



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

Ordinance Governing
M. D. Anaesthesiology
Curriculum 2019-20

SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC 2018 dated 19th December 2018)

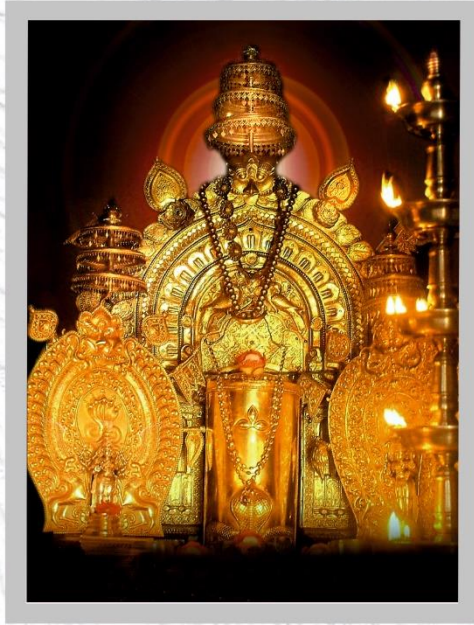
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|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

Edition Year : 2019-20

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THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with three wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.



SHRI
DHARMASTHALA
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UNIVERSITY

VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



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UNIVERSITY

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SDMU/Notif/28/2019

Date: 24-04-2019

NOTIFICATION

Regulations and Curricula of Medical Postgraduate Degree Courses in Clinical Subjects - 2019

- Ref:**
- Minutes of the Board of Studies - Medical PG held on 16-03-2019 (SDMU/BOS PG: 01/2019 dated 16-03-2019)
 - Minutes of the 1st Joint Faculty Meeting held on 19-03-2019 (Letter No: SDMU/JF/M-01/85/2019; Dated: 19-03-2019)
 - Minutes of the 1st Meeting of Academic Council held on 20-03-2019 (Letter No: SDMU/AC/M-01/93/2019; Dated: 21-03-2019)
 - Minutes of the 2nd Meeting of BoM held on 22-03-2019 (Letter No: SDMU/BoM/M-02/94/2019; Dated: 23-03-2019)

Ordinance: In exercise of the powers conferred under Statutes 1.1 (Powers - Section xii), 1.2 (Powers and Functions - Section vii), 1.4 (Powers and Functions - Sections ix & x), 1.5b (Powers and Functions - Sections b & c) of Shri Dharmasthala Manjunatheshwara University, the BoM is pleased to approve and notify the Ordinance governing Regulations and Curricula of the following Medical Postgraduate Degree/ Diploma Courses in Clinical Subjects - 2019:

Sl No	Course	Sl No	Course
1	M.D. (General Medicine)	7	M. D. (Hospital Administration)
2	M. D. (Pediatrics)	8	M. S. (General Surgery)
3	M. D. (Dermatology)	9	M. S. (Ophthalmology)
4	M. D. (Psychiatry)	10	M. S. (Orthopedics)
5	M. D. (Anaesthesiology)	11	M. S. (Otorhinolaryngology)
6	M. D. (Radio-Diagnosis)	12	M. S. (Obstetrics & Gynecology)

Diploma

- Diploma in Public Health

The ordinance shall be effective for the students joining the courses during 2019-20 and onwards.

By Order

REGISTRAR

- To:**
- The Principal, SDM College of Medical Sciences & Hospital.
 - Members of BoG, BoM & Academic Council, Shri Dharmasthala Manjunatheshwara University

- Copy to:**
- The Vice-Chancellor, Shri Dharmasthala Manjunatheshwara University
 - The Controller of Examinations, Shri Dharmasthala Manjunatheshwara University

MD Anaesthesiology

Goals and Objectives:

The MD Anaesthesiology is a 3-year postgraduate (PG) medical training programme, imparting theoretical, practical, medical research methods, ethical standards, communication skills, and teaching skills to the selected candidates. This should make them complete doctors to serve the society at all the levels by providing safe anaesthesia for various surgeries, pain relief, resuscitation, and respiratory therapy. The trainees will be rotated through cycles of exposure to all the subspecialties of anaesthesia for surgery, critical care and respiratory care.

General training structure:

- The academic progress for MD Anaesthesiology is an autonomous and self-learning experience.
- The trainee shall abide by the regulations and stipulations as laid by the MCI, Shri Dharmasthala Manjunatheshwara University and the Ministry of Health, both at the state and union levels.
- The training will be graded and comprehensive and will aim to deliver humane care to patients.
- The training is a full-time commitment; the trainee should be residential, committed full-time, continuous and gradual.
- During the first year of training, the student should be able to administer anaesthesia, under supervision, for ASA I and II patients coming for elective or emergency surgery. During the second year, administer anaesthesia for ASA III and IV patients coming for elective and emergency surgery. During the third year, the student should be exposed to managing critical patients for anaesthesia, patients in critical care, outside the OT, respiratory therapy, chronic and acute pain management.
- During the first two years of training, the Postgraduate student will learn all that is there to learn in anaesthesia for general surgery, orthopaedics,

obstetrics and gynaecology (including caesarean sections and obstetric pain relief), ENT surgery, ophthalmology and dentistry. During the final year, the student will be exposed to anaesthesia for neurosurgery, cardiac surgery, plastic surgery, neonatal surgery, joint replacement surgery, transplant surgery and oral and maxillofacial surgery.

- During all the three years, the student will be made to undertake clinical research and draw up a proposal for dissertation which has to be submitted to the University 6 months before the summative evaluation. The dissertation should be drawn up and written in an IMRAD format, which will be evaluated by a set of external examiners and approved before the summative evaluation. The proposal should also be evaluated and scrutinized by the Institutional Ethical Committee within six months of joining the PG course. The dissertation defence will be a part of the summative evaluation.
- The student will also learn to access the medical journals, both online and in print, and learn to critically evaluate the quality of journal articles in departmental meetings and classes. The PG students will be encouraged to do clinical studies on their own, analyse the results, prepare a scientific paper and publish it to the Society journal or at the State or National Conference. Reference citations, literature retrieval, review articles, are also part of their study.
- The PG student will be encouraged to take theory classes in the speciality to the undergraduate medical students, to be evaluated by one of the staff members for assessing the communication skills. The student will also prepare and present in the department seminars to exhibit communication and teaching skills. There will also be case discussions, short topics, faculty lectures, skill demonstrations and review articles discussion.
- The training includes on-call duties in the hospital for 24 hours at a stretch which accrue on an equal sharing with the other PGs. The on-call duties are implemented along-with breaks for refreshments, and sessions of rest/sleep.

- There will be formative and summative evaluations periodically. The formative evaluation marks will be used for refined training and performance, culminating in the summative evaluation.
- The formative evaluation in anaesthesia speciality generally is made up of theory in the form of short essays, MCQs, problem case discussions and viva voce involving drugs, discussions and equipment displays. OSCE could also form part of the evaluation process.
- The summative evaluation, at the end of 3 years, will be formal, facing the specially invited external examiners, and will consist of theory exam of essay pattern, problem case discussion and viva voce, pedagogy, dissertation defence, logbook presentation and patient monitoring simulation scenarios.
- The student should undergo compulsory training in BLS and ACLS under the jurisdiction of AHA and should possess a valid certificate issued by AHA.
- Under MCI stipulation, the student should attend at least 3 CME programmes/Conferences in the 3-year programme. Mere attendance at the conference is not enough; the student should work on a planned clinical study, write up a paper and present at the state level or national conference. The poster presentation is acceptable and counts as equivalent to the paper presentation.

STRUCTURED TRAINING PROGRAMME

Duration of Study

The period of training for obtaining the degree shall be three completed years including the period of examination.

Provided that in the case of students having a MCI/NMC recognised two year postgraduate diploma course in the same subject, the period of training, including the period of examination, shall be two years.

Orientation-

To the hospital, wards, operation theatres and peripheral areas

Anaesthesiology as a subject

Assigning Thesis guides

The curriculum shall train a candidate to manage anaesthesia in a competent, compassionate, supervised and caring manner.

Learning shall be self-directed and essentially autonomous.

Exposure to all the sub-specialities in anaesthesia shall be achieved.

A combination of formative and summative assessments shall ensure completion of goals and training.

1. GOALS:

To produce competent and compassionate specialists who

- a. Shall recognize the health needs and ethically carry out the professional obligations towards the patient
- b. Shall attain the required competence within all the sub-specialities in the speciality of anaesthesiology, enabling good practices at the secondary and tertiary levels of health care delivery
- c. Shall make efforts to update knowledge about the latest advances and developments in the field
- d. Shall acquire the basic skills to teach medical and para-medical professionals
- e. Shall orient oneself to the principles of research methodology and epidemiology

2. OBJECTIVES: (Based on Bloom's taxonomy of learning domains)

- A. Knowledge to be gained from the books
- B. Skills to be learned from the practical training
- C. Attitudes to be developed during the training period under a mentor

Teaching and learning methods:

- Introductory lectures
- Seminars, group discussions and symposia

- Problem case discussion, before and after the conduct of the case
- Journal club presentation and discussion
- Presenting in Conferences and attendance in CME's and Workshops
- Use of simulation methods for improving technical skills and understanding the clinical scenario.

The curriculum shall include:

- a. Anatomy, physiology and biochemistry which are relevant to anaesthesiology.
- b. Thorough knowledge of the pharmacokinetics and pharmacodynamics of anaesthetic and adjuvant drugs.
- c. Knowledge of cardiovascular, respiratory, neurological, hepato-biliary, renal and endocrine homeostasis and related drugs used in patients undergoing anaesthesia.
- d. Physics and principles involved in the construction and functioning of anaesthesia equipment.
- e. Knowledge of the commonly used techniques in General, Regional and Local anaesthesia.
- f. Understanding the concept of unconsciousness and its implications in anaesthesia.
- g. Knowledge and management of acute and chronic pain.
- h. Knowledge of intensive care/therapy.
- i. Knowledge of medical statistics.
- j. Knowledge and skills in cardiopulmonary resuscitation.
- k. Knowledge of medical ethics.

3. COMPONENTS OF POST-GRADUATE CURRICULUM:

FIRST YEAR: BASIC TRAINING

Basic Science: Knowledge

Post-graduates should understand the principles involved in the measurement of relevant variables and the requirements of equipment and monitoring in anaesthesia. Knowledge is expected in the areas outlined below:

Physics and Clinical Measurement: Principles of Measurement

- SI units
- The behaviour of fluids (gases and liquids)
- Flow of fluids
- Measurement of volumes, flows, and pressures
- Measurement of temperature
- Humidification
- Oximetry
- Analysis of gases
- Capnography
- Electrical safety
- Fires and explosions
- Equipment design and standards
- Gas supply in bulk and cylinders
- Anaesthesia delivery system, including pressure valves and regulators
- Vaporisers
- Breathing systems
- Airway devices (laryngoscopes, endotracheal tubes, tracheostomy tubes, face masks, laryngeal masks, airways)
- Anaesthesia record – Manual and electronic record keeping
- Minimum monitoring standards
- Additional monitoring when appropriate (central venous pressure, pulmonary artery pressure, cardiac output, cerebral function, temperature, coagulation, blood loss, blood sugar)

Preoperative Assessment / Pre-anaesthesia clinic

- Appropriate history taking

- Physical examination including airway assessment, respiratory, cardiovascular and neurological examinations
- Referral to other specialists as necessary
- Establishment of a rapport with the patient to provide reassurance, disclosure of risk information, and discussion on informed consent
- Communication and consultation skills face-to-face, by phone and in writing
- Pulmonary function tests
- Measurement of cardiovascular function
- Interpretation of common imaging investigations

Conducting Anaesthesia

- Applied cardiac and respiratory physiology
- Applied pharmacology and variability in drug response
- Selection and planning of the anaesthesia technique
- Decision-making relating to postponement or cancellation of surgery
- Routine inhalation and intravenous inductions
- Maintenance of anaesthesia
- Correct usage of anaesthesia delivery systems
- Application and interpretation of monitored variables and neuromuscular blockade
- Use of muscle relaxants
- Application of mechanical ventilation
- Management of the airway and intraoperative complications
- Common regional anaesthesia techniques (e.g. epidural/spinal anaesthesia and Regional Nerve blocks)
- Maintenance of accurate records

Postoperative Care

- Safe recovery, transport and handover in the post-anaesthesia recovery room
- Post-operative consultations

- Management of postoperative pain, fluid requirements, and nausea and vomiting

Communication skills

- Call for help as necessary
- Establishing rapport with patients and relatives, especially in PACU, ICU.
- To obtain informed consent from patients or relatives
- Documentation of events for legal coverage, future verification, research activities and medical audit
- To practise good communication with colleagues, patients and others
- To work as a member of a team, but to assume responsibilities and/or delegate duties as a team leader when necessary
- To commit to, and believe in, a culture of safety and ethical, high-quality care
- To be aware of medico-legal obligations relating to medical practice
- To have insight into one's own limitations, abilities and areas of expertise
- To commit to continuing professional development

Basic Sciences: Clinical skills

- Post-graduates should provide safe anaesthesia management for uncomplicated patients undergoing surgery.
- Post-graduates should be competent in the following technical skills -
 - I. Maintenance of airway
 - II. Rapid sequence induction and intubation
 - III. Aseptic techniques
 - IV. Venous access
 - V. Arterial blood gas collection
 - VI. Arterial cannulation
 - VII. Central venous cannulation
 - VIII. ECG recording and interpretation

IX. Lumbar puncture

X. Blood culture collection

- Emergency management of common and uncommon complications
- Post-graduates should be familiar with the following clinical protocols in the delivery of safe anaesthesia care and be able to respond accordingly in crisis management
 - i) Checking of the anaesthesia machine
 - ii) Airway assessment; the anticipation of difficult airway and its management.
 - iii) Inadequate airway; failed intubation, obstructed airway, oesophageal intubation, endobronchial intubation and unplanned extubation
 - iv) Anaphylaxis
 - v) Residual neuromuscular blockade

Basic Sciences: Educational skills

- Developing a study plan for the rest of the training period
- Linking basic science teaching with clinical practice, studying effectively
- Participating in small-group learning and educational activities
- Be aware of decision-making processes
- Managing time effectively for study, work and home/leisure
- Giving and receiving feedback
- Developing insight into personal limitations
- Using the Internet for academics and communication
- Conducting anaesthesia literature search
- Appraising journal articles including the application of statistics
- Carrying out oral presentations and professional communication

OBSTETRIC ANAESTHESIA AND ANALGESIA: KNOWLEDGE

- Anatomy and physiology relevant to pregnancy

- Anaesthesia for elective obstetric procedures
- Anaesthesia for emergency obstetric procedures
- Pre-anaesthesia assessment of the pregnant patient and identification of high-risk patients, bleeding disorders, renal disease and neuromuscular disease
- Pre-eclampsia and eclampsia, pathophysiology and management
- Management of severe haemorrhage; surgical, antepartum and postpartum
- Pain management in obstetrics – Labour analgesia
- Amniotic fluid, air and pulmonary embolism, pathophysiology and management
- Neonatal resuscitation
- Apgar score and other evaluations
- Anaesthesia for non-obstetric surgery
- Maternal morbidity and mortality; incidence, legal and ethical issues

II. SECOND YEAR- ADVANCED TRAINING:

Research and Scientific Enquiry: Knowledge

- Proposing a hypothesis
- Information search and literature review
- Ethical principles in research methodology
- Research design, bias and appropriate methods of measurement
- Data collection and storage
- Good record keeping
- Common statistical tests and application of statistics
- Interpretation of results
- Responsibilities of the investigator to the ethics committee
- Principles of writing a scientific paper
- Principles of oral or poster presentation of a paper
- The process of obtaining funding and writing a basic grant application

Research and Scientific Enquiry: Clinical-Skills

- Post-graduates should acquire skills in scientific learning as a medical specialist
- Carrying out oral presentations and professional communication
- Presenting quality assurance exercises or projects
- Developing facilitation skills, such as tutoring in small-group learning and conducting small-group meetings
- Clinical application and performance of thesis/Dissertation in the prescribed period

Research and Scientific Enquiry: Attitudes

- Post-graduates should develop an appreciation of and continued research and scientific enquiry
- Valuing rigorous educational and scientific processes
- Distinguishing between practice with a sound scientific basis and that which requires a further objective assessment
- Committing to informed consent, confidentiality and all other ethical principles of research
- Committing to continuing professional development

Procedural Skills expected to be performed, assisted and observed

Procedure	Category	Post-graduation Year	Number expected
Insertion of IV Cannula	PI	1	100
Nasogastric tube insertion	PI	1	100
Oro-tracheal Intubation	PI	1/2/3	200
Naso-tracheal Intubation	PI	2/3	25
LMA insertion	PI	1/2/3	100
Subarchnoid Block	PI	1/2/3	200
Epidural Block (including caudal)	PI	1/2/3	50
Brachial Plexus Block	PI	1/2/3	25
Three In one block, Sciatic Block	O, PA	1/2/3	5
Abdominal wall blocks	PI, PA	1/2/3	10
Arterial Cannulation	PI	2/3	10
Insertion of CVC	PI	2/3	20
Fibreoptic bronchoscopy	PA	2/3	5
Insertion of Intercostal drain	O	2/3	5
Percutaneous Tracheostomy	O, PA	2/3	2
Ventilator management in ICU	PI, PA	1/2/3	10
ACLS	PI	1/2/3	NA
Labour analgesia	PI, PA	1/2/3	5
Patient-Controlled Analgesia	PA	1/2/3	5
Stellate Ganglion Block	O	1/2/3	2
Fluoroscopy guided chronic pain procedures	O	1/2/3	5

PI: Individually performed, PA: Personally assisted, O: Observed

ANAESTHESIA FOR ELECTIVE AND EMERGENCY SURGERY: KNOWLEDGE

Preoperative evaluation and resuscitation

- Thromboembolism prophylaxis
- Perioperative and prophylactic antibiotics
- Regional anaesthesia for abdominal, vascular, and imaging procedures
- Informed consent
- Postoperative care, Management of postoperative pain, phantom-limb pain and pain from the injury
- Anaesthesia for ENT surgery
- Anaesthesia for Trauma Surgery
- Management of burns and anaesthesia
- Managing coagulopathies.
- Transport of trauma patients intra and inter-hospital and including monitoring
- Anaesthesia for Dental surgery
- Anaesthesia for Eye surgery
- Anaesthesia for Maxillofacial, Thyroid, and Head and Neck Surgery
- Anaesthesia for paediatric surgery

Co-existing Medical Conditions Relevant to Anaesthesia

- Endocrine disorders
- Disorders of the cardiovascular system
- Disorders of the respiratory system
- Disorders of the nervous system
- Disorders of the liver, biliary tract and gastrointestinal system
- Renal disorders
- Water, electrolyte and acid-base disturbances
- Haematological disorders including coagulopathies
- Skin and musculoskeletal disorders

- Psychiatric disorders and substance abuse
- Disorders associated with ageing
- Obesity

Pain Medicine:

- Knowledge: Pain mechanism, Pathways, Relief
- Analgesics
- Nerve blocks and other methods
- Multimodal analgesic methods
- Understanding of common chronic pain conditions and common interventions in their management
- Palliative and cancer pain management

Critical Care Medicine:

The PG should understand all about:

- Acute Circulatory Failure
- Respiratory Failure
- Renal Failure
- Neurological Failure
- Severe Trauma
- Oxygen and ventilatory therapy
- Sepsis and infection control methods
- Management of major haemorrhages
- Nutrition in ICU
- Imaging in ICU
- Invasive procedures in the ICU like percutaneous tracheostomy
- BLS and ACLS, ATLS

Organ Transplantation –

Anaesthesia for organ transplantation including:

- Legal and ethical considerations of organ harvesting and transplantation
- Brain death and the legal definition of death
- Physiological and pharmacological considerations involved in organ transplantation surgeries

Anaesthesia for Patients with Pulmonary Disease:

- The postgraduate should be trained in handling patients coming for thoracic surgery. The training should include the understanding the types of double-lumen, endobronchial tubes and bronchial blockers
- Fiberoptic bronchoscopy of airways
- Chest tube drainage systems and suction

Anaesthesia for Cardiac and non-cardiac surgery

Post-graduates should be Competent in the following

- a. Interpretation of ECGs and ECG monitoring
- b. Interpretation of chest x-rays and common chest CT and MRI imaging films
- c. Anaesthetic management of On pump and Off pump cardiopulmonary bypass surgeries
- d. Anaesthetic management of paediatric and adult congenital and cardiac valvular surgeries.
- e. Basic trans-oesophageal echo examinations (subject to local practices)
- f. Use of cardiac pacemakers
- g. Exposure to the use of intra-aortic balloon pump

Neuroanaesthesia

- Principles of neurophysiology and neuroanatomy
- Principles of neuro-anaesthesia and cerebral protection
- Electrophysiological monitoring, e.g. evoked potentials

Anaesthesia for Neurosurgery

Understanding the assessment, anaesthesia and perioperative care of patients for:

- Intracranial vascular surgery
- Supratentorial surgery
- Posterior fossa surgery
- Pituitary surgery
- 'Awake craniotomy'
- Spine surgery
- Head injury

Professionalism and Ethics:

To commit to, and believe in the ethical and professional principles –

The best care for the patient must be the principal driving force of practice

Patient autonomy: patients' ability to determine their treatment

Beneficence: the principle of "doing good" to patients

Non-maleficence: the principle of not harming patients

Fidelity: faithfulness to one's duties and obligations. This principle underlies excellence in patient care, confidentiality, telling the truth, a commitment to continuing professional development and lifelong learning, and not neglecting patient care

Social justice: the right of all patients to be fairly treated

Duty to oneself: in terms of personal health care, and maintenance of competence to practise

Accountability: the anaesthetist is responsible for the actions initiated.

Honour and integrity: in all conduct, including the generation and use of resources

Respect for others: work as a team and practise conflict resolution.

The appropriate response to clinical error

Patient Considerations:

- To commit to, and believe in, the rights of patients concerning: Autonomy
- Confidentiality of the doctor-patient relationship
- Appropriate, excellent clinical care, including pre-operative assessment
- Informed consent
- Comprehension of the risks of anaesthesia techniques
- Appropriate care irrespective of race, culture, gender and socio-economic status
- To commit to the ethical principles of research
- To value rigorous educational and scientific processes

Logbook

The PG student shall maintain a record (log) book of the work carried out by them and the training Programme undergone during the period of training. It should contain the following details:

- Procedures performed
- Lectures attended
- Journal club activities
- Seminars conducted by them
- Clinical Meetings/CME/Conferences attended
- Scientific studies conducted by them and published
- Complications encountered and managed

A periodic review of the logbook has to be done in the department by the guide/HOD once in every 6 months

Dissertation:

The topic for the dissertation should be registered and sent to the University after Ethical Committee approval before 31st December of the first Post Graduate Year (PG

1). Only one change of topic with proper justification from the Head of the Department is permitted before 31st March of PG 1. The change of dissertation title will not be permitted after 31st March. As per MCI Clause 14 (4) (a), the thesis shall be submitted at least 6 months before the Theory and Clinical/Practical Examination. The periodical evaluation of dissertation/logbook should be done at least once in **every six months** by the guide /HOD.

THEORY EXAMINATIONS:

Theory examination will comprise 4 papers

Topics generally covered in 4 theory papers are as follows, (But need not be restricted to only these topics)

Paper I - Applied Basic Sciences related to Anaesthesia (including Physics in Anaesthesia, Clinical Research, Statistics, History of Anaesthesia)

Paper-II – Clinical Anaesthesia applied to the common specialities

Paper III – Clinical Anaesthesia as applied to super-specialities

Paper IV - Critical Care, Recent Advances in Anaesthesiology, Pain management

All the four question Papers will have the following pattern

Short answer essay questions, 10 in number, 10 marks each = Total 100 marks each paper

CLINICAL EXAMINATION:

Practical Case scenarios:

Long case: 1 case

Examination by the candidate for about 40 minutes

Presentation and discussion for about 20 minutes

Short cases: 2 in number

Examination by the candidate: 15 minutes each

Presentation and discussion: 15 minutes each

Total marks for case scenario session 200 marks

Assessment will involve Pedagogy (20 minutes), assessment of Logbook, defence of Dissertation.

VIVA for about 15 minutes for each station 4 stations.

Anaesthesia Machine including Vaporisers, Circuits, Monitors Drugs, IV fluids, Instruments Investigation charts, ECG, Arrhythmia simulator, X-rays, ABG CPR mannequin, difficult airway mannequin, defibrillator, ventilator

Total Viva Marks 100

Aggregate Total (Clinical + Viva) = 300

Minimum required marks for pass (50%)

Dissertation Approved/Not approved

Maximum marks for	Theory	Practical	Viva	Total
M.D examination	400	200	100	700

Recommended Books:

1. Miller's Anaesthesia
2. Morgan and Mikhail's Clinical Anaesthesiology
3. Clinical Anaesthesia; Paul Barash
4. Oxford Handbook of Anaesthesia
5. Text Book of Anaesthesia – A.R. Atkinhead and G Smith
6. Anaesthesia and Co-existing diseases: Stoelting
7. Basic Physics and Measurement in Anaesthesia; Paul Davis, Kenny
8. Anaesthesia Equipment: Principles and Applications. Ehrenwerth, Eisenkraft, Berry
9. Understanding Anaesthesia Equipment: Dorsh and Dorsh
10. Ward's Anaesthesia Equipment
11. Drugs and Equipment in anaesthesia practice; Arun Kumar Paul

12. Stoelting's Pharmacology and Physiology in Anaesthesia Practice – Pamela Flood , James P Rathmell , Steven Shafer
13. Yao and Atrusio's Anaesthesiology; Problem-oriented Patient Management
14. Airway Management principles and Practice; Benumof
15. Obstetric Anaesthesia: Principals and Practice; Chestnut
16. Shnider and Levinson's Anaesthesia for Obstetrics
17. Gregory's Paediatric Anaesthesia
18. Anaesthesia for infant and children; smith
19. Cardiac Anaesthesia- Kaplan
20. Thoracic Anaesthesia- Kaplan and Peter Slinger
21. A Practical Approach to Cardiac Anaesthesia: Donald Eugene Martin, Frederick A. Hensley, and Glenn P. Gravlee
22. Cottrell and Young's Neuroanesthesia
23. The ICU Book; Paul Marino
24. Critical Care Secrets; Polly E Parsons
25. Washington Manual of Critical care
26. Regional Nerve Blocks; Sandeep Diwan
27. Manual of Pain Management; Warfield
28. Clinical Methods in Pain Medicine; Gautam Das
29. Basics of Pain Management; Gautam Das
30. Regional Anaesthesia and Pain Management; G P Dureja

Recommended Journals:

1. Indian Journal of Anaesthesia
2. British Journal of Anaesthesia
3. Anaesthesiology
4. Anaesthesia and Analgesia
5. Anaesthesia
6. Acta Anaesthesia Scandinavia
7. European Journal of Anaesthesia
8. Canadian Journal of Anaesthesia
9. Anaesthesia Clinics
10. Clinics of North America in Anaesthesiology
11. Indian Journal of Anaesthesiology and Clinical Pharmacology
12. Karnataka Anaesthesia Journal



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