



YENEPOYA UNIVERSITY

Deralakatte, Mangalore - 575018

**REGULATIONS AND CURRICULUM GOVERNING
POSTGRADUATE PROGRAM (MS) IN
GENERAL SURGERY**

(CURRICULUM - EFFECTIVE FROM 2010-11)

ATTESTED
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Recognised under Sec. 3(A) of the UGC Act 1956 as per notification number F.9-11/2007.U.3(A) dated 27-02-2008
No.YU/REG/AC-5(8)/RA1/Noti./2010 dt.16.10.2010

NOTIFICATION

Sub: Curriculum and Syllabus governing the Postgraduate Course in eight specialities

Ref: Proceedings of the meetings of the Academic Council and Board of Management held on 11th and 12th October 2010

The proposed curriculum and the syllabus governing the Postgraduate Course in the Specialities of MS General Surgery, MS Ophthalmology, MS Otorhinolaryngology, MD Pediatrics, MD General Medicine, MD Radio Diagnosis, MD Pulmonary Medicine, MD Obstetrics & Gynaecology as approved by the Academic Council and Board of Management in the meetings held on 11th and 12th October 2010 respectively are here-by notified for implementation.


REGISTRAR

To:

The Principal
Yenepoya Medical College

Copy to:

- Prof. & HODs. of MS General Surgery/MS Ophthalmology/ MS Otorhinolaryngology/
MD Pediatrics/ MD General Medicine/ MD Radio Diagnosis/
MD Pulmonary Medicine/ MD Obstetrics & Gynaecology
- The Controller of Examinations
- Notification file – Academic Section

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1. 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.

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.

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 Sl.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.

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

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 speciality.

- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
- viii) Demonstrate empty 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 disciplines shall aim at development of specific competencies, which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

COMPONENTS OF THE PG CURRICULUM

The major components of the PG curriculum shall be:

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

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

Chapter III

Course Description

M.S. General Surgery

Goals

The goals of postgraduate training course in Surgery would be to train a MBBS doctor who will:

- Practice surgery efficiently and effectively, backed by scientific knowledge and skill base.
- Exercise empathy and a caring attitude and maintain high ethical standards.
- Continue to evince keen interest in continuing surgical education irrespective of whether he is in a teaching institution or is a practicing surgeon.
- Be a motivated 'teacher' – defined as a surgeon keen to share his knowledge and skills with a colleague or a junior or any learner.

Objectives:

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

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

Knowledge:

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course is given.

At the end of the training, the candidate must be able to:

- Describe aetiology, pathophysiology, principles of *diagnosis* and management of common surgical problems including emergencies, in adults and children.
- Describe indications and methods for fluid and electrolyte replacement *therapy* including blood transfusion
- Describe common malignancies in the country and their management including prevention
- Demonstrate understanding of basic sciences relevant to general surgery
- Identify social, economic, environmental and emotional determinants in a given case, and take them into account for planning therapeutic measures.
- Recognize conditions that may be outside the area of his specialty/competence and to refer them to the proper specialist.
- Advise regarding the operative or non-operative management of the case and to carry out this management effectively.

- Update himself by self study and by attending courses, conferences and seminars relevant to surgery.
- Teach and guide his team, colleagues and other students.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific fora.

Skills

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical condition.
- Perform *minor* operative procedures and common general surgical operations independently and the *major* procedures with help from a senior surgeon.
- provide basic and advanced life saving support services (BLS & ALS) in emergency situations
- manage acute abdominal emergencies and poly trauma.
- Undertake thorough wound management, including burn wounds.
- Undertake complete patient monitoring including the preoperative and post operative care of the patient.

Human values, Ethical practice and Communication abilities

- Adopt ethical principles in all aspects of his surgical practice. Professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Develop communication skills, in particular the skill to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

Essential Knowledge

The course contents have been identified and categorized as essential knowledge as under. This is to enable the student to achieve the objectives of the course. It is recognized that General surgery today mainly covers abdominal operations, thyroid and breast diseases. A general surgeon should also have knowledge of some common problems in allied specialties. Further he should be familiar with complications, current controversies and recent advances in these topics.

The topics are considered under :

- Basic sciences,
- General Surgery topics and
- Specialty topics.

Some overlap between the latter two categories are to be expected.

Basic sciences include anatomy, physiology, biochemistry, microbiology and pathology, as found in current text books. These standard topics are recommended to be studied in as much as they are applicable to the practice of surgery. The stress is on applied anatomy of the parts dealt with by the surgeon as defined by the skills list; patho-physiology and surgical pathology.

General Surgery Topics include the following:

History of surgery
Clinical History and examination – detailed systematic history taking, clinical examination of various systems, coming to a provisional working diagnosis.
Rationale of diagnostic tests – Ordering diagnostic tests with prioritizing the needs, based on the clinical, hospital and the patient’s socioeconomic condition
Informed consent / Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act. – Implications in a medico-legal case like accidents, assaults etc.
Communication skills with patients – Understanding clarity in communication, compassionate explanations and giving emotional support to at the time of suffering and bereavement.
Principles of surgical audit – Understanding the audit of process and outcome. Methods adopted for the same. Basic statistics
Principles of evidence based medicine – Understanding journal based literature study; the value of text book, reference book articles; value of review articles; original articles and their critical assessment. Understanding the value of retrospective, prospective, randomized controlled and blinded studies. – Understanding the principles and meanings of various biostatistical tests applied in these studies.
Medical ethics / Social responsibilities of surgeons
Use of computers in surgery – Components of a computer; its use in practice – principles of word processing, spread sheet functions, database and presentation; the internet and its uses. The value of computer based systems in bio medical equipment.
Health insurance, Health Care financing
Undertaking clinical audit
Prospective data collection / writing case reports and clinical papers
Giving presentations / Computer presentations
Preoperative workup – concept of fitness for surgery; basic medical workup; workup in special situations like, diabetes, renal failure, cardiac and respiratory illness; risk stratification;
Principles of operative surgery like asepsis, antisepsis, sterilization
Surgical sutures, drains, prosthetic grafts
Postoperative care – concept of recovery room care; airway management; assessment of wakefulness; management of cardiovascular instability in this period; criteria for shifting to a ward; pain management.
Basic surgical instrumentation – Principles of surgical instrumentation; their maintenance and sterilization.
Surgical diathermy, lasers
Wound management – wound healing; factors influencing healing; basic surgical techniques; properties of suture materials ; appropriate use of sutures.
Assessment of head, chest and abdominal trauma and triage – Assessment of a

trauma victim; resuscitation; care at the site; triage; care in the accident department; criteria for immediate surgery; immediate workup and logical referral criteria.
Fluid and electrolyte balance / Acid – Base metabolism – The body fluid compartments; metabolism of water and electrolytes; factors maintaining homeostasis; causes for and treatment of acidosis and alkalosis.
Blood transfusion – Blood grouping; cross matching; blood component therapy; complications of blood transfusion; blood substitutes; auto transfusions; cell savers.
Surgical infections – asepsis and antisepsis; microbiological principles; rational use of antibiotics; special infections like synergistic gangrene and diabetic foot infections. Hepatitis and AIDS
Surgical nutrition – nutritional assessment; metabolic response to stress; need for nutritional support; enteral nutrition; routes of access to GI tract; parenteral nutrition; access to central veins for nutritional support.
Principles of laparoscopy / GI endoscopy – laparoscopic instrumentation; physiology of pneumoperitoneum; complications of laparoscopy; diagnostic and therapeutic applications. GI endoscopic instrumentation; Diagnostic and therapeutic applications of upper GI, Lower GI and ERCP studies.
Principles of oncology – cell kinetics; causation of tumours; principles of oncologic surgery, radiotherapy and chemotherapy; paraneoplastic syndromes; cancer pain management; palliative care
Principles of burn management – types of thermal injury; assessment of extent; immediate management; late management; skin cover; rehabilitation
Principles of fracture management – fracture healing; principles of immobilization; complications; principles of internal fixation.
Airway obstruction / management – anatomy of the airway; principles of keeping the airway patent; mouth to mouth resuscitation; oropharyngeal airway; endotracheal intubation; crico-thyroidotomy; tracheostomy.
Shock and Pulmonary failure – types of shock; diagnosis; resuscitation; pharmacologic support; ARDS and its causes; prevention; ventilatory support.
Anaesthesia – stages of anaesthesia; pharmacology of inhalational, intravenous and regional anaesthetics; muscle relaxants
Assessment of trauma ; Multiply injured patient/ closed abdominal and chest injuries / penetrating injuries; fractures pelvis; urological injuries; vascular injuries; trauma scores
Acute abdomen – Appendicitis / Peritonitis / Perforated viscus / Intestinal obstruction
Hernias – simple and complicated – various types of hernias; their repair; prosthetic materials
Critical care – Cardiorespiratory failure – management of shock; including monitoring; sepsis scores; pharmacological support.
Pain control – acute and chronic pain; cancer and non-cancer pain; patient controlled analgesia.
Breast disease – benign and malignant disease; diagnosis; investigation; screening for cancer; genetics of breast cancer
Thyroid disease – solitary nodule; investigations; multinodular goiter; Hashimoto's disease; cancer

Upper GI disease – oesophageal and gastro-duodenal disorders
Hepato-biliary disease
Pancreatic disease
Colo-rectal disease / Anal disease
Soft-tissue neoplasms
Endocrine disease

The specialty topics include the following:

- GI endoscopy and Laparoscopy:

Principles of GI endoscopy
Complications including infective considerations
Diagnostic and therapeutic GI endoscopy including upper GI, lower GI and pancreato-biliary systems
Physiology of pneumoperitoneum
Diagnostic laparoscopy
Laparoscopic therapeutic procedures

- Neurosurgery

Head and neck trauma; acute management and rehabilitation
Concept of brain death / medico-legal implications
Peripheral nerve injuries
Neoplasms of the brain and meninges
Acute and chronic infections of the brain and meninges
Hydrocephalus
Spinal injuries
Monitoring intracranial tension

- Urology

Urological injuries
Urothelial tumours / Chemotherapy
Prostatic hypertrophy
Hypospadias
Pyleonephritis / perinephric abscess
GU tuberculosis
Scrotal disease
Endourology
Peritoneal dialysis / CAPD / haemodialysis
Transplantation / harvesting kidney
Urinary diversion
Infertility / Vasectomy
Pyeloplasty / hydronephrosis

- Oncology

Imaging CT/ MRI CT guided FNAB/C
Breast, thyroid and GI malignancies
Head and neck tumours
Chemotherapy / Adjuvant therapy
Post excision reconstruction
Radiotherapy

- Plastic Surgery

Burns management
Facial injuries
Principles of tissue transfer
Cleft lip and palate
Congenital defects of hand
Pressure sores
Principles of microsurgery
Hypospadias
Details of skin flap
Nerve repair
Vascular repair
Hand injuries / tendon injury

- Cardio-thoracic surgery

Flail chest / thoracic trauma
Bronchogenic carcinoma
Lobectomies
Pneumonectomy
Endocarditis prophylaxis
Pulmonary function tests
Control of major haemorrhage
Operations on the diaphragm
Coronary artery disease
Valvular heart disease
Lobectomies and pneumonectomies
Oesophageal disease
Operations on thoracic aorta
Mediastinal tumours
Basics of congenital heart disease

- Vascular Surgery

Vascular imaging
AV malformations
Exposure of major arteries and veins / vascular anastomosis
Varicose veins

Chronic venous insufficiency.
Vascular emergencies – trauma, embolism
Peripheral vascular disease – Atherosclerosis, arteritis
Details of vascular prosthesis

- Paediatric Surgery

Fluid and electrolyte management
Preparation for surgery / postop care
Hernias
Spinal fusion defects
Ventral defects
Undescended testes
Hypertrophic pyloric stenosis
Hirschprung's disease
Diaphragmatic hernia
Tracheo oesophageal fistula
Anorectal anomalies
Necrotising enteritis

- Gynaecological Surgery

Pelvic inflammatory disease
Ectopic pregnancy
Ovarian Cysts
Caesarean section
Family planning

Essential Surgical Skills

Surgery is a skill-based discipline. The following list is drawn up with a view to specifying basic minimum skills to be acquired. While an attempt has been made to specify the year wise distribution of the learning of skills (in the latter part of this curriculum), it is recognized that the process is a continuous one. The principle of giving graded responsibility to the student is to be applied throughout the course. The year wise distribution of the skills recommended are to be used as general guideline. Some overlap may be there. Provision of training in various specialty subjects has been made during the second year of the course. Skills in specialty subjects may be acquired both during the specialty postings and during the general surgical postings in the parent department, if the procedures are carried out. The list within the tables, indicates the surgical procedures that the students should, by the end of the course, be able to perform independently (PI) by himself/herself or should have performed with assistance (PA) during the course. The other categories of surgical procedures mentioned form a general guide for the procedures that the student should either have observed (O) or have assisted the operating surgeon (A). Note, for all categories, the student washes up in the operating room. There may an overlap in the skill list between the general surgery list and the specialty list. Where different numbers are mentioned for the same/similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Skills may be considered under the following headings.

- a) Basic graduate skills
- b) Ward procedures
- c) ICU procedures
- d) Emergency room procedures
- e) Preoperative workup procedures
- f) Postoperative procedures
- g) Minor surgical procedures
- h) Major operating room techniques
- i) General surgical procedures
- j) Speciality surgical procedures

a) Basic graduate skills

The student should have acquired the certain skills during his under-graduation and internship. These skills have to be reinforced at the beginning of the training period.s These skills include:

Procedure	Category	Year	Number
Insertion of I.V. lines, nasogastric tubes, urinary catheters, etc.,	PI	I	50
Minor suturing and removal of sutures	PI	I	50
Removal of tubes and drains	PI	I	50
Routine wound dressings	PI	I	50

b) Ward Procedures

Ward work forms an important part of the training of the surgeon. In addition to the touting examination of the patient with proper recording of findings, diligent practice of the following is recommended.

Procedure	Category	Year	Number
Abdominal Paracentesis including Diagnostic Peritoneal Lavage	PI	I	5
Ability to teach UG's and Interns	PI	I	NA
Blood sampling – venous and arterial	PI	I	NA
Bone Marrow Aspiration	PI	I	2
Burns dressing	PI	II	10
Communication skills with patients, relatives,	PI	I	NA*

colleagues and paramedical staff			
Ordering of the requisite laboratory and Radiological investigations and Interpretation of the reports in light of the clinical picture	PI	I	NA
Proficiency in common ward procedures	PI	I	NA
Skills for Per-rectal examination and Proctoscopy	PI	I	NA
Thoracocentesis	PI	II	5
Universal precautions against communicable diseases	PI	I	NA
Venesection	PI	I+II+III	5

NA: Not Applicable

c) ICU Procedures:

Procedure	Category	Year	Number
Insertion of Arterial lines	PI	II	10
Insertion of Central venous lines	PI	I	10
Insertion of Endotracheal tubes	PI	II	10
Insertion of Peritoneal Dialysis Catheters	A/PA	I,II,III	5
Intercostal Drainage	PI	II	5
Suprapubic Puncture/ Stab Cystostomy	PI	II	5
Tracheotomy	PI	I	2
Working Knowledge of Ventilators and various Monitors	PI	I	NA
Interpretation of Arterial blood gases	PI	I	NA
Correction of Electrolyte disturbances	PI	I	NA
Prescribing Parenteral & Enteral nutrition	PI	I	NA

d) Emergency Room Procedures

Procedure	Category	Year	Number
Application of Splints for Fractures	PI	I	NA
Arterial and Venous Lines	PI	I	NA

Assessment and initial management of Polytrauma	PI	I	NA
Cardiopulmonary Resuscitation	PI	I	NA
Management of Airway Obstruction	PI	I	NA
Management of Shock and Cardiac / Respiratory failure	PI	I	NA
Recognition and Initial management of Surgical Emergencies	PI	I	NA
Suturing Techniques	PI	I	NA

e) Pre-operative Workup

Procedure	Category	Year	Number
Ability for adequate pre-operative preparation in special situations like Diabetes, renal failure, cardiac and Respiratory failure etc. and risk Stratification	PI	I	NA
Communication skills with special reference to obtaining Informed Consent	PI	I	NA
Proper pre-operative assessment and preparation of patients including DVT prophylaxis, Blood transfusion and Antibiotics	PI	I	NA

f) Post-operative Care

Procedure	Category	Year	Number
Airway management	PI	I	NA
Basic Physiotherapy	PI	I	NA
Management of epidural analgesia	PI	I	NA
Management of Fistulae	PI	I	NA
Management of postoperative hypo and hypertension	PI	I	NA
Postoperative pain control	PI	I	NA
Skills for Nutritional rehabilitation of patients	PI	I	NA

Skills for proper Fluid & Antibiotic management	PI	I	NA
Stoma care	PI	I	NA

g) Minor O.T. procedures

Procedure	Category	Year	Number
Circumcision under Local Anesthesia	PI	I	5
Drainage of Abscesses	PI	I	5
FNAC	PI	I	5
Major dressings	PI	I	20
Minor Anorectal Procedures (Haemorrhoids – Banding, Cryotherapy, Suturing etc.;; Anal dilatation and Fissures), Fistulectomy	PI	III	10
Minor Biopsies – Lymph node, ulcer, swellings etc.,	PI	I	20
Reduction and plaster application of simple fractures and dislocations	PA	II	10
Removal of simple subcutaneous swellings	PI	I	10
Sigmoidoscopy and Upper G.I. endoscopy (preferable in endoscopy room)	PA/A/O	II	10
Suturing Techniques	PI	I	20
Vasectomy	PI/PA	I	5
Wound debridement	PI	I	10

h) Major Operating room techniques

Procedure	Category	Year	Number
Instrument arrangement and trolley layout	PA	I	NA
Skills in Sterilization techniques, O.T.Layout and Asepsis	O	I	NA
Skin preparation – painting and draping	PI	I	NA
Techniques of scrubbing and gowning	PI	I	NA

i) General Surgical Operative Procedures

Procedure	Category	Year	Number
Appendicectomy	PA	I	10
Appendicectomy	PI	III	5
Cholecystectomy	PI and PA	III	1 and 3
Closure of Colostomy	PA	III	2
Closure of peptic ulcer / under-running bleeding ulcer / vagotomy drainage	PI	III	3
Colostomy	PA	III	2
Cysts and sinuses of the neck	PA	III	2
Diagnostic laparoscopy	PA	III	3
Drainage of breast abscess / Excision of breast lump	PI	I	10
Groin Hernia repair	PI	II / III	5
Gynaecomastia	PA	III	2
Haemorrhoidectomy / Fissurectomy / Simple fistulectomy	PA	III	1
Hemicolectomy	PA	III	1
Herniotomy / Orchidopexy in children	PA	III	3
Laparotomy for abdominal trauma / splenectomy	PI	III	3
Laparotomy for intestinal obstruction / bowel resections / bowel anastomosis	PI	III	3
Management of complex wounds	PI	I	10
Mastectomy	PA/A	III	2
Opening and closing the abdomen	PI	I	5
Opening and closing the chest	PI	III / III	1
Parotidectomy	A	III	2
Release of bands and simple adhesive obstruction	PI	II	5
Thyroid lobectomy	PA	III	3
UGI endoscopy / Flexible sigmoidoscopy	A/O	II/III	10
Ventilation	PI	II	5
Wide excision of breast tumours / mastectomy /			

microdocheotomy	PA	III	3
Gastrostomy / feeding jejunostomy	PA	III	3

j) Speciality Procedure

There may be repetition of some of the procedures listed under this category and those listed under General surgical procedures. Where different numbers are mentioned for the same/similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Laparoscopy And GI Endoscopy

Procedure	Category	Year	Number
Diagnostic and therapeutic Upper and Lower GI endoscopy	PA	III	10
Diagnostic laparoscopy	PA	III	3
Diagnostic Upper GI endoscopy	PA	III	10
Laparoscopic Cholecystectomy	A	III	3

Neurosurgery

Procedure	Category	Year	Number
Craniotomy	A	II	2
Management of paraplegia	A	II	2
Peripheral nerve repair	A	II	2
Prevention of nerve injury – specific operations	A	II	2
Suturing complex scalp wounds	PI	II	2
Trephining	PA	II	2

Urology

Procedure	Category	Year	Number
Carcinoma penis	PA/A	II	3
Catheterization	PI	I	NA
Circumcision	PI	I	10

Diagnostic cystoscopy	PA/A	II	3
Inguinal Block Dissection	PA	II	1
Meatotomy	PI	II	3
Nephrectomy – partial / total	A	II	3
Nephrolithotomy	A	II	3
Orchidectomy	PA/A	II	3
Orchidopexy	A	II	3
Retroperitoneal lymph node dissection	O	II / III	1
Supra pubic cystostomy	PI	II	3
Total amputation of penis	A	II	1
TUR / Open prostatectomy	A	II	5
Ureterolithotomy	A	II	3
Urethral / Urogenital injuries	A	II	3
Urethral dilatation	PI	II	5
Varicocele	PA/A	II	3
Vasectomy	PI	I / II / III	10

Oncology

Procedure	Category	Year	Number
All radical operations – Breast, Thyroid, GI and Facio-maxillary malignancies	A	II	2 EACH
Breast lumpectomy	PI	II	5
Functional neck node dissection	A	II	3
Gastrectomy / Bowel resection	A	II	3
Imprint cytology	PA	II	3
Metastatic workup	PA	II	5
Stoma care	PI	II	5
Thyroid surgery	A	II	5
U/s guided biopsy	A/O	II	3

Plastic Surgery

Procedure	Category	Year	Number
Burn resuscitation	PI	I	5
Lip surgery	A	II	5
Local blocks in anaesthesia	PI	I	10
Minor hand injuries (specify)	PI	II	5
Nerve repair	A	II	2
Post excision reconstruction	A	II	2
Reimplantation of digits	O	II	1
Skin flap surgery	O	II	2
Split skin graft	PI	II	3
Stitch craft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I	10

Paediatric Surgery

Procedure	Category	Year	Number
Anorectal anomalies	A	II	2
Circumcision / meatoplasty	PA	II	10
Herniotomy	PA	II / III	2
Intercostal aspiration	PI	II	2
Laparotomy for peritonitis	PA	II	5
Lymph node biopsy	PI	II / III	5
Non operative treatment of volvulus	A/O	II	2
Orchidopexy	PA/A	II	5
Ostomies	PA	II	2
Paediatric emergencies	A/PA	II	10
Pyloromyotomy	PA/A	II / III	5

Cardiothoracic Surgery

Procedure	Category	Year	Number
Canulation of artery and vein	A	II	2
Chest injuries	PA	II / III	5
Empyema drainage / decortication	PI	II	2
Endotracheal intubation	PI	I	10
Intercostal drainage	PI	I	5
ITU duties	PI	II/III	NA
Lobectomies and pneumonectomies	O	II	2
Oesophageal surgery	O	II/III	2
Opening and closing the chest	PA	II	2
Pericardiectomy	O	II	2
Removal of FBs	A	II / III	2
Remove pulse generator (pacing)	PA/A	II	1
Rib resection	PA	II / III	2
Tracheostomy	PI	III	5
Undertake sternotomies	PA	II / III	2
Vein and arterial harvesting	PA/A	II / III	2
Ventilator management	PA	I	10

Vascular Surgery

Procedure	Category	Year	Number
AV shunts for vascular access	PA	II / III	2
Bypass graft – prosthetic	A	II / III	2
Conservative amputations	PI	II / III	5
Embolectomy	PA	II / III	2
Post-traumatic aneurysms	A	II / III	2
Sympathectomy	PA	II / III	2
Use of heparin	PI	II / III	10
Varicose vein surgery	PI	II / III	2

Vascular suturing	PA	II / III	2
Vein graft	A/O	II / III	2
Vein patch repair	A/O	II / III	2

Teaching and Learning Activities

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

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

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

1. Lectures : Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.
 - a) Didactic Lectures: Recommended for selected common topics for post graduate students of all specialties. Few topics are suggested as examples:
 - 1) Bio-statistics
 - 2) Use of library,
 - 3) Research Methods
 - 4) Medical code of Conduct and Medical Ethics
 - 5) National Health and Disease Control Programmes
 - 6) Communication Skills etc.

These topics may preferably taken up in the first few weeks of the 1st year.
 - b) Integrated Lectures: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, Thyroid etc.
2. Journal Club : Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s), selected articles at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See checklist in Chapter IV). A time table with names of the student and the moderator should be announced at the beginning of every year.
3. Subject Seminar: Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See checklist in Chapter IV). A timetable for the subject with names of the student and the moderator should be scheduled at the beginning of every year.

4. Student Symposium: Recommended as an optional multi disciplinary programme. The evaluation may be similar to that described for subject seminar.
5. Ward Rounds: Ward rounds may be service or teaching rounds.
 - a) Service Rounds: Postgraduate students and Interns should do every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.
 - b) Teaching Rounds : Every unit should have 'grand rounds' for teaching purpose. A diary should be maintained for day to day activities by the students.

Entries of (a) and (b) should be made in the Log book.

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

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

Radio-diagnosis: Interesting cases and the imaging modalities should be discussed.

8. Teaching Skills: : Post graduate students must teach under graduate students (Eg. medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc. Assessment is made using a checklist by surgery faculty as well students. (See model check in Chapter IV). Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended.
9. Continuing Medical Education Programmes (CME) : Recommended that at least 2 state level CME programmes should be attended by each student in 3 years.
10. Conferences: Attending conferences is optional. However it is encouraged.

Rotation and posting in other departments

The listed knowledge and skills are to be learnt over a period of 3 years. The process is a continuous one. However the recommended period and timing of training in basic subjects, allied departments and specialty departments is given below.

In the first year, during the morning session, student should work in the parent department. It is recommended that 2 years and 4 months are spent in General Surgery and 8 months in allied and specialty departments. Depending on the time and opportunities available, some of the procedures listed for second year activity can be shifted either to the first or the third year. Students must be 'on

call' on a regular basis. The total duration of postings in core and other specialties will be eight months.

Basic Science

Basic science should be an essential part of training. It should be done as concurrent studies during the 1st year of training. Atleast two hours daily may be in the first six months of the course. In the first year, during the morning session, time is spent in the parent department. In the afternoons basic science teaching relevant to surgery can be done in the respective departments.

Topics for study to include Anatomy, Physiology, Pathology, Microbiology, Pharmacology, Anaesthesia and Radiology

Pathology – Concurrent study - Recommend daily Grossing sessions, weekly Surgical pathology sessions and monthly CPCs.

Radiology – Concurrent study – adequate exposure to modern imaging modalities like u/s, CT, MRI and angiography

Allied Specialty Training

Students are posted to core allied specialty subjects Viz. Anaesthesia and ICU for one month and Orthopaedics including trauma (Accident and emergency) for 2 months during the second year of training. Posting to the Department of Obstetrics and Gynaecology for one month is optional. This posting may be in lieu of one of the other specialties (except the core specialties) depending on the choice of the candidate.

Other Surgical Speciality Subjects

Postings to other speciality departments will be during the second year. The departments and duration of postings are as under:

Department	Duration
• Paediatric surgery	4 weeks
• Plastic surgery	4 weeks
• Cardiothoracic surgery	4 weeks
• Vascular surgery	4 weeks
• Neurosurgery	4 weeks
• Urology	4 weeks
• Oncology	4 weeks

Dissertation

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

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature,

getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and 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.

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

i) 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 Sciences - 100 marks
1. Anatomy
2. Physiology
3. Other basic science topics covered in syllabus

Introduction to Surgery, Basic Surgical Principles. Wounds, tissue repair and scars. Critical care; fluid, electrolyte and acid-base balance; blood transfusion. Nutritional support and rehabilitation. Anaesthesia and pain relief. Wound infection. Special infections. Acquired immunodeficiency Syndrome (AIDS). Sterile precautions. Transplantation. Tumours, Cysts, Ulcers, Sinuses. Plastic and reconstructive surgery, skin lesions. Burns. Arterial disorders. Venous disorders. Lymphatic system. Day surgery. Audit in surgery. Surgical ethics.

Paper II: 100 marks

Eye and orbit. Cleft lip and palate, developmental abnormalities of the face, palate, jaws and teeth. Maxillofacial injuries. Nose and sinuses. Ear. Oral and oropharyngeal cancer and precancer. Salivary gland disorders. Pharynx, larynx and neck. Thyroid gland and the thyroglossal tract. Parathyroid and Adrenal glands. Breast. Thorax. Heart and Pericardium

Paper III: 100 marks

Anastomoses, Oesophagus. Stomach and duodenum. Liver. Spleen. Gallbladder and bile ducts. Pancreas. Peritoneum, omentum, mesentery and retroperitoneal space. Small and large intestines. Intestinal obstruction. Vermiform appendix. Rectum. Anus and anal canal. Hernias, Umbilicus, Abdominal wall. Principles of Laparoscopic surgery.

Paper IV: 100 marks

Orthopedics: Musculoskeletal disorders. Fracture and Dislocations - General, specific. Diseases of bones and joints - infection, tumours, generalised diseases and chronic joint diseases, congenital disorders. Wrist and hand. Foot.

Nervous system: Neurological disorders affecting the musculoskeletal system. Spine, vertebral column and spinal cord. Nerves. Cranium (Scalp, skull, brain).

Genito -Urinary System: Urinary symptoms, Investigation of the urinary tract, anuria. Kidneys and ureters. Urinary bladder. Prostate and seminal vesicles. Urethra and penis. Testis and scrotum.

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

ii) *Clinical* 200 marks

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

Type of cases

9. Somen Das : A practical Guide to Operative Surgery, 4th Edition, 1999, S. Das, Calcutta.
10. Pankaj Patel, V.V.Dewoodkar, Handbook of Surgical Instruments for Undergraduates, 1992, Bhalani publishing, House
11. R.A.Jamieson and A.W.Kay : Text book of Surgical Physiology, Lavingstone.
12. James Kyle : Pye's Surgical Handicraft, Indian Edition, K.M. Varghese Company.

Reference text books

1. William F. Ganong : Review of Medical Physiology, 2000, Lange Medical Publication
2. Roshan Lall Gupta : Year Book of Surgery, (Series) Jaypee Brothers
3. Roshan Lall Gupta : Recent advances in Surgery, (Series) Jaypee Brothers
4. I. Taylor and C.D. Johnson : Recent Advances in Surgery, (Series) Churchill Livingstone.
5. Lloyd M. Nyhus, Robert J.Baker and Joseph E. Fischer : Mastery of Surgery Vol. 1 & 2, 3rd Edition, 1997, Little Brown & Company.
6. Peter J.Morris and Ronald A Malt : Oxford Text Book of Surgery, Vol. 1 & 2, 1994, Oxford University Press
7. Charles Rob and Rodney Smith : Operative Surgery (All Volumes), 2nd Edition, 1971, Butterworths.
8. C.Palanivelu : Art of Laparoscopic Surgery, 1999, Paras Publishing
9. Michael J. Zinner, Seymour I. Schartz and Harold Ellis : Maingot's abdominal operations, Vol. 1 & 2, 10th Edition, 1997, Prentice Hall International.
10. Kevin G. Burnand and Anthony E. Young : The New Aird's companion to surgical studies, 1992, Curchill Livingstone.
11. Guyton : Text Book of Medical Physiology, 9th Edition, 1998, W.B. Saunders.
12. Hamilton Bailey : Emergency Surgery, 1999, Butterwoth
13. Cuschiery : Essentials of Surgical Practice, 3rd Edition, 1995, K.M. Verghese Company
14. Goliger : Surgery of the Anus, Ractum and Colon.
15. Lee Mcgregor : Synopsis of Surgical Anatomy, 12th (Indian) Edition, 1998, K.M. Verghese Company
16. W.T. Irvine : Modern Trends in Surgery, Series, Butterworths

Reference books

1. Irving Taylor, Timothy G. Cooke and Perra Guillou : Essential General Surgical Oncology, 1996, Churchill Livingstone.
2. James A. O'Neil, Marc I. Owe, Jay L. Grosfeld, Eric W. Fopnkalsrud and Arnold G. Coran : Pediatric Surgery, Vol.1 & 2, 5th Edition, 1998, Mosby
3. Anthony S. Fauci and Others : Harrison's Principles of Internal Medicine, Vol. 1 & 2, 14th Edition, 1998, Mc Graw Hill
4. Sheila Sherlock and James Dooley : Diseases of the Liver and Biliary System, 10th Edition, 2000, Blackwell Scientific Publication
5. Incent J. Devita, Samuel Hellman and Steven A. Roseberg, Cancer : Principles and Practice of Oncology, 6th Edition, 2000, Lippincott
6. Blumgart : Surgery of Liver & Biliary Tract, Vol. 1 & 2, 2nd Edition, 1994, Churchill Livingstone
7. Campbell and Smith : Urology, Vol. 1,2 & 3, 5th Edition, 1986, W.B. Saunders
8. Smith : General Urology
9. Grab and Smith : Plastic Surgery, 5th Edition, 1997

Journals for reference

Indian Journal of Surgery

British Journal of Surgery

American Journal of Surgery

Surgery International

New England Journal of Medicine

Surgery, Gynaecology & Obstetrics

Year Book of Surgery

Surgical Clinics of North America

Lancet

British Medical Journal

Urological Clinics of North America

Additional reading

1. 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 Indian, Nariman Bhawan, New Delhi, P – 335
2. National Health Policy : Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
3. Samosh Kumar : The Elements of Research, writing and editing 1994, Dept. Of Urology, JIMPER, Pondicherry
4. Srinivasa D K etal : Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry
5. Indian Council of Medical Research : “Policy Statement of Ethical considerations involved in Research on Human Subjects”, 1982, I.C.M.R., New Delhi.
6. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
7. Francis C M : Medical Ethics, Jaypee Publications, Bangalore, 1993.
8. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
9. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991, 424-8
10. Kirkwood B.R.: Essentials of Medical Statistics, 1st Ed., Oxford, Blackwell Scientific Publications 1988.
11. Mahajan B.K. : Methods in Bio-statistics for Medical Students, 5th Edition, New Delhi, Jaypee Brothers Medical Publishers, 1989.
12. Raveendran B Gitanjali : A Practical approach to PG dissertation, New Delhi, Jaypee Publications, 1998.
13. R.K. Chaube : Consumer Protection Act and Medical Profession, 1st Edition, 1999, Jaypee Brothers.

Model Checklists for Assessment of Scientific Papers for Publication

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality	10	

2.	Clarity & Quality of presentation	10	
3.	Relevance	10	
4.	Review of Literature	10	
5.	Quantum of works involved	15	
6.	Methodology, Sensitivity, sample size, controlled, not controlled study etc.	25	
7.	Advancement in knowledge	10	
	Total	90	

Signature of the Evaluator -----

Name -----

Designation -----

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
- 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.

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.

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 counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

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					
	Total Score					

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					
	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:

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					
	Total Score					

Check List - IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student:

Name of the Faculty:

Date:

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

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:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
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					
	Total Score					

LOG BOOK

Table 3 : Diagnostic and Operative procedures performed

Name:

Admission Year:

College:

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

- * 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/-