------|----------|------------|---------------|-----------------------|
|                                       |          |            | EXAMINATION   | DISCUSSION            |
| <b>1. LONG CASE</b>                   | <b>1</b> | <b>80</b>  | <b>60 MIN</b> | <b>20-30 MIN</b>      |
| <b>SHORT CASE</b>                     | <b>1</b> | <b>40</b>  | <b>20</b>     | <b>15-20</b>          |
| <b>SHORT CASE PREFERABLY FROM OPD</b> | <b>1</b> | <b>40</b>  | <b>20</b>     | <b>15-20</b>          |
| <b>EMERGENCY CASE</b>                 | <b>1</b> | <b>40</b>  | <b>20</b>     | <b>15-20</b>          |
| <b>Total</b>                          | <b>4</b> | <b>200</b> | <b>2 hour</b> | <b>65 min- 90 min</b> |

- Long case will be evaluated by all the four examiners together . Each examiner will assign marks independently for a maximum of 20 marks.
- Emergency case will be evaluated by two examiners, (1 internal and 1 external). Each examiner will assign marks individually for maximum of 20 marks.
- Short case from OPD will be evaluated by 2 examiners( 1 internal and 1 external).
- Each examiner will assign marks independently for a maximum of 20 marks.
- Short case will be evaluated by all 4 examiners. Each examiner will assign

- marks independently for a maximum of 10 marks.
- Sum Total of all the marks will be the final marks .

**Viva voce - 100 MARKS**

**Pedagogy**– pedagogy topics to be allotted on the day of the examination.

**Pedagogy-10marks** – presentation for 3 minutes & 2 minutes discussion.

**Viva voce: 80 marks** Modules containing

1. Case Scenario
2. ECG -2nos ( Minimum)
3. Chest X-Ray-2nos(Minimum)                      10 minutes
4. CT/MRI
5. ABG interpretation
6. Emergencies

Viva voce will be conducted by all 4 examiners for (20 X 4) marks each

**Log book – 10 marks**

**Maximum marks for MD degree course**

| Theory | Clinical Exam | Viva Voce | Grand Total |
|--------|---------------|-----------|-------------|
| 400    | 200           | 100       | 700         |

**Criteria for award of Gold Medal :**

All members agreed that a Candidate should have topped the batch by scoring a minimum of first class to be eligible for the Gold Medal. Also a minimum of two candidates must have appeared for the examination.

**VIII. RECOMMENDED BOOKS AND JOURNALS TEXTS:**

**GENERAL MEDICINE**

1. Harrison’s Principles of Internal Medicine. 14th edition.
2. A.P.I. Textbook of Medicine - G. S. Sa.nani, 6th edition.
3. Cecil’s Textbook of Medicine - Bennet & Plum. 20th edition (Saunders)
4. Oxford Textbook of Medicine- D. J. Seatherall, 3rd edition (OxfordUniversi-ty 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.
9. Medical Genetics - Lynn b Jorde, 1998

**Clinical Methods**

1. Hutchison’s Clinical Methods, E. D. Michael Swash, 20`h Edition, 1998(ELBS W.B. Saunders).
2. Chamberlain’s Symptoms and Signs in Clinical Medicine- Ogilvie & Christo-pher, 12th Edition, 1997 ( Butterworth H)
3. MC LEODS CLINICAL METHODS 12 ED

**Cardiology**

1. The Clinical Recognition of Congenital Heart Diseases - Joseph K. Perloff, 4th edition (Jaypee Brothers)
2. An Introduction to Electrocardiography - Leoschamroth, 7th edition(Black well Science)
3. Practical Electrocardiography - Marriot, 9th edition.
4. Textbook of Cardiovascular Medicine - Eugene Braunwald, 5th edition.
5. The Heart-Hurst, 9th edition.



6. Congenital Heart Diseases in Adults - Perloff, 2nd edition.

### **Neurology**

Principles of Neurology -Adam's, Victor, 6th edition (Mcgraw Hill)

Neurological differential diagnosis - John Patten.

BRADLEYS CLINICAL NEUROLOGY 7 E

### **Gastroenterology**

1. Current Diagnosis & treatment in Gastroenterology.
2. Diseases of the Liver and Biliary System - S. Sherlock, Dooley, 10th edition (Blackwell Sciences)
3. Gastrointestinal and liver diseases - Mark Feldman, Bruce Scharschmidt, 6th edition (Saunders)
4. Schiff's Diseases of the Liver - Schiff, 8th edition.

### **Nephrology**

1. Textbook of Renal Disease, Judith, Lawrence, 2nd edition (Churchill Livingstone)
2. Diseases of Kidney, Schrier, 6th edition (Little Brown).
3. Manual of Nephrology

### **Hematology**

1. Wintrobe's Clinical Hematology, Richard Lee, 10th edition (William & Wilkins)
2. De Gruchy's Clinical Hematology in Medical Practice, Frank Firkin, 5th edition.

### **Rheumatology**

1. Rheumatology, John Klippel, 1994.

### **Endocrinology**

1. William's Textbook of Endocrinology, Wilson Fuster, 9th edition (W.B. Saunders)

### **Respiratory Medicine/Critical Care Medicine**

1. Chest Medicine essentials of Pulmonary and Critical Medicine, Ronald-George, 3rd edition (Williams & Wilkins)
2. Manual of Intensive Care Medicine, Irwin and Rippe, 3rd edition.
3. Textbook of Respiratory Diseases, Crofton & Douglas.
4. A Practical guide to Pulmonary medicine, Goldstein.
5. Interpretation of Pulmonary Function Tests, Hyatt, scalan.

### **Geriatrics/gerontology**

1. Geriatric Medicine, 3rd edition.

### **Oncology**

1. Principles and practice of Oncology, De Vita.

### **Infectious Disease**

1. A Practical approach to Infectious Diseases, Reese, 3rd edition.
2. Manual of Clinical Problems in Infectious Diseases, 4th edition.

### **Reference Books**

### **I. Anatomy/physiology/Biochemistry/Biostatistics**

1. Clinical Neuroanatomy for Medical Students. 4th edition.
2. Textbook of Medical Physiology, Guyton, 9th edition.
3. Review of Medical Physiology, Ganong, 18th edition.
4. Harper's Biochemistry, 25th edition.
5. Lippincott's illustrated review-Biochemistry, 2nd edition.
6. Methods in Biostatistics, B. K. Mahajan, 6th edition

### **II. Pharmacology/Microbiology/Pathology**

1. Textbook of Pharmacology, Goodmann & Gillmann's.
2. Washington Manual of Medical Therapeutics, 29th edition.

### **III. Clinical Methods**

1. Mcleod's Clinical Examination, 10th edition (Churchill Livingstone)
2. Bickerstaffs Neurological examination clinical practice, J. Spillane, 6th edition (Blackwell science)
3. Bedside Cardiology, Constant, 5th edition.
4. The Neurologic Examination, de'jong, 5th edition (Lippincott)

### **Journals**

1. Journal of Association of Physicians of India (JAPI)
2. British Medical Journal (BMJ) - weekly
3. New England Journal of Medicine - Bimonthly
4. The Lancet - monthly
5. American Journal of Medicine - monthly
6. Issues in Medical Ethics
7. Indian Journal of Tuberculosis
8. Dermatology Clinics
9. GUT (Gastroenterology)
10. Postgraduate Medical Journal
11. Stroke
12. Blood
13. Neurologic Clinic
14. Indian Journal of Nephrology
15. Public Health Papers

## **ANNEXURE 1**

### **GENERAL MEDICINE POSTGRADUATE TRAINING 'LOG BOOK'**

#### **Contents:**

#### **Personal Data:**

Name  
Institution  
Dates of Postgraduation studies  
Joining  
Completion  
Degree  
Deemed to be University  
Dissertation Title  
Name and Designation of Guide  
Signature of candidate  
Signature of Supervisor/Unit chief

Signature of Head of Department

**I. Clinical Postings: (eg. General medicine, ICCU, MICU, Neurology, Cardiology, Nephrology, Gastroenterology, Radiology, Oncology, Psychiatry)**

| Speciality                          | Duration | Dates of Posting | Remarks by faculty |
|-------------------------------------|----------|------------------|--------------------|
| Any interesting case/difficult case |          |                  |                    |

**II. Case Presentations: (eg. Clinics, tutorials)**

| Date | Name/age/sex | Problem/Diagnosis | Grade | Moderator |
|------|--------------|-------------------|-------|-----------|
|------|--------------|-------------------|-------|-----------|

**III. Seminars: (eg. Seminar on TB)**

| Date | Topic of Presentation | Grade | Moderator |
|------|-----------------------|-------|-----------|
|------|-----------------------|-------|-----------|

**IV. Journal clubs**

| Date | Topic of Presentation | Grade | Moderator |
|------|-----------------------|-------|-----------|
|------|-----------------------|-------|-----------|

**V. Mortality meetings: (eg. Mortality case discussion)**

| Date | Name/age/sex | Problem/Diagnosis | Moderator |
|------|--------------|-------------------|-----------|
|------|--------------|-------------------|-----------|

**VI. Guest lectures/ inter departmental teaching:**

| Date | Topic | Departments involved |
|------|-------|----------------------|
|------|-------|----------------------|

**VII. Community Activity: (eg., Education programs, Rural visits, slum visits, Health Camps)**

| Date | Description of Activity | Supervisor |
|------|-------------------------|------------|
|------|-------------------------|------------|

**VIII. Paper Presentation: (Local, State, National, International Forum- eg. API local meetings,)**

| Date | Title of Paper presented | conference | Supervisor |
|------|--------------------------|------------|------------|
|------|--------------------------|------------|------------|

**IX. Undergraduate Classes taken by MD candidate: (eg. Didactic lecture or clinic)**

| Date | Topic | Supervisor |
|------|-------|------------|
|------|-------|------------|

**X. Academic Meetings, CMEs and Conferences attended : (Extra mural, Local, State, National, International Forum-eg. API local meetings)**

| Date | Title | Organization |
|------|-------|--------------|
|------|-------|--------------|

**XI. Training Courses: (eg: BLS and ACLS)**

| Date | Title | Supervisor |
|------|-------|------------|
|------|-------|------------|

**XII. Dissertation:**

| Date | progress | Remarks by guide |
|------|----------|------------------|
|------|----------|------------------|

**XIII. Side lab procedures:**

| Date | procedure | interpretation | supervisor |
|------|-----------|----------------|------------|
|------|-----------|----------------|------------|

**XIV. Procedures:**

| Date | name/age/sex | procedure | diagnosis | supervisor |
|------|--------------|-----------|-----------|------------|
|------|--------------|-----------|-----------|------------|



## **JSS Academy of Higher Education & Research**

(Deemed to be University)

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