All India Institute of Medical Sciences (AIIMS) Kalyani

Department of Anaesthesia and Intensive Care

Proposal for B.Sc Operation Theatre Technology Course

Operation Theatre Technology

An operation theatre (OT) technologist forms an intrinsic part of any hospital. An OT professional is the one, who facilitates the surgical procedures, planned and emergency both, by preparing in advance the equipment that are necessary for any surgical procedures. He/she also looks after all the work and management of the operation theatre which includes managing the patients in & out of operation theatre, looking after all the surgical equipment, arrangement of operation theatre table, dressing table, anesthesia table as well as management of the staff. As the surgical branch has various specialty including General Surgery, OBG, Cardiac, Ortho and genito-urinary, the OT technologist needs to know about these various specialties.

Scope of practice

a. Setup, check, and maintain anesthesia machine, monitors life support equipment like airway equipment, ventilator, emergency equipment, defibrillator, anesthetic and resuscitation drugs.

b. Orders, Maintains and keep records of all anesthesia equipment and drug.

c. Assist Anesthetist in patient procedures like setting up of invasive lines, airway management, setting up of monitors and administer anesthesia to patient

d. Assists during emergency situations by assisting in basic and advanced life support, critical events

e. Prepares and maintains operation table, light, electric cautery, tourniquets etc.

f. Management of central sterile services department. Packing of equipment and linen. Sterilization procedures like autoclaving, plasma sterilization and disinfection procedures as per guidelines, checking, storage and dispatch.

g. Management in Intensive Care unit and emergency department of equipment like ventilators, monitors, infusion pumps, defibrillators etc.

h. Assist disaster team in disaster situations and national emergencies on field and safe transport in ambulance.

i. Assist anesthesia and surgical team in all kinds of surgical disciplines.

j. Assist anesthetist during anesthesia procedures outside operation theatres like CT and MRI suits, Cardiac catheterization laboratory, pain relief procedures etc.

Teaching Faculty and Infrastructure

The importance of providing an adequate learning environment for the students cannot be over emphasized. Both the physical infrastructure and the teaching staff must be adequate. Teaching areas should facilitate different teaching methods. Where students share didactic lectures with other disciplines (e.g. nurses) large lecture theatres may be appropriate, but smaller teaching areas should also be provided for tutorial and problem/case-based learning approaches. In all venues where students are placed the health and safety standards must be adhered to.

The aims of the recommended curriculum are to produce OTTs who are

- Technically and clinically competent;

- Aware of safety issues and the importance of quality assurance;

- Understand the theoretical basis for evidence based practice;

- Effective members of the multidisciplinary team;

- Prepared to participate in or initiate research into practice;

- Can work according to registration requirements on the respective continents.

Eligibility for admission Selection Procedure:

1. He/she has passed the Higher Secondary (10+2) or equivalent examination recognized by any Indian University or a duly constituted Board with pass marks (50%) in physics, chemistry, biology/mathematics. OR Diploma in Operation Theatre Technology after completing 12th class/ 10 +2 of CBSE or equivalent with minimum aggregate of 50% marks in physics, chemistry and biology/mathematics provided the candidate has passed in each subject separately.

2. He/she has attained the age of 17 years as on - (current year) & maximum age limit is 30 years.

3. He/she has to furnish at the time of submission of application form, a certificate of Physical fitness from a registered medical practitioner and two references from persons other than relatives testifying to satisfactory general character.

Duration of the course:

4 years

(3 years of theory and practical classes and 1 year of internship)

Medium of instruction:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

Attendance: A candidate has to secure minimum

1. 75% attendance in theoretical

2. 80% in Skills training (practical) for qualifying to appear for the final examination.

Assessment: Assessments should be completed by the academic staff, based on the compilation of the student's theoretical &clinical performance throughout the training programme. To achieve this, all assessment forms and feedback should be included and evaluated.

Syllabus

I YEAR SYLLABUS

S.no	Name of the subjects	Total hours allotted
1.	Anatomy	60 hours per year
2.	Physiology	60 hours per year
3.	Biochemistry	45 hours per year
4.	Pathology	45 hours per year
5.	English	30 hours per year
6.	Basics of computer science	30 hours per year
7.	Clinicals / Theatres in the mornings	12 hours per week

*** CLINICALS/THEATRES

1. I V fluids and Transfusion related matters
2. Dressing, sutures, bandages and plasters
3. Recovery room and nursing care
4. Pre•Operative and Post•Operative Management of Patients
5. Patient handling and Transportation to and from the Operation theatre
6. Universal precautions for HIV Positives, HBsAg Positive
7. Introduction to Operating room
   - Ethics, Discipline, Lay out, Equipments • Lights, OT table, suction, scrub station
8. Electrical Devices – Electro cautery, Laser, Harmonic, Ligasure
9. Power Surgical Instruments – Drills Saw, Reamer
10. Common General Surgical Operations and Dressings

Paper •I : Basic Science

BASIC ANATOMY

THEORY

Introduction to Anatomy

Basic Anatomical terminologies

Osteology• Upper limb – clavicle, scapula, humerus, radius, ulnaLower limb • femur, hipbone, sacrum, tibia, fibula Vertebral column

Thorax – Intercostal space, pleura, bony thoracic cage, ribs sternum & thoracic vertebrae, Muscles of Thorax, Diaphragm, Lungs

Airway – Larynx, Trachea, bronchial tree

Heart – Surface anatomy of heart, chambers of the heart, valves of the heart, majorblood vessels of heart, pericardium, coronary arteries.

Excretory sytem – Kidneys, ureters, bladder, urethra

Liver

Central Nervous system

PRACTICALS

Mannequins to be provided for Teaching

Osteology – Bones identification (right and left side) and prominent features ofclavicle, scapula, radius, ulna, humerus, femur,hip bone, sacrum, tibia, fibula.

Surface Anatomy, Radiology, X•ray Chest PA view, X•ray of limbs and X•ray abdomen:• •Names Views andidentification

Specimens/Models, OSPE charts.

PHYSIOLOGY

THEORY

1) The Cell:

(I) Cell Structure and functions of the variousorganelles.
(II) (ii) Endocytosis and exocytosis
(iii) Neuro muscular junction

2) The Blood:

(i) Composition of Blood, functions of the blood and plasma proteins:•
(ii) Function of Hemoglobin
(iii) Erythrocyte Sedimentation Rate.
(iv) Detailed description about WBC•Total count (TC), Differential count (DC) andfunctions.

(v) Platelets – formation and normal level and functions
(vi) Blood groups and Rh factor

3) Cardio•Vascular System:

(i) Physiology of the heart
(ii) Heart sounds
(iii) Cardiac cycle, Cardiac output.
(iv) Auscultatory areas.
(v) Arterial pressures, blood pressure
(vi) Hypertension
(vii) Electro cardiogram (ECG)
(viii) Cardio Pulmonary Resuscitation

4. Respiratory system:

(i) Respiratory movements.
(ii) Definitions and Normal values of Lung volumes and Lung capacities.(iii). Oxygen saturation of Blood, Pulse Oximeter
(iv) Surfactants

5. Excretory system:

(i) Normal Urinary output
(ii) Micturation
(iii) Renal function tests

6. Reproductive system:

- Reproductive organs
- Brief account of menstrual cycle.

7. Central Nervous system:

(i)Functions of CSF
(ii)Functions of Cortex
(iii)Steep cycle
(iv)Reticular activating system

8. Endocrine system:

Functions of the pituitary, thyroid, parathyroid, adrenal and pancreatic Hormones.

9. Digestive system

(i) Physiological Anatomy of the GIT.
(ii) Food Digestion in the mouth, stomach, intestine
(iii) Absorption of foods and gastric emptying
(iv) Role of bile in the digestion.
(v)Vomiting mechanism

PRACTICAL

1) The Compound Microscope
2) Determination of Pulse rate – Details on Pulse
3) Determination of Blood Groups.
4) Measurement of human blood pressure.
5) Examination of Respiratory system to count respiratoryrate and measure inspiration and Expiration

BIO-CHEMISTRY

Cellular Metabolism

(I) Enzymes
(II) Co•enzymes
(III) Glucose Metabolism
(IV) Urea Cycles

(V) Protein & lipidClassifications and functions. **Vitamins & Minerals:**

Fat soluble vitamins(A,D,E,K) – Water soluble vitamins – B•complex vitamins• principal elements(Calcium, Phosphorus, Magnesium, Sodium, Potassium, Chlorine and sulphur)• Trace elements – Basal metabolic rate(BMR) – respiratory quotient(RQ) Specific dynamic action(SDA) – Balanced diet – Nutritional deficiency like Marasmus – and Kwasoirkar

Acids and bases:

Definition, pH, Henderson – Hasselbalch equation, Buffers, Indicators, Normality, Molarity, Molality, Blood Gas Analysis

BIOCHEMISTRY SYLLABUS FOR PRACTICALS

1. Benedict's test
2. Heat coagulation tests

PATHOLOGY

1. Cellular adaptation, Cell injury & cell death. Introduction to pathology.

   Overview: Cellular response to stress and noxious stimuli. Cellular adaptations of growth and differentiation. Overview of cell injury and cell death. Causes of cell injury. Mechanisms of cell injury. Reversible and irreversible cell injury. Examples of cell injury and necrosis

2. Inflammation.

   General features of inflammation, Acute inflammation, Chemical mediators of inflammation, Chronicinflammation

3. Immunity disorders.

   General features of the immune system, Disorders of the immune system, Hyper sensitivity reaction – I, II, III, IV

4. Infectious diseases.

   General principles of microbial pathogenesis

Viral infections – HBV, HCV, HIV, CMV
Bacterial infections- Staphylococci, streptococci, E-Coli, Salmonella,Tuberculosis.
Fungal infections Parasitic
infectionsTORCH infection

5. Neoplasia Definition
   Nomenclature
   Biology of tumor growth benign and malignant neoplasms
   Carcinogenic agents and their cellular interactions Clinical features of tumors

6. Environmental and nutritionaldisorders. Occupational Hazards
   Radiation injuryMarasmus Kwashiorkar

PRACTICAL SYLLABUS:-

Specimens,
Models, OSPE,
Stations,
CHARTS

ENGLISH

Role of communication Defining Communication Classification of communicationPurpose of communication
Major difficulties in communicationBarriers to communication
Characteristics of successful communication – Theseven Cs Communication at the work place
Human needs and communication "Mindmapping" Information communication

Comprehension passage:

Reading purposefully
Understanding what is read
Drawing conclusion Finding
and analysis

Explaining:-

How to explain clearly
Defining and giving reasons
Explaining differences
Explaining procedures
Giving directions

Writing business letters:-

How to construct correctly
Formal language
Address
Salutation
Body
Conclusion

Report writing:
Reporting an accident
Reporting what happened at a session
Reporting what happened at a meeting

BASICS OF COMPUTER

SCIENCE<u>COURSE CONTENT:</u>

Introduction to computer – I/O devices – memories – RAM and ROM – Different kinds of ROM – kilobytes. MB, GB their conversions – large computer – Medium, Micro, Mini computers – Different computer languages – Number system – Binary and decimal conversions – Different operating system – MS DOS – Basic commands
– MD, CD, DIR,TYPE and COPY CON commands – Networking – LAN, WAN,MAN(only basic ideas)

Typing text in MS word – Manipulating text – Formatting the text – using different font sizes, bold, italics – Bullets and numbering – Pictures, file insertion – Aligning the text and justify – choosing paper size – adjusting margins – Header and footer, inserting page No's in a document – Printing a file with options – Using spell check and grammar – Find and replace – Mail merge – inserting tables in a document.

Creating table in MS-Excel – Cell editing – Using formulas and functions – Manipulating data with excel – Using sort function to sort numbers and alphabets– Drawing graphs and charts using data in excel – Auto formatting – Inserting data from other worksheets.

Preparing new slides using MS-POWERPOINT – Inserting slides – slide transition and animation – Using templates – Different text and font sizes – slides with sounds – Inserting clip arts, pictures, tables and graphs – Presentation using wizards.

Introduction to Internet – Using search engine – Google search – Exploring the next using Internet Explorer and Navigator – Uploading and Download of files and images – E-mail ID creation – Sending messages – Attaching files in E-mail – Introduction to "C" language – Different variables, declaration, usage – writing small programs using functions and sub – functions.

PRACTICAL

Typing a text and aligning the text with different formats using MS-Word
Inserting a table with proper alignment and using MS-Word

Create mail merge document using MS-word to prepare greetings for 10 friends
Preparing a slide show with transition, animation and sound effect using MS-Powerpoint

Customizing the slide show and inserting pictures and tables in the slidesusing MS-powerpoint

Creating a worksheet using MS-Excel with data and sue of functions
Using MS-Excel prepare a worksheet with text, date time and data
Preparing a chart and pie diagrams using MS-Excel

Using Internet for searching, uploading files, downloading filescreating e-mail ID Using C language writing programs using functions

B.Sc. Operation Theatre & Anaesthesia Technology Course

II year syllabus

S.no.	Name of the subjects	Total hours allotted
1.	Pharmacology	60 hours per year
2.	Microbiology	60 hours per year
3.	Medicine & medical ethics	60 hours per year
4.	Principles of anaesthesia- I	90 hours per year
5.	Clinicals/theatres in themornings	12 hours per week

SYLLABUS FOR CLINICALS/THEATRES

1. Sterilization assembly and packing
2. Principles of Sterile Techniques – Surgical scrub, gowning and gloving
3. Surgical instrumentation, handling instruments

Paper-1: Pharmacology and Microbiology

Pharmacology

ANTISIALAGOGUES
Atropine, Glycophyrrolate

SEDATIVES I ANXIOLYTICS
Diazepam, Midazolam, Phenergan, Lorazepam, Chloropromazine,Trichlopho

NARCOTICS
Morphine, Pethidine, Fentanyl, Pentazozine

ANTIEMETICS
Metaoclopramide,Ondanseteron, Dexamethasone

ANTACIDS
Na citrate, Gelusil, Mucaine gel.

H2 BLOCKERS
Cimetidine, Ranitidine, Famotidine

INDUCTION AGENT
Thiopentone , Diazepam, Midazolam, Ketamine, Propofol, Etomidate.

MUSCLE RELAXANTS
Depolarising - Suxamethonium,
Non depolar:sing -Pancuronium, Vecuronium, Atracurium, rocuranium

INTRODUCTION TO GENERAL ANAESTHESIAINHALATIONAL GASES
Gases - 02, N20, Air
Agents - Ether-, Halothane, Isofllurane, Saevoflurane, Desflurane

REVERSAL AGENTS
Neostigmine, Glysopyrrolate, Atropine,
Nalorphine, Naloxone, Flumazenil (Diazepam)

ANTISEPTICS AND DISINFECTANTS

STERILSATION AND CLEANING OF SURGICAL EQUIPMENTS

LOCAL ANAESTHETICS

Xylocaine, Preparation, Local – Bupivacaine - Topical, Prilocaine-jelly, Emla - Ointment, Etidocaine. Ropivacaine

EMERGENCY DRUGS

- Adrenaline : Mode or administration, dilution, dosage,
- Effects, Isoprenaline
- Atropine, bicarbonate, calcium, ephedrine, xylocard,
- Ionotropes : dopamine, dobutamine, amidaron
- Aminophylline, hydrocortisone, antihistamlnics, potassium.
- Cardlovascular drugs
- Antihypertensives
- Antiarhythmics
- Beta - Blockers
- Ca - Channel blockers.
- Vasodilators - nitroglycerin & sodium nitroprusside
- Respiratory system - Bronchodilators, respiratory stimulants Broncholytic agents
- Renal system - Diuretics,furosemide,mannitol
- Obstetrics - oxoytocin,methergin
- Miscellaneous - Antibiotics NSAIDS Anticoagulants and Insulin

SYLLABUS FOR PRACITALS:-

Specimens, drugs, OSPE charts

Microbiology

- Sterilization &decontamination- I
  - Dry
  - Filtration
  - General Principles Acepsis
- Wound Infection & Urinary Tract Infections
- Blood stream Infections
- Respiratory tract Infcetion
- S.Typhi, Salmonel1a Paratyphi 'A', Salmonella Typhimurium

- Catheter, IV associated Infections
- Hospital acquired infections & prevention of hospital acquired infections
- Hepatitis C, HBV, HIV

* Hyper sensitivity reaction – Type I, II, III, IV

Biomedical Waste Management

SYLLABUS FOR PRACTICALS

Biomedical waste management, colour code
OSPE charts

Paper-2: Medicine and Medical Ethics

MEDICINE

1. Disorder of haemopoiesis - Anaemias - iron deficience anaemia
2. Infections diseases - Sepsis and septic stock, fever of unknown origin, infective endocarditis, infective of skin, muscle, soft tissue, infection control in hospital, diseases caused by bacteria, viruses, myobacterm, viruses, fungi and protozoa and helminthes, common secondary infection in HIV.
3. Diseases of CVS - congenital RHD - Rheumatic fever, CAD, Peripheral vasculardiseases.
4. Respiratory system - asthma pneumonia
5. Kidney & Urinary tract - acute renal failure, Glomerulonephritis,Haemodialysis, Transplant, Urinary tract infection

a. Liver and biliary tract disease - Viral hepatitis, alcoholism
b. Endocrinology and metabolism - Diabetes mellitus, Hyper - and hypothyroidism
c. Pain Medicine

MEDICAL ETHICS

1. Medical ethics - Definition - Goal - Scope
2. Code of conduct - Introduction –
3. 3. Basic principles of medical ethics – Confidentiality
4. Malpractice and negligence - Rational and irrational drug therapy
5. Autonomy and informed consent - Right of patients
6. Care of the terminally ill- Euthanasia
8. Organ transplantation

9. Medico legal aspects of medical records – Medicolegal case and type- Records and document related to MLC - ownership of medical records - Confidentiality Privilege communication - Release of medical information - Unauthorized disclosure - rentention of medical records - other various aspects

SYLLABUS FOR PRACTICALS

Specimens
OSPE charts

Paper:3 - **PRINCIPLES OF ANAESTHESIA - I**

1. MEDICAL GAS SUPPLY

- Compressed gas cylinders
- Colour coding
- Cylinder valves; pin index.
- Gas piping system
- Recommendations for piping system
- Alarms & safety devices.

2. ANAESTHESIA MACHINE

- Hanger and yoke system
- Cylinder pressure gauge
- Pressure regulator
- Flow meter assembly
- Vapourizers - types, hazards, maintenance, filling and draining, etc.

3. BREATHING SYSTEM

- General considerations: humidity & heat
- Common components - connectors, adaptors, reservoir bags.
- Capnography ETC o2
- Pulse oximetry
- Methods of humidification.
- Classification of breathing system Mapleson system - a b c d e fJackson Rees system, Bain circuit
- Non rebreathing valves - ambu valves
- The circle system Components Soda lime, indicators

4. FACE MASKS & AIRWAY LARYNGOSCOPES

- Types, sizes
- Endotracheal tubes - Types, sizes.
- Cuff system

- Fixing, removing and inflating cuff, checking tube position complications.

* Bousie
* LMA

5. ANAESTHESIA VENTILATOR AND WORKING PRINCIPLES.

6. MONITORING

- ECG
- Sp02
- Temperature
- IBP
- CVP
- PA Pressure
- LA Pressure

Bio Medical engineering of Trouble sorting Management, care of cleaning

7. BASIC ANAESTHETIC TECHNIQUES INTRODUCTION TO ANAESTHESIA

- General Anaesthesia
- Regional Anaesthesia
- Local Anaesthesia
- Intravenous Anaesthesia
- Minimum standard of anaesthesia
- Who should give anaesthesia?

PRE-OP PREPARATION:

Pre anaesthetic assessment~ History – , past history - disease / Surgery / andpersonal history - Smoking / alcohol General physical assessment, systemic examination – CVS, RS, CNS

INVESTIGATIONS

Routine - Urine

Haematogical - their significance

Chest X – ray

Echocardiography

Angiography

Liver function test

Renal function test

Others

Case acceptance: ASA grading - I, II, III, IV. V

PRE - ANAESTHETIC ORDERS:

Patient - Informed consent

- Fasting guidelines
- Premedication - advantages, drugs used
- Special instructions - if any

Machine -Checking the machine 02, N20, suction apparatus Laryngoscops, ET tubes, airways

- Things for IV accessibility
- Other monitoring systems

Drugs - Emergency drugs, Anaesthetic drugs

INTRAOPERATIVE MANAGEMENT

- Confirm the identification of the patient
- Monitoring - minimum
- Noninvasive & Invasive monitoring
- Induction - drugs used
- Endotracheal intubation

- Maintenance of anaesthesia
- Positioning of the patient
- Blood / fluid & electrolyte balance

• Reversal from anaesthesia - drugs used
• Transferring the patient
• Recovery room – set up and things needed

POST OPERATIVE COMPLICATIONS & MANAGEMENT

Recovery and Delayed recovery Hypoxia and Oxygen Theraphy PONV

8. Basic Life Support

Cardio PulmonaryResuscitation

SYLLABUS FOR PRACTICALS

Instruments
Gas cylinders

B.Sc. Anaesthesia Technology Course

III **year syllabus**

S.no	Name of the subjects	Total hours allotted
1.	Sterilisation procedures	120 hours per year
2	Principles of anaesthesia – II	150 hours per year
3.	Clinicals/theatres in themornings	12 hours per week

SYLLABUS FOR CLINICAL/THEATRE

1. Routine Maintenance of Equipments and Instruments
2. Laying out of Instrument, trolleys
3. Emphasis on Surgical Positions, Instruments required and the roleof Theatre Assistant in various surgeries
4. Preparation of patient, aseptic techniques and draping
5. Special Instrument like Laproscope, Endoscope, Monitors, C-arm
6. Trouble shooting in OT
7. Specimen labelling and handling
8. Exposure to Critical Care Unit for Surgical patients

Main Syllabus

1. Sterilization Procedures
2. Regional anaesthetic techniques
3. Anaesthesia for speciality Surgeries.

Paper -1 : Sterilization Procedures

1. Waste disposal collection of used items from user area, reception protective clothing and disinfections sage guards, Bio-Medical wastes, Color cooling and management.

2. Use of disinfections sorting and classification of equipment for cleaning purposes, sharps, blunt lighted etc. contaminated high risk baby care - delicate instruments or hot care instruments,
3. Cleaning process - use of detergents. Mechanical cleaning apparatus, cleaning instruments,
4. Cleaning jars, receivers bowls etc. trays, basins and similar hand ware utensils. Cleaning of catheters and tubings, cleaning glass ware, cleaning syringes and needles.

a. Materials used for wrapping and packing assembling pack contents. Types of packs prepared. Inclusion of trays and galliparts in packs. Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping.

b. General observations principles of sterilization. Moist heat V. NervousSystem. Dry heat Ssterilization. EO gas sterilization. H202 gas plasma capo sterilization.

SYLLABUS FOR PRACTICALS

OSPE charts, Instruments

Paper-II : Principles of Anesthesia-II

Regional Anaesthetic techniques.

a. Local anaesthetic technique
b. Nerve blocks
c. Spinal
Anaesthesiad.Epidural anaesthesia

Anaesthesia for speciality Surgeries

NEURO ANAESTHESIA

- Glassgow coma scale
- Premedication
- Special investigation - CT, Angiography and MRI
- Checklist
- Induction of a patient
- Reinforced Endotracheal tubes
- Postioning in neuro surgery
- I.C.P.
- Air embolism
- Reversal of the patient
- Transferring to I.C.U. / Ward

OBSTETRIC ANAESTHESIA

- Differences between a pregnant and a normal lady
- Risks for anaesthesia.
- Precautions to be taken
- Check list
- Regional vs general anaesthesia
- Induction / maintenance and recovery .
- Resuscitation of the new born, APGAR score
- Reversal and extubation
- Emergencies - manual removal of placenta

- A.P .H.
- P.P.H.
- Ruptures uterus
- Ectopic Pregnancy

PAEDIATRIC ANAESTHESIA

- Theatre setting
- Check list

* Fluid Calculation and administration

- Premedication - modes
- Induction
- Intubation - Securing the EIT
- Reversal & extubation – Problems
- Transferring / ICU management
- Pain management

ENT Anaesthesia

- Anaesthesia for adenotonsillectomy
- Anaesthesia for mastoidectomy

- Bronchoscopy and oesophagoscopy

CARDIAC ANAESTHESIA :

- NYHA classification
- Arrhythmias
- Angina
- Dyspnoea
- Special investigationso

  echo cardiography

  o angiography
- Premedication
- Setting up of monitoring system
- Monitoring - invasive and non - invasive
- Getting ready for the case
- Induction of cardiac patient, precautions to be taken
- Cardiopulmonary bypass
- Weaning of CPB
- Transferring the patient to ICU.
- Care to be taken
- I.C.U management.
- Chest tube management

ANAESTHESIA OUTSIDE THE O.R.

- Situations
- Cath Lab
- Radiology
- E.C.T.
- Short comings.

DAY CARE ANAESTHESIA

- Special features
- Set up
- Advantages
- Disadvantages
- Complications
- Future

GERIATRIC ANAESTHESIA

- Physiological changes
- Diseases of aging
- Nervous system
- Geriatric pharmacodynamics / pharmacokinetics
- Postoperative nervous system dysfunction.

ANAESTHESIA FOR TRAUMA & SHOCK

- Resuscitation
- Pre-op investigation & assessment
- Criculatory management
- Management of anaesthesia
- Rapid sequence induction
- Other problems

THORACIC ANAESTHESIA

- Pulmonary function tests bed side
- Preoperative preparation
- Premedication
- Check list
- Induction. Intubation
- Double lumen tubes
- monitoring
- Pain management
- Extubation
- ICU management

Postoperative problems

Nausea & VomitingSore throat

Laryngeal edema, Bronchospasm

Neurological complications.Awareness
Vascular complications.
Trauma to teeth Headache
Backache
Ocular complications
Auditory complications

MAJOR CATASTROPHES

- Mortality
- Causes of death
- Cerebral damage
- Prevention

SYLLABUS FOR PRACTICALS

Instruments, OSPE charts

B.Sc. DEGREE IN OPERATION THEATRE AND ANAESTHESIA TECHNOLOGYEXAMINATION PATTERN – I YEAR

B.Sc. in Operation Theatre and Anaesthesia Technology

S.NO.	Subjects	Theory		Practical		Viva		Internal assessment	
		Max	Min	Max	Min	Max	Min	Max	Min
1.	Basicsciences *	100	50	100	50	50	25	50	20
2.	Basics ofcomputer science and english **	100	50	100	50	50	25	50	25

***-** Marks in Basic sciences to be allotted as Anatomy- 30% - Physiology -30% - Biochemistry – 20% & Pathology – 20%

****-** Basics of Computer science and English will be internal paper – Institutionwill send the marks to the University.

B.Sc. DEGREE IN OPERATION THEATRE AND ANAESTHESIA TECHNOLOGYEXAMINATION PATTERN – II YEAR

S.no.	Subjects	Theory		Practical		Viva		Internal assessment	
		Max	Min	Max	Min	Max	Min	Max	Min
1.	Pharmacology & microbiology	100	50	100	50	50	25	50	20
2.	Medicine &medical ethics	100	50	100	50	50	25	50	25
3.	Principles of anaes thesia – I	100	50	100	50	50	25	50	25

B.Sc.DEGREE IN OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

EXAMINATION PATTERN – III YEAR

B.Sc. Degree in Operation Theatre and Anesthesia Technology

S.no.	Subjects	Theory		Practical		Viva		Internal assessment	
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1.	Sterilisation proce dures	100	50	100	50	50	25	50	20
2.	Principles of anaes thesia - II	100	50	100	50	50	25	50	25

Postings during one year internship

1. Sterlisation room - 3 months.

2. Post -Operative room/ Recovery room – 3 months (Including Postings in Medical and Surgical Record Room)Surgical ICU - 3 months

3. Operation Theatre including
   - General surgery OT – 1 month
   - Obstetrics & Gynaecology OT – 1 month
   - Paediatrics OT – 15 days
   - Others – 15 days.