REGULATIONS AND CURRICULUM
FOR
POSTGRADUATE DEGREE AND DIPLOMA COURSES

2010

PATHOLOGY

JSS UNIVERSITY
JSS MEDICAL INSTITUTIONS CAMPUS
SRI SHIVARATHREESHWARA NAGARA, MYSORE 570 015
KARNATAKA, INDIA
Regulations & curriculum for Postgraduate Degree and Diploma Courses 2010

PATHOLOGY

This book can be had from
The Registrar
JSS University
JSS Medical Institutions Campus
Sri Shivarathreeshwara Nagara, Mysore 570 015
Karnataka

Price: `
Postgraduate Medical Degree and Diploma Courses 2010

PATHOLOGY

CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Regulations</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Goals and General Objectives</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Curriculum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M D Pathology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diploma in Clinical Pathology</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Monitoring Learning Progress</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Ethics</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER I

Regulations for Postgraduate Degree and Diploma Courses in Medical Sciences

1. Branch of Study

1.1 Postgraduate Degree courses

Post Graduate Degree courses may be pursued in the following subjects:

a) MD (Doctor of Medicine)

   i) Anaesthesiology
   ii) Anatomy
   iii) Biochemistry
   iv) Community Medicine
   v) Dermatology, Venereology and Leprosy
   vi) Forensic Medicine
   vii) General Medicine
   viii) Microbiology
   ix) Pathology
   x) Paediatrics
   xi) Pharmacology
   xii) Physiology
   xiii) Psychiatry

b) MS (Master of Surgery)

   i) General Surgery
   ii) Obstetrics and Gynaecology
   iii) Ophthalmology
   iv) Orthopedics
   v) Oto-Rhino-Laryngology

1.2 Postgraduate Diploma Courses

Post Graduate Diploma Courses may be pursued in the following subjects:

a) Anaesthesiology (DA)
b) Child Health (DCH)
c) Clinical patholology (DCP)
d) Dermatology, Venereology and Leprosy (DDVL)
e) Obstetrics and Gynaecology (DGO)
f) Ophthalmology (DO)
g) Orthopaedics (D Ortho)
h) Oto-rhino-laryngology (DLO)
i) Psychiatry (DPM)
2. Eligibility for Admission

**MD / MS Degree and Diploma courses**: A candidate affiliated to this University and who has passed final year MBBS examination after pursuing a study in a medical college recognized by the Medical Council of India, or from a recognized medical college affiliated to any other university recognized as equivalent thereto 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. Obtaining Eligibility Certificate by the University before making admission

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

a) MBBS pass/degree certificate issued by the university.
b) Mark cards of all the university examinations passed before MBBS course.
c) Attempt certificate issued by the Principal.
d) Certificate regarding the recognition of the medical college by the Medical Council of India
e) Completion of internship certificate.
f) In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognized for internship.
g) Registration by any state Medical Council.
h) Proof of ST/SC or Category I, as the case may be.

Candidates should obtain the eligibility certificate before the last date for admission as notified by the university.

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

4. Intake of students

The intake of students to each course shall be in accordance with the MCI and GOI permissions in this regard.

5. Course of study

5.1 Duration

a) **MD, MS Degree Courses**: The course of study shall be for a period of 3 years consisting of 6 terms.
b) **Diploma courses**: The course of study shall be for a period of 2 years consisting of 4 terms.
6. Method of training

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

7. Attendance, Progress and Conduct

7.1 A candidate pursuing degree/diploma course, should work in the concerned department of the institution for the full period as 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.

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

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

7.4 Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided, further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

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

8. Monitoring Progress of Studies:

8.1 Work diary / Log Book: Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the
candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution, and presented in the University practical/clinical examination.

**8.2 Periodic tests:** In case of degree courses of three years duration (MD/MS, DM, M Ch.), the concerned departments may 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 may be held three months before the final examination. The tests may include written papers, practical / clinical and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when called for.

**8.3** In case of diploma courses of two years duration, the concerned 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.

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

**9. Dissertation**

**9.1** 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.

**9.2** 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.

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

**9.4** Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.
9.5 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

9.6 The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other 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. The dissertation shall be certified by the guide, head of the department and head of the Institution.

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

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

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

9.10 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 University / Medical Council of India. The co-guide shall be a recognised post graduate teacher of JSS University.

9.11 Change of guide: In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.
10. Schedule of Examination
The examination for MD / MS courses shall be held at the end of three academic years (six academic terms). The examination for DM and M Ch courses shall be held at the end of three years. The examination for the diploma courses shall be held at the end of two academic years (four academic terms). For students who have already passed Post Graduate Diploma and appearing for MD examination, the examination shall be conducted after two academic years (four academic terms, including submission of dissertation) The University shall conduct two examinations in a year at an interval of four to six months between the two examination. Not more than two examinations shall be conducted in an academic year.

11. Scheme of Examination
11.1 MD / MS Degree
MD / MS Degree examinations in any subject shall consist of dissertation, written paper (Theory), Practical/Clinical and Viva voce.

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

11.1.2 Written Examination (Theory): A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1st paper 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 should also be asked.

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

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

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

11.1.4 Viva Voce. Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:
i) For examination of all components of syllabus 80 Marks
ii) For Pedagogy 20 Marks

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

11.1.5 **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.

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

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

11.1.7 **Declaration of class:** A successful candidate passing the 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 University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

11.2 **DM/M Ch**

The examination shall consist of theory, clinical/practical and viva voce examination.

11.2.1 **Theory (Written Examination):** The theory examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the first paper will be on basic medical sciences. Recent advances may be asked in IV Paper.

11.2.2 **Practical / Clinical Examination:** In case of practical examination it should be aimed at assessing competence, skills of techniques and procedures as well as testing student’s ability to make relevant and valid observations, interpretations and experimental work relevant to his / her subject.
In case of clinical examination it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 200.

11.2.3 Viva-Voce: Viva Voce examination shall aim at assessing thoroughly, depth of knowledge, logical reasoning, confidence and oral communication skills. The maximum marks shall be 100. This also includes spotters like instruments, anaesthesia machines, drugs, ECG, X-ray.

11.2.4 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.

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

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

11.3 Diploma Examination:

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva-Voce.

11.3.1 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 should also be asked.

11.3.2 Practical Clinical Examination: In case of practical examination it should be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.

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

The maximum marks for Practical / Clinical shall be 150.

11.3.3 **Viva Voce Examination.** Viva Voce examination should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50. This also includes spotters like instruments, anesthesia machines, drugs, ECG, X-ray.

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

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

11.3.5 **11.3.5 Declaration of distinction.** A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

11.3.6 **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.

12. **Number of Candidates per day**

The maximum number of candidates for practical / clinical and viva-voce examination shall be as under:

- **MD /MS Course:** Maximum of 6 per day.
- **Diploma Course:** Maximum of 8 per day.
CHAPTER II
GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

GOAL
The goal of postgraduate medical education shall be to produce 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 speciality, 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 speciality concerned ethically and in step with the principles of primary health care.

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

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 speciality.

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 behaviour 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
- Thesis skills.
- Attitudes including communication skills.
- Training in research methodology.

(Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000)
CHAPTER - III
PG COURSES IN PATHOLOGY
M D PATHOLOGY

OBJECTIVES
At the end of the course the students will be able to:

1. Understand and explain factors, about the causation of disease.
2. Understand processes involved in the gross and microscopic changes of organs and tissues and explain these changes.
3. Understand and explain the basis of evolution of clinical signs and symptoms.
4. Perform laboratory procedures
5. Recognize and report morphological changes in cells, tissues and organs
6. Identify, plan, perform and report specific research projects.
7. Perform clinical autopsy.
8. Plan and teach pathology for laboratory technology, nursing, dental and medical students.

COURSE CONTENT
I. Basic sciences:
   1. Anatomy: Histology of all structures in the human body/organs.
   2. Physiology and biochemistry: Basic aspects of various metabolisms & functioning of endocrines.
   5. Bio-medical ethics: Ethical issues related to medical practice and research involving human subjects and animals.

II. Pathology:
   1. Historical aspects.
   2. General pathology including immunopathology.
   3. Clinical pathology.
   4. Systemic pathology.
   5. Haematopathology.
   7. Cytopathology.
   9. Recent advances in all fields.
   10. Organization of laboratory including quality control.

METHOD OF TRAINING:
1. Basic sciences
   a. Posting to different departments - 3 months
   b. Genetics – seminar/self learning
2. **On the job training**
   a. Histopathology
      i. Cytology including FNAC, fluid cytology, exfoliative cytology.
      ii. Haematology including blood banking, and transfusion medicine.
      iii. Clinical pathology.
      iv. Museum techniques.
   b. Autopsy – techniques and interpretation
   c. Microbiology
      i. Basic techniques.
      ii. Serology.
      iii. Bio medical waste management: Potential risks, handling of hazardous material, laboratory waste management.
   d. Undergraduate teaching.
   e. CPC.

3. **Group Teaching Sessions**
   a. Biopsy/slide review -once a week.
   b. Journal review – once a month.
   c. Subject seminar presentation once in three months (by each student on a given topic).
   d. Grossing sessions – regularly.
   e. Group discussion of clinical cases / laboratory techniques.
   f. Training in answering model questions – one essay type question every month.
   g. To present / participate in CME programmes.

**POSTING TO OTHER DEPARTMENTS**

1. **Biochemistry - 1 Month:** Knowledge of procedures of common estimations, knowledge of handling of equipment – colorimeter, flame photometer, spectrophotometer, PH meter, semi auto analyzer, electrophoresis.
2. **Microbiology - 1 Month:** Basic techniques – common stains, sterilization and disinfection serology/ELISA and parasitology – stool examination.
3. **Autopsy room – 1 Month:** Techniques and interpretation, embalming and body preservation.
4. **Blood bank – 1 Month:** All procedures in detail.
5. **Pathology museum - 15 days:** Preservation, preparation and mounting of specimens.
6. **External posting - 1 Month** (eg neuropathology, oncopathology).

**MONITORING OF PROGRESS OF STUDIES**

1. As per the guidelines given in sl no 8 of chapter 1 and Chapter IV.
2. Maintain a detailed work diary. Work diary checked monthly by head of department.
**DISSERTATION**

a. Every candidate is required to carry out work on a selected research project under the guidance of a recognized postgraduate teacher. The results of such work shall be submitted in the form of a dissertation.

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

c. For details regarding registration of dissertation topic, please see Chapter I, sl no 9.

d. The dissertation is to be submitted to the Registrar (Evaluation), at least six months before the final examination, or as notified by the University.

e. The dissertation shall be valued by three examiners. Prior acceptance of the dissertation shall be a precondition for a candidate to appear for the final examination.

**SCHEME OF EXAMINATION**

**A. THEORY:**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions, each question carrying 20 marks and 6 short essay questions, each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the paper*.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Topic</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper I</td>
<td>General pathology including immunopathology</td>
<td>100</td>
</tr>
<tr>
<td>Paper II</td>
<td>Haematology/clinical pathology/cyto pathology, blood banking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>transfusion medicine and immunohematology</td>
<td></td>
</tr>
<tr>
<td>Paper III</td>
<td>Systemic pathology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cardio vascular system, respiratory system, gastro intestinal System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>including liver &amp; biliary tract, pancreas, renal system male and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>female genital system and breast</td>
<td>100</td>
</tr>
<tr>
<td>Paper IV</td>
<td>Systemic Pathology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central and peripheral nervous system, endocrine system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>musculo-skeletal system, reticulo-endothelial System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Lymph nodes, spleen and thymus), dermatopathology and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ophthalmic pathology, bone, joints and soft tissues</td>
<td>100</td>
</tr>
</tbody>
</table>

* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.
B. PRACTICAL : Total 200 Marks Duration – 2 days

**DAY 1:**
1. Autopsy/reconstructed autopsy (organ systems) and discussions on it 20 marks
2. Gross and morbid anatomy. 30 marks
   15 Specimens x 2 marks
3. Haematology and cytology slides. 30 marks
   8+7 x 2 marks
4. Blood bank and haematology techniques / discussion 15 marks
5. Histopathology techniques:
   - H & E stains: Discussion on histopathological techniques (10 marks)
   - One special staining – Discussion on technique and interpretation (5 marks)
   - Cytology staining – Discussion on technique and interpretation (5 marks)
   - One slide of IHC with history, discussion & interpretation (5 marks)
   - Intraoperative consultation: Frozen section / imprint slide (5 marks)
6. Topic allotment for pedagogy exercise.

**DAY 2:**
1. Histopathology slides. 20 slides x 2.5 50 marks
2. Clinical pathology & haematology case history given Discussion & interpretation 25 marks

C. VIVA-VOCE: Total 100 marks

a. Viva-Voce Examination: (80 marks)
   Students will be examined by all the examiners together about student’s comprehension, analytical approach, expression and interpretation of data. Student shall also be given case reports, charts for interpretation. It includes discussion on dissertation.

b. Pedagogy Exercise: (20 Marks)
   A topic shall be given to each candidate along with the practical examination on the first day. Student is asked to make a presentation on the topic on the second day for 8 to 10 minutes.

D. Marks distribution:

<table>
<thead>
<tr>
<th>Maximum marks for</th>
<th>Theory</th>
<th>Practical</th>
<th>Viva-voce</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>M D Pathology</td>
<td>400</td>
<td>200</td>
<td>100</td>
<td>700</td>
</tr>
</tbody>
</table>
RECOMMENDED TEXT BOOKS AND JOURNALS

BOOKS:

1. Cotran, Kumar, Robbins, Pathologic Basic of Disease, Published by W.B. Saunders & Company. Also available in PRISM Indian Edition
2. John. M. Kissane Edited, Anderson’s Pathology, Published by C.V. Mosby Company
3. Mc. Gee, Issacson and Wright Edited, Oxford Text Book of Pathology Vol. 1, 2a, 2b, Published by Oxford University Press
4. J.B. Walter, M.S. Israel, General Pathology, Published by Churchill Livingstone
5. Emeritus Editor: W.st. Symmers, Systemic Pathology 16 volumes, Published by Churchill Livingstone.
6. Edited by Jaun Rosai, Ackerman’s Surgical Pathology, Published by C.V. Mosby company
7. Walter F Coalson, Surgical Pathology, Published by Lippincott
8. Enzinger and Weiss, Soft Tissue Tumours, Published by B.I. Publications (India) C.V. Mosby company
9. Wf Lever – GS Lever, Histopathology of The Skin, Published: J.B. Lippin Cott Company
10. David J.B. Ashley EVAN’S Edited, Histological Appearances of Tumours, Published by Churchill Livingstone
11. Novak & Woodruff Edited, Novak’s Gynecologic and Obstetric Pathology, Published by – Kiaku Shoin / Saunders
12. Leopold G Koss, Diagnostic Cytology and Its histopathologic Basis, Published by J.G. Lippincott Company
13. Marluce Bibbo, Comprehensive Cytopathology Published by W.B. Saunders and Company
14. Winnifred Grey, Edited, Diagnostic Cytopathology, Published by Churchill Livingstone
15. Orell, Sterrett, Walters & Whittaker, Fine Needle Aspiration Cytology (Manual & Atlas), Published by Churchill Livingstone
16. Daniel M Knowles, Edited, Neoplastic Haematopathology, Published by Williams & Wilkins
17. Maxwell M Wintrobe, Clinical Haematology, Published by K.M. Varghese & Company
18. De Gruchy’s, Edited by Firkin, Chesterman, Penington, & Rush, Clinical Haematology In Medical practice, Published by Oxford University Press
19. Prema V Iyer & Robert Rowland, Ophthalmic Pathology, Published by Churchill Livingstone
20. Todd, Sanford, Davidson, Edited, Clinical Diagnostis and Management By Laboratory Methods, Published by W.B. Saunders and Company.
21. Shameem Sharif, Edited, Surgical Pathology And Laboratory Techniques, Published by Prism publications.
22. Christopher D.M. Fletche, Edited, Diagnostic Histopathology of Tumours Vol. 1 & 2, Published by Churchill Livingstone.
23. Shameem Shariff, Laboratory Techniques in Surgical Pathology, Prism publications.
24. Human Pathology, Published by W.B. Saunders Company
JOURNALS:

1. British Journal of Haematology Published by Blackwell Science.
2. CANCER, International journal of the American cancer society, Published by John Wiley and sons, Inc.
3. Journal of Clinical Pathology, Publishing Group BMJ
4. Hematology/Oncology Clinics of North America, Published by W.B. Saunders and company
6. The American journal of Surgical Pathology, Published by Lippincott – Raven
7. ACTA Cytologica, The journal of clinical cytology and cytopathology
8. Archives of pathology and Laboratory medicine, Published by the American Medical Association.
9. The Indian Journal of Pathology & Microbiology, Published by IAPM
10. The Indian Journal of Cancer, Published by Indian Cancer Society

ADDITIONAL READING:

2. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983.
4. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry
DIPLOMA IN CLINICAL PATHOLOGY (DCP)

COURSE CONTENTS:

Theory
1. General pathology including immunopathology.
2. Clinical pathology.
5. Blood banking including transfusion medicine.
6. Cytopathology.
7. Laboratory organization including quality control.

MICROBIOLOGY
1. Hands on experience in techniques, its interpretation and reporting:
   a. Simple staining.
   b. Grams.
   c. Alberts.
   d. Ziehl Neelsen.
   e. Giemsa.
   f. Hanging drop.
   g. KOH / lactophenol preparation.
2. Staining and reporting of peripheral blood smear for MP/microfilaria.
3. Sterilization techniques, culture methods, identification and reporting - training only.
4. Hands on experience and interpretation of serological tests like Widal, VDRL, HIV, HBV, CRP, RF, ASO and pregnancy tests.
5. Microscopic examination of stools and reporting.
6. Collection and despatching of samples to laboratory.
   • Clinical biochemistry: Procedures for all biochemical estimations including electrolytes & handling all equipment.

POSTINGS
1. Histopathology - 4 months
2. Cytopathology - 4 months
3. Haematology and blood bank - 8 months
4. Biochemistry - 4 months
5. Microbiology - 4 months
TEACHING METHODS

1. On the job training in various sections.

PATHOLOGY:

1. Regular postings in various sections, histopathology, autopsy, cytology, haematology, blood bank & museum techniques.
2. Regular Seminars in various subjects.
   a. Specimen discussion.
   b. Slide seminars.
   c. Various techniques — short subjects.
   d. Cytology — including FNAC.
   e. Haematology — various methods.
   f. WHO — transperancies review.
   g. Journal club.
   h. Clinicopathological conference (CPC).
   i. To attend conferences and present papers.
   j. To attend CME.

BIOCHEMISTRY:

1. Basic biochemistry applied to biochemical investigations: Handling of photocolorimeter
   a. Spectrophotometer
   b. PH-meter
   c. Flame photometer
   d. Semi autoanalyser
   e. Autoanalyser
   f. Electrophoresis

MICROBIOLOGY:

1. Basic microbiology - sterilization
   - disinfection

Handling of specimens, routine culture and sensitivity tests (Gram's stain, ZN stain)

Serology-immunology techniques like VDRL, Widal and Rheumatoid factor, ELISA - for HIV and HBSAg

Parasitology - Stool examination / diagnostic technique about common parasites.
SCHEME OF EXAMINATION:

A. THEORY (Written)

There shall be three question papers, each of three hours duration. Each paper shall consist of two long essay questions, each question carrying 20 marks and 6 short essay questions, each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers*.

PAPER I - General pathology including basic microbiology - 100 Marks
PAPER II - Systemic pathology - 100 Marks
PAPER III- Haematology, cytology, clinical pathology - 100 Marks

* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.

B. PRACTICAL:

DAY 1: 1. Microbiology Exercise - 25 Marks
2. Clinical case/data of examination/discussion - 50 Marks
   • Haematology exercise
   • Biochemistry exercise
   • Urine Analysis
3. Histopathology techniques - 25 Marks
   • Section cutting
   • Hematoxylin - eosin stain
   • Cytology stain

DAY 2: 1. Reporting on microbiology exercise - 50 Marks
2. Histopathology slides - 8
3. Cytology slides - 8
4. Haematology slides - 8

C. VIVA-VOCE: (50 Marks)

Students will be examined by all the examiners together about student’s comprehension, analytical approach, expression and interpretation of data. Student shall also be given case reports, charts for interpretation.

D. Distribution of Marks:

<table>
<thead>
<tr>
<th>Maximum marks for</th>
<th>Theory</th>
<th>Practical</th>
<th>Viva-voce</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma in Clinical Pathology</td>
<td>300</td>
<td>150</td>
<td>50</td>
<td>500</td>
</tr>
</tbody>
</table>

20
RECOMMENDED TEXT BOOKS AND JOURNALS

BOOKS:

1. Cotran, Kumar, Robbins, Pathologic Basic of Disease, Published by W.B. Saunders & Company. Also available in PRISM Indian Edition
2. John. M. Kissane Edited, Anderson’s Pathology, Published by C.V. Mosby Company
3. Mc. Gee, Issacson and Wright Edited, Oxford Text Book of Pathology Vol. 1, 2a, 2b, Published by Oxford University Press
4. J.B. Walter, M.S. Israel, General Pathology, Published by Churchill Livingstone
6. Edited by Jaun Rosai, Ackerman’s Surgical Pathology, Published by C.V. Mosby company
7. Walter F Coalson, Surgical Pathology, Published by Lippincott
8. Enzinger and Weiss, Soft Tissue Tumours, Published by B.I. Publications (India) C.V. Mosby company
9. Wf Lever – GS Lever, Histopathology of The Skin, Published: J.B. Lippin Cott Company
10. David J.B. Ashley EVAN’S Edited, Histological Appearances of Tumours, Published by Churchill Livingstone
11. Novak & Woodruff Edited, Novak’s Gynecologic and Obstetric Pathology, Published by – Kiaku Shoin / Saunders
12. Leopold G Koss, Diagnostic Cytology and Its histopathologic Basis, Published by J.G. Lippincott Company
13. Marluce Bibbo, Comprehensive Cytopathology Published by W.B. Saunders and Company
14. Winnifred Grey, Edited, Diagnostic Cytopathology, Published by Churchill Livingstone
15. Orell, Sterrett, Walters & Whittaker, Fine Needle Aspiration Cytology (Manual & Atlas), Published by Churchill Livingstone
16. Daniel M Knowles, Edited, Neoplastic Haematopathology, Published by Williams & Wilkins
17. Maxwell M Wintrobe, Clinical Haematology, Published by K.M. Varghese & Company
18. De Gruchy’s, Edited by Firkin, Chesterman, Penington, & Rush, Clinical Haematology In Medical practice, Published by Oxford University Press
19. Prema V Iyer & Robert Rowland, Ophthamlic Pathology, Published by Churchill Livingstone
20. Todd, Sanford, Davidson, Edited, Clinical Diagnostis and Management By Laboratory Methods, Published by W.B. Saunders and Company.
21. Shameem Sharif, Edited, Surgical Pathology And Laboratory Techniques, Published by Prism publications.
22. Christopher D.M. Fletche, Edited, Diagnostic Histopathology of Tumours Vol. 1 & 2, Published by Churchill Livingstone.
23. Shameem Shariff, Laboratory Techniques in Surgical Pathology, Prism publications.
JOURNALS:

1. British Journal of Haematology Published by Blackwell Science.
3. Journal of Clinical Pathology, Publishing Group BMJ
4. Hematology/Oncology Clinics of North America, Published by W.B. Saunders and company
6. The American journal of Surgical Pathology, Published by Lippincott – Raven
7. ACTA Cytologica, The journal of clinical cytology and cytopathology
8. Archives of pathology and Laboratory medicine, Published by the American Medical Association.
9. The Indian Journal of Pathology & Microbiology, Published by IAPM
10. The Indian Journal of Cancer, Published by Indian Cancer Society
11. Human Pathology, Published by W.B. Saunders Company

ADDITIONAL READING:

4. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry
CHAPTER IV

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 IV)
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 IV)
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 IV).
   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 IV).
   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 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 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.
CHAPTER IV (Contd)
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:

<table>
<thead>
<tr>
<th>SI No</th>
<th>Items for observation during presentation</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Article chosen was</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Extent of understanding of scope &amp; objectives of the paper by the candidate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Whether cross references have been consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Whether other relevant publications consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Ability to respond to questions on the paper / subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Audio-visual aids used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Ability to defend the paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Clarity of presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Any other observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Check List – II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

<table>
<thead>
<tr>
<th>SI No</th>
<th>Items for observation during presentation</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Whether other relevant publications consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Whether cross references have been consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Completeness of Preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Clarity of Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Understanding of subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Ability to answer questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Time scheduling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Appropriate use of Audio-Visual aids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Overall Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Any other observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Score
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:

<table>
<thead>
<tr>
<th>SI No</th>
<th>Points to be considered</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Regularity of attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Punctuality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Interaction with colleagues and supportive staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Maintenance of case records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Presentation of cases during rounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Investigations work up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Beside manners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Rapport with patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Counseling patient's relatives for blood donation or Postmortem and Case follow up.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Overall quality of ward work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Score</th>
</tr>
</thead>
</table>
### Check List - IV
#### EVALUATION FORM FOR CLINICAL PRESENTATION

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Points to be considered</th>
<th>Poor</th>
<th>Below Average</th>
<th>Average</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Completeness of history</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Whether all relevant points elicited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Clarity of Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Logical order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Mentioned all positive and negative points of importance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Accuracy of general physical examination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Whether all physical signs elicited correctly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Whether any major signs missed or misinterpreted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Diagnosis: Whether it follows logically from history and findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Investigations required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Complete list</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Relevant order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Interpretation of investigations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Ability to react to questioning Whether it follows logically from history and findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Ability to defend diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Ability to justify differential diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
## MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

<table>
<thead>
<tr>
<th>SI No</th>
<th>Strong Point</th>
<th>Weak Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Communication of the purpose of the talk</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Evokes audience interest in the subject</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The introduction</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The sequence of ideas</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The use of practical examples and/or illustrations</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Speaking style (enjoyable, monotonous, etc., specify)</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Attempts audience participation</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Summary of the main points at the end</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Asks questions</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Answers questions asked by the audience</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Rapport of speaker with his audience</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Effectiveness of the talk</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Uses AV aids appropriately</td>
<td></td>
</tr>
</tbody>
</table>
# Check List - VI

## MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the Student:

Name of the Faculty:

Date:

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Points to be considered divine</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Interest shown in selecting a topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Appropriate review of literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Discussion with guide &amp; other faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Quality of Protocol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Preparation of proforma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
# CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO GUIDE

Name of the Student: 

Name of the Faculty: 

Date: 

<table>
<thead>
<tr>
<th>SI No</th>
<th>Items for observation during presentations</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Periodic consultation with guide/co-guide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Regular collection of case Material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Depth of analysis / discussion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Departmental presentation of findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Quality of final output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
**LOG BOOK**

**Table 1:** Academic activities attended

Name:  
Admission Year:  
College: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching</th>
<th>Particulars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOG BOOK

**Table 2:** Academic presentations made by the student

Name: 

Admission year: 

College: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**LOG BOOK**

**Table 2:** Diagnostic and Operative procedures performed

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>ID No.</th>
<th>Procedure</th>
<th>Category O, A, PA, PI*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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

**Name of the College:**

**Academic Fear:**

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Faculty Member &amp; Others</th>
<th>Name of Student and Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
Chapter V
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, p 189, Rs. 150/-


4. CPCSEA Guidelines 2001 (www.cpcsea.org.)


REGULATIONS AND CURRICULA
OF
POSTGRADUATE DEGREE AND DIPLOMA COURSES IN PRE & PARA -
CLINICAL SUBJECTS

2009

VOLUME III : PARA CLINICAL SUBJECT

MD PATHOLOGY

JSS UNIVERSITY
JSS MEDICAL INSTITUTION CAMPUS
SRI SHIVARATHREESHWARA NAGARA, MYSORE 570 015, KARNATAKA
INDIA
Regulations and curricula For Postgraduate medical degree and diploma courses in Pre & Para -clinical subjects 2009

This book can be had from
The Registrar
JSS University
JSS Medical Institution Campus
Sri Shivarathreeshwara Nagar Mysore 570 015
Karnataka

Price: Rs
Regulations for Postgraduate Medical Degree and Diploma Courses in Pre - clinical subject - 2009

CONTENTS

NOTIFICATION

Notification

Chapter I: Regulations

Chapter II: Goals and objectives

Chapter III: Course and description

M.D. Pathology

Diploma in Clinical Pathology

Chapter IV: Monitoring learning process

Chapter V: Medical Ethics
REF: No………………………………………Date:……...

NOTIFICATION

Sub: Regulations pertaining to Postgraduate Medical degree and Diploma courses in Pre & Para clinical subjects -Reg.

Ref:

In exercise of the powers conferred under sec. 3 of UGC Act, 1956 the JSS university rules and bylaws, the Board of Management at its meeting held on 30th Oct. 2008 has been pleased to approve the regulations pertaining to post graduate degree and diploma courses in medicine as given in schedule here annexed.

By order,

Registrar

To

1. The principals of all constituent colleges of JSS university
2. All the members of the Board of Management and Academic Council

Copy to:-

1. The Chancellor, JSS University, Mysore
2. The Pro Chancellor, JSS University, Mysore
3. The Vice Chancellor, JSS University, Mysore
4. The Deputy Registrar (Evaluation), JSS University, Mysore
5. The Deputy Registrar (Academics), JSS University, Mysore
6. Office copy
Sub: Regulations pertaining to Postgraduate medical degree and Diploma courses in Pre & Para clinical subjects -Reg.

Read:

The regulations along with syllabus and scheme of examination of pre-clinical and para-clinical subjects pertaining to post graduate degree and diploma courses in medicine as approved by the Board of Management at its meeting held on 30th Oct. 2008 and notified in the university notification no………dated………. now Board of Management at its meeting held on 30th Oct. 2008 has approved syllabus of postgraduate clinical subjects and the same is notified.

In exercise of the power conferred under sec. 3 of UGC Act, 1956 of the JSS University rules and bylaws, the Board of Management has pleased to approve the curriculum (syllabus) of following PG clinical subjects as given in the schedule here to annexed.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Degree</th>
<th>Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD Anatomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD Physiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD Biochemistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD Pharmacology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Medicine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The syllabus as above shall be applicable from the academic year 2009-2010

By order,

REGISTRAR

To

1. The Principals of all Constituent Colleges of JSS University.
2. The Members of the Board of Management and Academic Council.
Copy to,

1. The Vice Chancellor, JSS University, Mysore
2. The Deputy Registrar (Evaluation), JSS University, Mysore
3. The Deputy Registrar (Academics), JSS University, Mysore
4. Office copy
Chapter I

Regulations for Post Graduate Degree and Diploma Courses in Medical Sciences

1. Branch of study

1.1 Postgraduate degree courses

The following courses and studies may be pursued

A. M.D. (Doctor of Medicine)

1. Anaesthesiology
2. Anatomy
3. Biochemistry
4. Community Medicine
5. Dermatology, Venerology and Leprosy
6. Forensic Medicine
7. General Medicine
8. Microbiology
9. Pathology
10. Paediatrics
11. Pharmacology
12. Physiology
13. Psychiatry

B. M.S. (Master of surgery)

1. General Surgery
2. Obstetrics and Gynecology
3. Ophthalmology
4. Orthopedics
5. Oto-Rhino-Laryngology
1.2 Postgraduate Diploma Courses

Post Graduate Diploma Courses may be pursued in the following subjects:


2. Eligibility for Admission

MD / MS Degree and diploma courses: a candidate affiliated to this university and who has passed final year M.B.B.S. examination after pursuing a study in a medical college recognized by the medical council of India, from a recognized medical college affiliated to any other university recognized as equivalent thereto, 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. Obtaining Eligibility Certificate by the University before Making Admission

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

1. MBBS pass/degree certificate issued by the university
2. Mark cards of all the university the university examinations passed MBBS Course
3. Attempt certificate issued by the principal.
4. Certificate regarding the recognition of the medical college by the medical council of India
5. Completion of internship certificate
6. In case internship was done in a non-teaching hospital, a certificate from the medical council of India that the hospital has been recognized for internship.
7. Registration by any state medical council
8. Proof of ST/SC or category I, as the case may be.

Candidates should obtain the eligibility certificate before the last date for admission as notified by the university.
A candidate who has been admitted to postgraduate course should register his / her name in the university within a month of admission after paying the registration fee.

4. INTAKE OF STUDENTS

The intake of students to each course shall be in accordance with the MCI and GOI permissions in this regard.

5. COURSE OF STUDY

5.1 Duration

a) M.D.M.S Degree Courses

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

b) Diploma courses:

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

6 Method of training

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

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

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

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

7.4 Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

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

8. Monitoring Progress of Studies:

8.1 Work diary / Log Book - Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc (Please see chapter IV for model check lists and log book specimen copy). Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
8.2  Periodic tests: Increase of degree courses of three years duration (MD/MS, DM, MCh.), the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, particles / clinicals and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when called for. In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practical / clinical and viva voce.

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

9. Dissertation

9.1  Every candidate pursuing MDIMS 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.

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

9.3  Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.
9.4 Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

9.5 The dissertation should be written under the following headings

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

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

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

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

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

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

10. Schedule of Examination
The examination for M.D / M.S courses shall be held at the end of three academic years (six academic terms). The examination for D.M and M.Ch courses shall be held at the end of three years. The examination for the diploma courses shall be held at the end of two academic years (four academic terms). For students who have already passed D.A and appearing for M.D examination, the examination shall be conducted after two academic years (four academic terms including submission of dissertation) The university shall conduct two examinations in a year at an interval of four to six months between the two examination. Not more than two examinations shall be conducted in an academic year.

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

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

11.1.2 Written Examination (Theory): A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1st paper 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 should also be asked.

11.1.3 Practical / Clinical Examination:
In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.
In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.
The total marks for Practical / clinical examination shall be 200.

11.1.4 Viva Voce: Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:
(i) For examination of all components of syllabus 80 Marks
(ii) For Pedagogy 20 Marks
If there is no skills evaluation, 20 marks shall be reserved for Pedagogy.
11.1.5 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.

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

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

11.1.7 Declaration of distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate mark is 75 percent and above.

Distinction will not be awarded for candidates passing the examination in more than one attempt.

11.2 D.M/M.Ch:

The examination shall consist of theory, clinical/practical and viva voce examination.

11.2.1 (Theory) (Written Examination): The theory examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the first paper will be on basic medical sciences. Recent advances may be asked in IV Paper

11.2.2 Practical / Clinical Examination:

In case of practical examination it should be aimed at assessing competence, skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretation and experimental work relevant to his / her subject.
In case of clinical examination it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 200.

11.2.3 *Viva Voce:* Viva Voce examination shall aim at assessing thoroughly depth of knowledge, logical reasoning, confidence and oral communication skills. The maximum marks shall be 100. This also includes spotters like Instruments, Anaesthesia machines, Drugs, ECG, X-ray.

11.2.4 *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.

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

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

11.3 *Diploma Examination:*

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva - Voce.

11.3.1 *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 should also be asked.
11.3.2 Practical! Clinical Examination:

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

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

The maximum marks for Practical / Clinical shall be 150.

11.33 Viva Voce Examination: Viva Voce examination should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50 this also includes spotters like Instruments, Anaesthesia machines, Drugs, ECG, X – ray.

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

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

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

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

MD / MS Course: Maximum of 6 per day
Diploma Course: Maximum of 8 per day
CHAPTER II

GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

GOAL

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

i. who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

ii. who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

iii. who shall be aware of the contemporary advance and developments in the discipline concerned;

iv. who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and

v. who shall have acquired the basic skills in teaching of the medical and paramedical professionals;

GENERAL OBJECTIVES

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

i. 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.

ii. Practice the speciality concerned ethically and in step with the principles of primary health care.
iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.

v. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

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

vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

ix. Play the assigned role in the implementation of national health programme, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

xi. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

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

**STATEMENT OF THE COMPETENCIES :**

Keeping in view the general objectives of postgraduate training, each 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
- Thesis skills.
- Attitudes including communication skills.
- Training in research methodology.

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000:
CHAPTER - III

P.G. COURSES IN PATHOLOGY
M.D. PATHOLOGY

OBJECTIVES

At the end of the course the students will be able to:

1. Understand and explain factors, about the in causation of disease
2. Understand processes involved in the gross and microscopic changes of organs and tissues and explain these changes.
3. Understand and explain the basis of evolution of clinical signs and symptoms.
4. Perform laboratory procedures
5. Recognize and report morphological changes in cells, tissues and organs
6. Identify, plan, perform and report specific research projects
7. Perform clinical autopsy
8. Plan and teach pathology for Laboratory technology, Nursing, Dental and medical students

COURSE CONTENT

I. BASIC SCIENCES

1. Anatomy : Histology – of all structures in the human body/organ
2. Physiology and Biochemistry : basic aspects of various metabolisms & functioning of endocrines
3. Genetics : Fundamental / Applied aspects
4. Biostatistics
5. Bio-medical ethics : Ethical issues related to medical practice and research involving human subjects and animals

II Pathology :

- Historical aspects
- General pathology including immunopathology
- Clinical pathology
- Systemic pathology
- Haematopathology
- Blood banking, transfusion medicine, immunohaematology
- Cytopathology
- Genetic disorders: Molecular pathology
- Recent advances in all fields
- Organization of laboratory including quality control

**METHOD OF TRAINING:**

i. Basic sciences

- Posting to different departments - 3 months
- Genetics – seminar/self learning

ii. On job training

a) - histopathology
- cytology including FNAC, fluid cytology, exfoliative cytology
- haematology including blood banking, and transfusion medicine
- clinical pathology
- museum techniques

b) - autopsy – techniques and interpretation

c) - microbiology
- basic techniques
- serology
- Bio medical waste management: Potential risks, handling of hazardous material, laboratory waste management

d) - undergraduate teaching

e) - CPC

iii) Group Teaching Sessions:

- Biopsy/Slide review once a week
- Journal review – once a month
- Subject seminar presentation once in three months (by each student on a given topic)
- Grossing sessions – Regularly
- Group discussion of clinical cases / laboratory techniques
- Training in answering model questions – one essay type question every month
- To present / participate in CME Programmes

POSTING TO OTHER DEPARTMENTS

1. Biochemistry – 1 Month
   Knowledge of procedures of common estimations

   Knowledge of Handling of equipment – Colorimeter, Flame photometer, Spectrophotometer, PH Meter, Semi Auto analyzer, Electrophoresis

2. Microbiology – 1 Month : Basic Techniques – common stains, sterilization and disinfection serology/ELISA and Parasitology – Stool examination

3. Autopsy Room – 1 Month: Techniques and interpretation, Embalming and body preservation

4. Blood Bank – 1 Month : All procedures in detail

5. Pathology museum – 15 days : Preservation, preparation and mounting of specimens

6. External Posting – 1 Month (Eg. Neuro Pathology, Oncopathology)

MONITORING OF PROGRESS OF STUDIES

a. As per the guidelines given in sl.no. 8 of chapter 1 and Chapter IV
b. Maintain a detailed work diary. Work diary checked monthly by head of department

DISSERTATION

a. Every candidate is required to carry out work on a selected research project under the guidance of a recognized postgraduate teacher. The results of such work shall be submitted in the form of a dissertation.
b. The dissertation is aimed to train the candidate in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of
relevant literature, getting acquainted with recent advances, designing of research study, collection of data, critical analysis of results and drawing conclusions.

c. For details regarding registration of dissertation topic, please see Chapter I, Sl.No.9
d. The dissertation is to be submitted at least six months before the final examination as notified by the university to the Registrar (Evaluation).
e. The dissertation shall be valued by three examiners. Prior acceptance of the dissertation shall be a precondition for a candidate to appear for the final examination.

SCHEME OF EXAMINATION

A. THEORY:

There shall be four question paper, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the paper*.

Paper I - General Pathology including Immunopathology - 100 Marks

Paper II - Haematology/Clinical Pathology/Cyto pathology, Blood banking Transfusion Medicine and Immunohematology - 100 marks

Paper III - Systemic Pathology Cardio vascular system, Respiratory system, Gastro intestinal System including Liver & Biliary tract, Pancreas, Renal system Male and female genital system and Breast - 100 Marks

Paper IV - Systemic Pathology Central and Peripheral nervous system, endocrine system, musculo-skeletal system, reticulo-endothelial System (Lymph nodes, Spleen and Thymus), Dermatopathology and Ophthalmic Pathology, Bone, Joints and soft tissues.
* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.

B. PRACTICAL : Total 200 Marks Duration – 2 days

DAY 1:

a. Autopsy / Reconstructed autopsy 9 organ systems) and discussions on it 20 Marks
b. Gross and morbid anatomy. 15 Specimens x 2 marks 30 Marks
c. Haematology and Cytology slides. 8+7 x 2 marks 30 Marks
d. Blood bank and haematology techniques / discussion 15 Marks
e. Histopathology techniques :
   1. H & E stains : Discussion on histopathological techniques (10 Marks)
   2. One Special staining – Discussion on technique and interpretation (5 Marks)
   3. Cytology staining – Discussion on technique and interpretation (5 Marks)
   4. One Slide of IHC with history. Discussion & interpretation (5 Marks)
   5. Intraoperative consultation : Frozen section / imprint slide (5 Marks)

f. Topic allotment for Pedagogy exercise.

DAY : 2.

a. Histopathology slides. 20 slides x 2.5 50 Marks
b. Clinical pathology & Haematology case history given
   Discussion & interpretation 25 Marks

C. VIVA-VOCE: Total 100 Marks

1) Viva-Voce Examination : (80 Marks)

   Students will be examined by all the examiners together about students comprehension, analytical approach, expression and interpretation of data. Student shall also be given case reports, charts for interpretation. It includes discussion on dissertation.
2) Pedagogy Exercise: (20 Marks)

A topic be given to each candidate along with the Practical Examination on the first day. Student is asked to make a presentation on the topic on the second day for 8 to 10 minutes.

D.

<table>
<thead>
<tr>
<th>Maximum marks for</th>
<th>Theory</th>
<th>Practicals</th>
<th>Viva-voce</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.D(pathology)</td>
<td>400</td>
<td>200</td>
<td>100</td>
<td>700</td>
</tr>
</tbody>
</table>

RECOMMENDED TEXT BOOKS AND JOURNALS:

BOOKS:

1. Cotran, Kumar, Robbins, Pathologic Basic of Disease, Published by W.B. Saunders & Company. Also available in PRISM Indian Edition
2. John. M. Kissane Edited, Anderson’s Pathology, Published by C.V. Mosby Company
3. Mc. Gee, Issacson and Wright Edited, Oxford Text Book of Pathology Vol. 1, 2a, 2b, Published by Oxford University Press
4. J.B. Walter, M.S. Israel, General Pathology, Published by Churchill Livingstone
5. Emeritus Editor: W.st. Symmers, Systemic Pathology 16 volumes, Published by Churchill Livingstone.
6. Edited by Jaun Rosai, Ackerman’s Surgical Pathology, Published by C.V. Mosby company
7. Walter F Coalson, Surgical Pathology, Published by Lippincott
8. Enzinger and Weiss, Soft Tissue Tumours, Published by B.I. Publications (India) C.V. Mosby company
9. Wf Lever – GS Lever, Histopathology of The Skin, Published: J.B. Lippin Cott Company
10. David J.B. Ashley EVAN’S Edited, Histological Appearances of Tumours, Published by Churchill Livingstone
11. Novak & Woodruff Edited, Novak’s Gynecologic and Obstetric Pathology, Published by – Kiaku Shoin / Saunders
12. Leopold G Koss, Diagnostic Cytology and Its histopathologic Basis, Published by J.G. Lippincott Company
13. Marluce Bibbo, Comprehensive Cytopathology Published by W.B. Saunders and Company
14. Winnifred Grey, Edited, Diagnostic Cytopathology, Published by Churchill Livingstone
15. Orell, Sterrett, Walters & Whittaker, Fine Needle Aspiration Cytology (Manual & Atlas), Published by Churchill Livingstone
16. Daniel M Knowles, Edited, Neoplastic Haematopathology, Published by Williams & Wilkins
17. Maxwell M Wintrobe, Clinical Haematology, Published by K.M. Varghese & Company
18. De Gruchy’s, Edited by Firkin, Chesterman, Penington, & Rush, Clinical Haematology In Medical practice, Published by Oxford University Press
19. Prema V Iyer & Robert Rowland, Ophthalmic Pathology, Published by Churchill Livingstone
20. Todd, Sanford, Davidson, Edited, Clinical Diagnostis and Management By Laboratory Methods, Published by W.B. Saunders and Company.
21. Shameem Sharif, Edited, Surgical Pathology And Laboratory Techniques, Published by Prism publications.
22. Christopher D.M. Fletche, Edited, Diagnostic Histopathology of Tumours Vol. 1 & 2, Published by Churchill Livingstone.
23. Shameem Shariff, Laboratory Techniques in Surgical Pathology, Prism publications.
24. Human Pathology, Published by W.B. Saunders Company

JOURNALS :
1. British Journal of Haematology Published by Blackwell Science.
2. CANCER, International jounal of the American cancer society, Published by John Wiley and sons, Inc.
3. Journal of Clinical Pathology, Publishing Group BMJ
4. Hematology/Oncology Clinics of North America, Published by W.B. Saunders and company


6. The American journal of Surgical Pathology, Published by Lippincott – Raven

7. ACTA Cytologica, The journal of clinical cytology and cytopathology

8. Archives of pathology and Laboratory medicine, Published by the American Medical Association.

9. The Indian Journal of Pathology & Microbiology, Published by IAPM

10. The Indian Journal of Cancer, Published by Indian Cancer Society

ADDITIONAL READING


4. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry


9. International Committee of Medical Journal Editors, Uniform requirements for
manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8
DIPLOMA IN CLINICAL PATHOLOGY (DCP) COURSE CONTENTS:

Theory
- General pathology including Immunopathology
- Clinical pathology
- Systemic pathology
  Haematology
- Blood Banking including Transfusion Medicine
- Cytopathology
- Laboratory Organization

including quality control

MICROBIOLOGY

1. Hands on experience in techniques, its interpretation and reporting -
   a. Simple staining
   b. Grams
   c. Alberts
   d. Ziehl Neelsen,
   e. Giemsa
   f. Hanging drop
   g. KOH / Lactophenol preparation

2. Staining and reporting of Peripheral blood smear for MP/Microfilaria

3. Sterilization techniques, culture methods, identification and reporting - Training only.

4. Hands on experience and interpretation of serological tests like Widal,
   VDRL, HIV, HBV, CRP, RF, ASO and pregnancy tests.

5. Microscopic examination of stools and reporting.

6. Collection and despatching of samples to laboratory.

Clinical Biochemistry

Procedures for all biochemical estimations including electrolytes.
Handling all equipment

POSTINGS
- Histopathology — 6 months
- Cytopathology — 6 months
- Haematology — 8 months
And
- Blood Bank — 1 month
- Biochemistry — 1 month
- Microbiology — 2 months

TEACHING METHODS
- On the job training in various sections

PATHOLOGY:
2. Regular Seminars in Various subjects
   - Specimen discussion
   - Slide seminars
   - Various techniques — short subjects
   - Cytology — including FNAC
   - Haematology — various methods
   - WHO — Transperancies review
   - Journal Club
   - Clinicopathological conference (C.P.C)
   - To attend conferences and present papers
   - To attend C.M.E.
BIOCHEMISTRY:

Basic Biochemistry applied to biochemical investigations:-
Handling of Photocolorimeter
  Spectrophotometer
  PH-meter
  Flame photometer
  Semi Autoanalyser
  Autoanalyser
  Electrophoresis

MICROBIOLOGY:

Basic Microbiology — sterilisation
  - disinfection
  Handling of specimens, routine culture and sensitivity tests (Gram's stain, ZN stain)
  Serology-Immunology techniques like VDRL, Widal and Rheumatoid factor, ELISA — for HIV and HBsAg
  Parasitology — Stool Examination / Diagnostic technique about common parasites.

SCHEME OF EXAMINATION:

A. THEORY (Written)

There shall be three question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers *.

PAPER I — General pathology including Basic Microbiology - 100 Marks
PAPER II — Systemic pathology - 100 Marks
PAPER III — Haematology, Cytology, Clinical pathology - 100 Marks

* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.
B. PRACTICAL:

DAY 1:
1. Microbiology Exercise - 25 Marks
2. Clinical case/data of examination/discussion
   Haematology exercise
   Biochemistry exercise
   Urine Analysis - 50 Marks
3. Histopathology Techniques
   Section cutting
   Hematoxylin - Eosin stain
   Cytology stain - 25 Marks

DAY 2:
1. Reporting on Microbiology exercise
2. Histopathology slides — 8
3. Cytology slides — 8
4. Haematology slides — 8 - 50 Marks

C. VIVA-VOCE:

Viva-Voce Examination: (50 Marks)

Students will be examined by all the examiners together about students comprehension, analytical approach, expression and interpretation of data. Student shall also be given case reports, charts for interpretation.

D.

<table>
<thead>
<tr>
<th>Maximum marks for</th>
<th>Theory</th>
<th>Practicals</th>
<th>Viva-voce</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.C.P.</td>
<td>300</td>
<td>150</td>
<td>50</td>
<td>500</td>
</tr>
</tbody>
</table>

RECOMMENDED TEXT BOOKS AND JOURNALS:

BOOKS:

1. Cotran, Kumar, Robbins, *Pathologic Basic Of Disease*, Published by W.B.Saunders & Company. Also available in PRISM Indian Edition


4. J.B. Walter, M.S. Israel, *General Pathology*, Published by Churchill Livingstone
5. Emeritus Editor: W. st. Symmers, *Systemic Pathology* 16 Volumes, Published by Churchill Livingstone
6. Edited by Jaun Rosai, Ackerman's *Surgical Pathology*, Published by C.V. Mosby company
7. Walter F Coalson, *Surgical Pathology*, Published by Lippincott
8. Enzinger and Weiss, *Soft Tissue Tumours*, Published by B.I.Publications (India) C.V.Mosby company
10. David J.B.Ashley EVAN'S Edited, *Histological Appearances Of Tumours*, Published by Churchill Livingstone
12. Leopold G Koss, *Diagnostic Cytology And Its Histopathologic Basis*, Published by J.G.Lippincott Company
13. Marluc Bibbo, *Comprehensive Cytopathology* Published by W.B. Saunders and Company
14. Winnifred Grey Edited, *Diagnostic Cytopathology*, Published by Churchill Livingstone
16. Daniel M Knowles Edited, *Neoplastic Haematopathology*, Published by Williams & Wilkins
17. Maxwell M Wintrobe, *Clinical Haematology*, Published by K. M. Varghese & Company
18. De Gruchy's, Edited by Firkin, Chesterman, Penington, & Rush, *Clinical Haematology In Medical Practice, Published by Oxford University Press*
20. Todd, Sanford, Davidson Edited, *Clinical Diagnostis And Management By Laboratory Methods*, Published by W.B.Saunders and Company
21. Dr. Shameem Sharif Edited, *Surgical Pathology And Laboratory Techniques*, Published by Prism publications
22. Christopher D.M.Fletche Edited, *Diagnostic Histopathology Of Tumours Vol. 1 & 2*, Published by Churchill Livingstone
23. Shameem Shariff, **Laboratory Techniques in Surgical Pathology**, 1.4.1999, Bangalore, Prism Pvt. Ltd.

**J O U R N A L S:**

1. British Journal of Haematology Published by Blackwell Science
2. CANCER, International journal of the American cancer society, Published by John Wiley and sons, Inc.
3. Journal of Clinical Pathology, Publishing Group BMJ
4. Hematology /Oncology Clinics of North America, Published by W.B.Saunders and company
5. Histopathology, Journal of the British Division of the international academy of pathology Published by Blackwell Science
6. The American journal of Surgical Pathology, Published by Lippincott — Raven
7. ACTA Cytologica, The journal of clinical cytology and cytopathology
8. Archives of pathology and Laboratory medicine, Published by the American Medical Association
9. The Indian Journal of Pathology & Microbiology, Published by IAPM
10. The Indian Journal of Cancer, Published by Indian Cancer Society
11. Human Pathology, Published by W. B. Saunders Company

**A D D I T I O N A L  R E A D I N G**

2. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
3. Santosh Kumar, The elements of Research, writing and editing 1994, Dept. of Urology, JIPMER, Pondicherry
4. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry
7. Francis C M, Medical Ethics, J P Publications, Bangalore, II edn., 2004


Chapter IV

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. Model checklists are given in this chapter which may be copied and used.

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

Personal Attitudes. The essential items are:

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

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

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

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

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

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

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

iii) Clinical skills

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

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

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

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

vi) 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, practicals / clinicals and viva voce.

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

viii) Records: Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or
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 hire or herself right.
CHAPTER IV (Contd.)

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:  

<table>
<thead>
<tr>
<th>SI.</th>
<th>Items for observation during presentation</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Article chosen was</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Extent of understanding of scope &amp; objectives of the paper by the candidate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Whether cross references have been consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Whether other relevant publications consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Ability to respond to questions on the paper / subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Audio-Visual aids used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Ability to defend the paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.</td>
<td>Clarity of presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Any other observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Score</th>
<th></th>
</tr>
</thead>
</table>
Name of the Student:  Name of the Faculty/Observer:  Date:

<table>
<thead>
<tr>
<th>SI.</th>
<th>Items for observation during presentation</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Whether other relevant publications consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Whether cross references have been consulted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Completeness of Preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Clarity of Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Understanding of subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Ability to answer questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Time scheduling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Appropriate use of Audio-Visual aids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Overall Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Any other observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Score
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 Unit Head:       Date:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Points to be considered:</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Regularity of attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Punctuality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Interaction with colleagues and supportive staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Maintenance of case records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Presentation of cases during rounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Investigations work up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Beside manners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Rapport with patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Counseling patient's relatives for blood donation or Postmortem and Case follow up.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Over all quality of Ward work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Points to be considered</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Above Average 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Completeness of history</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Whether all relevant points elicited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Clarity of Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Logical order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Mentioned all positive and negative points of importance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Accuracy of general physical examination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Whether all physical signs elicited correctly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Whether any major signs missed or misinterpreted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Diagnosis: Whether it follows logically from history and findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investigations required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>■ Complete list</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>■ Relevant order</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>■ Interpretation of investigations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Ability to react to questioning Whether it follows logically from history and findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Ability to defend diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Ability to justify differential diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Grand Total**
### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Strong Point</th>
<th>Weak Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Communication of the purpose of the talk</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Evokes audience interest in the subject</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The introduction</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The sequence of ideas</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The use of practical examples and/or illustrations</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Speaking style (enjoyable, monotonous, etc., specify)</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Attempts audience participation</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Summary of the main points at the end</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Asks questions</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Answers questions asked by the audience</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Rapport of speaker with his audience</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Effectiveness of the talk</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Uses AV aids appropriately</td>
<td></td>
</tr>
</tbody>
</table>
Check List - VI

MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the Student:  Name of the Faculty:  Date:

<table>
<thead>
<tr>
<th>S1. No.</th>
<th>Points to be considered divine</th>
<th>Poor 0</th>
<th>Below Average 1</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Interest shown in selecting a topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Appropriate review of literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Discussion with guide &amp; other faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Quality of Protocol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Preparation of proforma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Check List - VII

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

<table>
<thead>
<tr>
<th>S1. No.</th>
<th>Items for observation during presentations</th>
<th>Poor 0</th>
<th>Below Average</th>
<th>Average 2</th>
<th>Good 3</th>
<th>Very Good 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Periodic consultation with guide/co-guide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regular collection of case material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Depth of analysis / discussion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Departmental presentation of findings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Quality of final output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**
LOG BOOK
Table 1: Academic activities attended

Name: 
Admission Year: 
College: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Type of Activity</th>
<th>Particulars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specify Seminar, Journal Club, Presentation, UG teaching</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOG BOOK

Table 2: Academic presentations made by the student

Name: 
Admission year: 
College: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Type of Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Specify Seminar, Journal Club, Presentation, UG teaching</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOG BOOK

Table 2: Diagnostic and Operative procedures performed

Name: 
Admission year: 
College:

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>ID No.</th>
<th>Procedure</th>
<th>Category O, A, PA, PI*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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

Name of the College: ___________________________  

Academic Fear: ___________________________

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Faculty Member &amp; Others</th>
<th>Name of Student and Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score**

Note: Use separate sheet for each year.
Chapter V

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 patient, 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 (i), General Objective (ii) stated in Chapter II (pages 2.1 to 2.3), and develop human values it is urged that ethical sensitisation be achieved by lectures or discussion on ethical issues, clinical case 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

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

1. 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 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, Semern Intrafallopian Transfer (SIFT), Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian Transfer (ZIFT), Genetic Engineering

6. *The Family and Society in Medical Ethics* The Ethics of 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 Allocatison of resources in health cares Malpractice and Negligence
8. **Research Ethics**
   Animal and experimental research / humanness Human experimentation
   Human volunteer research — Informed Consent Drug trials

9. **Ethical workshop of cases**
   Gather all scientific factors
   Gathering all human factors
   Gathering all value factors
   Identifying areas of value — conflict, Setting of priorities, Working our criteria towards decisions

**Recommended Reading**

1. Francis C.M., *Medical Ethics*, 1 Ed, 1993, Jaypee Brothers, New Delhi, p 189, Rs. 150/-


4. CPCSEA Guidelines 2001 (www.cpcsea.org)


6. ICMR Guidelines on animal use 2001, ICMR, New Delhi