

**Regulations and Curricula  
for  
Post Graduate Degree and Diploma Courses  
in  
Medical Sciences  
2000**

*Volume III: Clinical Subjects*

**M. S. Orthopedics**



**Rajiv Gandhi University of Health Sciences, Karnataka**  
4<sup>th</sup> 'T' Block, Jayanagar, Bangalore - 560 041

**Regulations for Post Graduate Degree and Diploma Courses in Medical Sciences**  
(Annexure to University Notification No. UA/ORD-6/99-2000 dated 01.01.2000)

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# **Rajiv Gandhi University of Health Sciences, Karnataka**

4<sup>th</sup> T Block, Jayanagar, Bangalore - 560 041

**No. UA/ORD-06/1999-2000**

**01.01.2000**

## **NOTIFICATION**

Sub: Revised Ordinances pertaining to Post Graduate Degree, Diploma  
and Super Speciality Courses in Medicine

Ref: Minutes of the 16<sup>th</sup> syndicate meeting held on 16.11.1999.

In exercise of the powers conferred under Sec. 35(2) of the RGUHS Act, the Syndicate at its meeting held on 16.11.1999 has been pleased to approve the Revised Ordinances pertaining to Post Graduate Degree, Diploma and Super Speciality Courses in Medicine as given in schedule here to annexed.

The Revised Ordinances as above shall come into force immediately and is applicable for University examination of March 2000 and onwards.

By order,  
Sd/  
REGISTRAR

To

1. The Principals of all Medical Colleges affiliated to RGUHS
2. The Members of the Syndicate/Senate/Academic Council.

**Rajiv Gandhi University of Health Sciences, Karnataka**  
4<sup>th</sup> T Block, Jayanagar, Bangalore - 560 041

No. UA/ORD-06/1999-2000

26.12.2000

**NOTIFICATION**

Sub: Revised Ordinance pertaining to PG Degree, Diploma and Super Specialty Courses in Medicine

Read: The Revised Ordinance along with Syllabus and Scheme of Examination of Pre-clinical and Para-clinical subjects pertaining to Postgraduate Degree, Diploma and Super Sociality courses in Medicine as approved by the Syndicate at its meeting held on 16.11.1999 and notified in the University notification No. UA/ORD-6/1999-2000 dt. 01.01.2000. Now the Syndicate at its meeting held on 22.11.2000 has approved Syllabus of Postgraduate Clinical Subjects and the same is notified.

In exercise of the powers conferred under Sec. 35(2) of the RGUHS Act, the Syndicate has been pleased to approve the Curriculum (Syllabus) of following PG Clinical Subjects in respect of above ordinance as given in the schedule here to annexed.

Subject	Degree	Diploma
Anesthesiology	1. M.D.	2. D.A.
Aviation Medicine	3. M.D.	---
Dermatology, Venereology and Leprosy	4. M.D.	5. DDVL
General Medicine	6. M.D.	----
General Surgery	7. M.S.	----
Obstetrics & Gynecology	8. M.S.	9. DGO
Oto-Rhino-Laryngology	10. M.S.	11. DLO
Ophthalmology	12. M.S.	13. DO
Orthopedics	14. M.S.	15. D. Ortho
Pediatrics	16. M.D.	17. DCH
Psychiatry	18. M.D.	19. DPM
Radio-Diagnosis	20. M.D.	21. DMRD
Radiotherapy	22. M.D.	23. DMRT
Tuberculosis & Respiratory Medicine	24. M.D.	25. DTCD

The Syllabus as above shall be applicable from the Academic Year 2000-01.

By order,  
Sd/  
REGISTRAR

To

1. The Principals of all Medical Colleges affiliated to RGUHS
2. The Members of the Syndicate/Senate/Academic Council.

# **Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore.**

## **Regulations for Post Graduate Degree and Diploma Courses in Medical Sciences**

### **Chapter I**

#### **1. Branches of Study**

##### **1.1 Postgraduate Degree Courses**

The following courses of studies may be pursued.

###### *A. M.D. (Doctor of Medicine)*

1. Anaesthesiology
2. Aviation Medicine
3. Anatomy
4. Biochemistry
5. Community Medicine
6. Dermatology, Venereology and Leprosy
7. Forensic Medicine
8. General Medicine
9. Microbiology
10. Pathology
11. Paediatrics
12. Pharmacology
13. Physiology
14. Psychiatry
15. Radio-diagnosis
16. Radio-therapy
17. Tuberculosis & Respiratory Medicine

and such other subjects as might have been introduced by the Universities in Karnataka prior to commencement of Health University i.e., 1.6.1996, or recognised by Medical Council of India.

###### *B. M.S. (Master of Surgery)*

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

and such other subjects as might have been introduced by the Universities in Karnataka prior to commencement of Health University i.e., 1.6.1996, or recognised by Medical Council of India.

###### *C. D.M. (Doctor of Medicine)*

1. Cardiology and such subjects recognised by Medical Council of India.

#### *D. M.Ch (Master of Chirurgie)*

In the subjects recognised by Medical Council of India.

### **1.2 Postgraduate Diploma Courses**

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

Child Health (D.C.H.), Obstetrics and Gynaecology (D.G.O.), Otorhinolaryngology (D.L.O.), Ophthalmology (D.O.), Orthopaedics (D.Ortho), Anaesthesiology (D.A.), Clinical Pathology (D.C.P.), Microbiology (D. Micro), Public Health (D.P.H), Forensic Medicine (D.F.M.), Dermatology, Venerology and Leprosy (D.D.V.L.), Psychiatry (D.P.M.), Radio-Diagnosis (DMRD), Radio-therapy (DMRT), Tuberculosis and Chest Diseases (D.T.C.D.) and such other subjects as might have been introduced by the Universities in Karnataka prior to commencement of Health University i.e., 1-6-1996, and recognised by Medical Council of India.

## **2. Eligibility for Admission**

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

### *2.2 D.M and M.Ch Courses:*

D.M.: Candidate seeking admission for D.M courses in any subject must possess recognised degree of MD (or its equivalent recognised degree) in the subject specified in the regulations of the Medical Council of India from time to time.

M.Ch : Candidate seeking admission for M.Ch course in any subject must possess recognised degree of MS (or its equivalent recognised degree) in the subject specified in the regulations of the Medical Council of India from time to time.

## **3. Obtaining Eligibility Certificate by the University before making Admission**

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

1. MBBS pass / degree certificate issued by the University.
2. Marks cards of all the university examinations passed MBBS course.
3. Attempt Certificate issued by the Principal.
4. Certificate regarding the recognition of the medical college by the Medical Council of India.
5. Completion of internship certificate.
6. In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognised for internship.

7. Registration by any State Medical Council and
8. Proof of SC/ ST or Category I, as the case may be.

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

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

#### **4. Intake of Students**

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

#### **5. Duration of Study**

*a) M.D /M.S Degree Courses*

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

*b) D.M /M.Ch*

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

*c) Diploma courses:*

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

5.2 Requirement to complete the course -- **deleted \***

#### **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 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 a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course.

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

\* deleted vide university notification No. UA/ORD-6/1999-2000 dated 9.4.2001

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. Monitoring Progress of Studies:**

8.1 *Work diary / Log Book* - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. (please see Chapter IV for model checklists and logbook 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:*

In case 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, practicals / clinicals and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when 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, practicals / clinicals and viva voce.

8.3 *Records:* Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University 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 post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.



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. Annexures

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

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

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

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

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

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). 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 carryout 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 1<sup>st</sup> paper in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers.

*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 |

*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 marks 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 any or all the papers.

*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.

*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.

*11.3.3 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.

*11.3.4 Criteria for Pass:* 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 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

DM / M.Ch Course: Maximum of 3 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 specialist and /or Medical teacher:

- (i) who shall recognise the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
- (ii) who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system:
- (iii) who shall be aware of the contemporary advances and developments in the discipline concerned;
- (iv) who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

#### **GENERAL OBJECTIVES**

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

- i) Recognise the importance of the concerned speciality in the context of the health need of the community and the national priorities in the health sector.
- ii) Practice the speciality concerned ethically and in step with the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
- iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
- v) Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- vi) Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data 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 programmes, effectively and responsibly.
- x) Organise and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- xi) Develop skills as a self-directed learner, recognise continuing educational needs; select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- xiii) Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical 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 PG CURRICULUM**

The major components of the PG curriculum shall be:

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

Source: Medical Council of India, Regulations on postgraduate medical education, 1997.

# Chapter III

## Course Description

### Post Graduate Courses in Orthopedics

## M.S. Orthopedics

### Objectives:

At the end of the course, the candidate should be:

1. aware of the current concepts in quality care in orthopedics and musculo-skeletal trauma and also of diagnosis, therapeutic, medical or surgical management of orthopedic problems,
2. able to offer initial primary management of acute orthopedic and trauma emergencies.
3. aware of the limitations and refer readily to major centers for more qualified care of cases which warrant such referral.
4. aware of research methodology and be able to conduct research and publish the work done.
5. able to effectively communicate with patients, their family members, people and professional colleagues.
6. able to exercise empathy and a caring attitude and maintain high ethical standards.
7. continue to evince keen interest in continuing education irrespective of whether he/she is in a teaching institution or in clinical practice .

### Course contents:

*Essential theoretical knowledge*

#### I. BASIC SCIENCES

##### Anatomy

- i) Musculo skeletal anatomy – Anatomy of the shoulder girdle, pelvic girdle, upper & lower limbs anatomy of the spine
- ii) Embryology and development of musculo skeletal system.
- iii) Histology.

##### Physiology

- i) Physiology of musculo skeletal system
- ii) Metabolism of bone, hormonal influence on musculo skeletal system & other related orthopaedic physiology

##### Pathology

- i) General pathology.
- ii) Tumour pathology in musculo skeletal system
- iii) Other orthopaedic pathology.

##### Biochemistry

- i) General Biochemistry.
- ii) Biochemical aspects related to orthopaedic diseases

## **II. CLINICAL ORTHOPAEDICS**

### General Orthopaedics

- i) General principal of healing of injury & muskuloskeletal trauma.
- ii) Systemic management of the injured & body response to trauma.
- iii) Head injury & fascio maxillary injury.
- iv) General principal of management of Neurovascular injury.
- v) Management of poly trauma.
- vi) Consequences of muskuloskelatal trauma & rehabilitation of the injured.
- vii) General principal of management muskuloskelatal trauma- surgical and conservative.
- viii) Compound injuries – management and stabilisation procedures in orthopaedics.
- ix) General principal of management musculo skeletal trauma – in children.

## **III. ORTHOPAEDIC TRAUMATOLOGY**

- i) Muskuloskeletal trauma in shoulder girdle and upper limb.
- ii) Muskuloskeletal trauma in pelvic girdle and lower limb.
- iii) Injuries of the spine and management of paraplegia.
- iv) Pathological fractures and management.

## **IV. DISEASES IN ORTHOPAEDICS**

- i) Congenital malformations.
- ii) Metabolic, developmental & hormonal disorders in muskuloskeletal system.
- iii) Epiphyseal and neuromuscular affections in children.
- iv) Infective Diseases in musculo-skeletal system including polio & Leprosy.
- v) Arthritis and Rheumatic disease.
- vi) Tumours of muskuloskeletal system.
- vii) Amputations.
- viii) Prosthetics and orthotics.
- ix) Physical medicine.

## **V. SPORTS MEDICINE INCLUDING ARTHROSCOPY.**

## **VI. ESSENTIAL DIAGNOSTIC SKILLS – INSTRUMENTATION**

### **Radiology**

- a) General muskuloskelatal radiology – plain X-ray.
- b) MRI.
- c) CT Scan.
- d) Scintigraphy & Bone scan.
- e) Stress radiography.
- f) Ultrasonography.

### Interventional Radiography

- a) Sinogram.



- b) Myelography
- c) Epidurogram
- d) CT Guided biopsy.
- e) Arthrogram

Arthroscopy

Biopsy

- a) Trocar
- b) FNAC

## **VII. SURGICAL SKILLS**

### **Anaesthesia**

Regional anaesthesia

- a) Wrist block & Digital block.
- b) Femoral block.
- c) Ankle block.
- d) Brachial block & inter scalene block.
- e) Spinal anaesthesia.
- f) IVRA.

## **VIII. SURGICAL PROCEDURES**

### **Pelvic girdle & lower limb**

- a) Fracture fixation.
- b) Osteotomies and Arthrodesis in lower limb.
- c) HRA in Hip joint
- d) Soft tissue surgeries.
- e) Foot and ankle surgery.
- f) Management of nonunion of fractures with illizarov.
- g) Deformity correction with illizarov.
- h) Ligamentous reconstruction of knee joint.
- i) Plastic reconstruction and other reconstructive procedures in musculoskeletal trauma.
- j) Arthroscopic surgeries.
- k) Total hip arthroplasty.
- l) Total Knee arthroplasty.
- m) Total Ankle arthroplasty
- n) Stabilisation of pelvic fracture by external fixator.
- o) Acetabular fracture fixation and pelvic osteotomies

## **IX. SHOULDER GIRDLE & UPPER LIMB**

- a) Fracture fixation, Osteotomies and Arthrodesis in upper limb.
- b) Reconstructive surgeries in shoulder joint.
- c) Soft tissue surgeries
- d) Elbow and Hand surgery.
- e) Management of nonunion of fractures with illizarov
- f) Deformity correction with illizarov
- g) Plastic reconstruction and other reconstructive procedures in musculoskeletal tumours

- h) Arthroscopic surgeries
- i) Total shoulder arthroplasty.
- j) Total Elbow arthroplasty.

## **X. SPINE SURGERIES**

- a) Posterior spinal fusion.
- b) Disc surgery & decompressive procedures in spine.
- c) Instrumentation in spine.
- d) Endoscopic surgery in spine.
- f) Deformity correction in spine.
- g) Surgical procedures in TB Spine.

## **XI. SURGICAL PROCEDURES – EMERGENCY**

- a) Primary wound debridement & External fixater application.
- b) Emergency amputations.
- c) Primary internal fixation for compound fractures.

### 2.1 Graded responsibility in care of patients and operative work

#### **I YEAR**

##### Trauma care

Closed reductions of fractures, Plaster application,  
Debridement of open fractures, External fixations  
Internal fixations of minor fractures with K wire

##### Non-traumatic conditions:

Manipulative correction of congenital problems like CTEV  
Biopsies  
Excision of benign lesions  
Tendon lengthening

#### **II year**

##### Trauma

Tension band wiring of fracture patella, fracture olecranon, etc  
DCP of forearm bones, tibia, etc  
DHS

##### Non-traumatic conditions:

Carpal tunnel release  
Bone grafting  
Soft tissue release under supervision

#### **III YEAR**

##### Trauma

Hemi replacement arthroplasty of femur  
Dynamic condylar screw fixation  
Interlocking nailing of long bone fractures

Non-traumatic conditions

Osteotomies

Soft tissue release

Tendon transfers

Basic arthroscopy (diagnostic)

## **Teaching Learning Activities**

Participation in departmental activities

1. Clinical rounds – bedside clinical discussion, treatment modalities, record maintenance, discussion of alternate methods of management, PG notes, etc
2. Journal review meeting  
Review of recent journals and presentation of the same in the departmental meetings. Should include indexed international and national journals. At least four presentations should be made by each candidate in each year of the course.
3. Seminars – on Musculo skeletal trauma and Diseases in orthopaedics. Arthroplasty, spinal instrumentation and Recent advances in orthopedics. At least 4 seminars per year by each MS candidate.
4. Should attend CPCs
5. Interdepartmental meetings – Ortho-radiology and Ortho-pathology meetings should be attended by PGs
6. Preparation and presentation of dissertation work – should present to the dept the review of literature in the first year and whole work by the second year to the dept.

## **Rotation and posting in other depts**

Basic sciences

Anatomy – one hour every week in anatomy dissection hall for 6 months in the first year

Applied subjects -posting in second year

Casualty / emergency medicine for 2 weeks

Anaesthesia for 2 weeks

Radiology including CT/MRI for one month

Neurosurgery for one month

Plastic surgery for one month

Surgical ICU/ general surgical unit for one month

Allied subjects

Posting in artificial limb centre / physical medicine and rehabilitation for one month

Training in teaching skills

Bedside clinic for undergraduates for 20 hours

Bedside clinic for first year PG by THIRD Year PG for 10 hours.

Should have attended at least one National CME during the course

Should have presented at least one paper in any of the Orthopedic conferences during the course

## **Dissertation**

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

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

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.

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

The dissertation should be written under the following headings:

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

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

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

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.

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.

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

1. Methods – theory examinations  
Clinical examinations
2. Frequency – theory exams once 6 months  
Clinical examinations once a year
3. Log book records

### **Orientation programmes**

- a. Use of library – use of periodicals, Use of electronic library  
Use of Internet,
- b. Laboratory procedures - FNAC, bone marrow aspiration
- c. National programmes – attending postgraduate teaching programs advised
- d. Regulations – medical ethics.
- e. Research Methodology

### **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 be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

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

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

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

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

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

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

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

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

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

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

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

### **Log book**

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

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

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

### **Scheme of examination**

#### **A. 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 papers. Details of distribution of topics for each paper will be as follows:

Paper I - Basic and clinical sciences as applied to Orthopedics

Paper II - Musculo-skeletal Trauma

Paper III - General Orthopedics, Joint Disorders and Spine

Paper IV - Regional Orthopedics.

#### **B. Clinical**                    200 Marks

There shall be one long case and three short cases to be examined and presented by each candidate. Marks shall be 200.

#### **C. Viva Voce:**                100 Marks

##### **1) Viva-Voce Examination: (80 Marks)**

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens,

pathology slides, instruments, X- rays, ultrasound, CT scan images, etc., for interpretation. It includes discussion on dissertation also.

## 2) Pedagogy Exercise: (20 Marks)

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

### D.

Maximum marks for	Theory	Practical	Viva	Grand Total
M.S. in Orthopedics	400	200	100	700

### Recommended books and Journals

1. Campbell's Operative Orthopaedics 8<sup>th</sup> edition, S. Terry Canale, editorial assistance by Kay Daugherty published by MOSBY, St. Louis, USA, 1998, 400 U K \$
2. Fractures in adults & Children 4<sup>th</sup> edition Charles A. Rockwood Jr., David P. Green, Robert E. Bucholz, and James D Heckman, 1996, Lippincott-Raven Publishers, USA
3. Orthopaedic, 5<sup>th</sup> edition, edited by Samuel Turek, published by Jay Pee Brothers New Delhi, 1993
4. Mercer's Orthopaedic surgery 9<sup>th</sup> edition Robert B Duthie & George Bentley, Published in Great Britain in 1996 by ARNOLD
5. J.N.Wilson Watson – Jones Fracture and Joint injuries 6<sup>th</sup> edition, published by B.I. Churchill. Livingstone pvt. Ltd. NewDelhi – 1992, price: Rs 1400-00
6. Knee Surgery edited by Paul M. Aichroth & W. Dilworth Cannon, Jr. Published in USA by Raven Press in 1992, \$3127.
7. Total Hip Joint Replacement edited by Eftekhar NS
8. Total Knee Arthroplasty edited by James A. Rand published by Raven press; New York 1993
9. Tureks text book of orthopedics
10. Rockwood and Green - text book of fractures and joint injuries
11. Browner – fractures and dislocations
12. Gustilo – fractures and joint injuries
13. Sharrard – paediatric orthopedics
14. Tachdain – paediatric orthopedics
15. Enneking – bone tumors
16. Campanacci – bone tumors

### Journals

1. Journal of bone and Joint Surgery
2. American journal of Orthopaedics.
3. Clinical Orthopaedics and Related Research.
4. Orthopaedic clinics of North America.
5. TRAUMA.
6. Arthroscopy.
7. Indian Journal of Orthopaedics.
8. Journal of Arthroplasty.
9. Journal of Spine Surgery.
10. Acta orthopedica Scandinavia
11. J. paed. Ortho



## **ADDITIONAL READING**

1. Indian Council of Medical Research, "Ethical Guidelines for Biomedical Research on Human Subjects", I.C.M.R, New Delhi, 2000.
2. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
3. Francis C M, Medical Ethics, J P Publications, Bangalore, 1993.
4. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
5. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8
6. Kirkwood B R, Essentials of Medical Statistics , 1<sup>st</sup> Ed., Oxford: Blackwell Scientific Publications 1988.
7. Mahajan B K, Methods in Bio statistics for medical students, 5<sup>th</sup> Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
8. Compendium of recommendations of various committees on Health and Development (1943-1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, min. of Health and Family Welfare, Govt. of India, Nirman Bhawan, New Delhi. P - 335.
9. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
10. 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 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 out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, and (iv) Teaching skills.

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

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
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- 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.

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

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

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.

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**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.

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examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself 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:

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

**Check List - II. MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

Name of the Student:

Name of the Faculty/Observer:

Date:

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

### Check List - III

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

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

Name of the Student:

Name of the Unit Head:

Date:

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

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

Name of the Student:

Name of the Faculty:

Date:

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



## Check List - V

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

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

## Check list VI

### MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name:

Faculty/observer:

Date:

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

## Checklist-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO-GUIDE

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	<b>Total Score</b>					

**LOG BOOK**

**Table 1 : Academic activities attended**

Name:

Admission Year:

College:

<b>Date</b>	<b>Type of Activity</b> <b>Specify Seminar, Journal Club, Presentation, UG teaching</b>	<b>Particulars</b>

**LOG BOOK**

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

Name:

Admission Year:

College:

<b>Date</b>	<b>Topic</b>	<b>Type of Presentation</b> <b>Specify Seminar, Journal Club, Presentation, UG teaching etc.</b>

## LOG BOOK

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

Name:

Admission Year:

College:

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

- \* Key:**
- O - Washed up and observed
  - A - Assisted a more senior Surgeon
  - PA - Performed procedure under the direct supervision of a senior surgeon
  - PI - performed independently

### Model Overall Assessment Sheet

Name of the College:

Academic Year:

Sl. No	Faculty Member & Others	Name of Student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
1											
2											
3											
4											
5											
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

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 0
    - 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 Intrafallopian Transfer (SIFT),  
Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian 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 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*

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**

Francis C.M., **Medical Ethics**, 1 Ed, 1993, Jaypee Brothers, New Delhi, p 189, Rs. 60/-