GURU KASHI UNIVERSITY

Bachelor of Science in Operations Theatre & Anaesthesia Technology

Session: 2023-24

Department of Paramedical Sciences

Graduate Attributes:

The programme B.Sc. OT & AT imparts to the students an intensive knowledge to perform routine surgical procedures within acceptable quality control in Anaesthesia, surgical equipment, and sterilization under the supervision of a surgeon so that they can maximize their potential by utilizing their abilities and academic excellence to contribute to society in a meaningful way.

Programme Learning Outcomes: After completion of this course graduates will be able to:

- Perform routine anesthetic procedures within acceptable quality control in the operation theatre.
- Function in an ethical and professional manner without bias against any ethnicity, race, religion, caste, or gender with a high degree of credibility, integrity, and social concern.
- Handle, operate, and maintain surgical equipment utilizing appropriate quality control and safety procedures.
- Apply problem-solving techniques in the identification and correction of pre-operative &post-operative complications.
- Formulate technical skills, social behavior, and professional awareness for functioning effectively as an operation theatre technician.
- Maximize their potential by utilizing their abilities, academic excellence, and justifiable confidence.

Programme Structure

Semester: I							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA101	General Anatomy	Core	4	0	0	4
2	BOA102	General Physiology	Core	4	0	0	4
3	BOA103	Introduction to Operation Theatre	Core	4	0	0	4
4	BOA104	General Anatomy(Practical)	Skill Based	0	0	4	2
5	BOA105	General Physiology (Practical)	Skill Based	0	0	4	2
6	BOA106	Introduction to Operation Theatre (Practical)	Skill Based	0	0	4	2
7	BOA199	XXXX	MOOC	0	0	0	2
Disciplinary Elective (Any one of the following)							
8	BOA107	Introduction to Quality & Patient Safety	Disciplinary Elective-I	3	0	0	3
9	BOA108	Social Pharmacy					
			Total	**15**	**0**	**12**	**23**

Semester: II							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA201	Introduction to Anesthesia	Core	4	0	0	4
2	BOA202	Clinical Pharmacology	Core	4	0	0	4
3	BOA203	Clinical Microbiology	Core	4	0	0	4
4	BOA204	Introduction to Anesthesia (Practical)	Skill Based	0	0	4	2
5	BOA205	Clinical Pharmacology (Practical)	Skill Based	0	0	4	2
6	BOA206	Clinical Microbiology (Practical)	Skill Based	0	0	2	1
7	BOA211	Approach to patients with trauma to head-neck region	Value Added Course	2	0	0	2
Disciplinary Elective (Any one of the following)							
8	BOA207	Principles of Management	Disciplinary Elective-II	3	0	0	3
9	BOA208	Biochemistry					
Disciplinary Elective (Any one of the following)							
10	BOA209	Professionalism & Values	Disciplinary Elective-III	3	0	0	3
11	BOA210	Basic Procedures and Techniques					
			Total	**20**	**0**	**10**	**25**

Semester: III							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA301	Basic Intensive Care	Core	4	0	0	4
2	BOA302	Surgical Instruments & Procedures	Core	4	0	0	4
3	BOA303	Basic Intensive Care (Practical)	Skill Based	0	0	4	2
4	BOA304	Surgical Instrument & Procedures (Practical)	Skill Based	0	0	4	2
5	BOA305	Electronics and Technology in Surgery and Anesthesia	Elective Foundation	4	0	0	4
6	BOA399	XXXX	MOOC	-	-	-	2
Disciplinary Elective (Any one of the following)							
7	BOA306	Medical Ethics & Legal Aspects	Disciplinary Elective-IV	3	0	0	3
8	BOA307	Medical Diseases Influencing Choice of Anesthesia					
Open Elective Course							
9	XXXX	XXXX	IDC	2	0	0	2
			Total	**17**	**0**	**8**	**23**
Open Elective Courses(for other Department)							
10	OEC021	Medical Terminology & Medical Records	Open Elective	2	0	0	2

11	OEC018	Human Rights & Profession Values					

Semester: IV							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA401	Anaesthesia For Speciality Surgeries	Core	4	0	0	4
2	BOA402	CSSD Procedures	Core	4	0	0	4
3	BOA403	General Anaesthesia	Core course	4	0	0	4
4	BOA404	Anesthesia For Specialty Surgeries (Practical)	Skill Based	0	0	4	2
5	BOA405	CSSD Procedures (Practical)	Skill Based	0	0	4	2
6	BOA406	Environmental Studies	Compulsory Foundation	2	0	0	2
Value Added Course(for other discipline student also)							
7	BOA407	Drug Abuse, Problem, Prevention	VAC	2	0	0	2
Disciplinary Elective (Any one of the following)							
8	BOA408	Medicine	Disciplinary Elective-V	3	0	0	3
9	BOA409	Pre-Operative Anesthetic Care & Preparation					
			Total	**19**	**0**	**8**	**23**

Semester: V							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA501	Regional Anaesthesia	Core course	4	0	0	4
2	BOA502	Anaesthesia Technology	Core course	4	0	0	4
3	BOA503	Basic Concepts Of Anaesthesia	Core course	4	0	0	4
4	BOA504	Regional Anaesthesia (Practical)	Skill Based	0	0	4	2
5	BOA505	Anaesthesia Technology(Practical)	Skill Based	0	0	4	2
6	BOA506	First Aid	AEC	2	0	0	2
7	BOA599	XXXX	MOOC	0	0	0	2
Disciplinary Elective (Any one of the following)							
8	BOA508	Haematology & Blood Bank	Disciplinary Elective-VIII	3	0	0	3
9	BOA509	Health Care					
			Total	**17**	**0**	**8**	**23**

Semester: VI							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BOA601	Industrial Training/Internship (6 months)	Skill Based	0	0	0	20
			Total	**0**	**0**	**0**	**20**

Evaluation Criteria for Theory Courses

A. Continuous Assessment: [25 Marks]

CA1- Surprise Test (Two best out of three) (10 Marks)
CA2- Assignment(s) (10 Marks)
CA3- Term paper/ Quiz/Presentation (05 Marks)

B. Attendance (05 Marks)
C. Mid-Semester Test: (30 Marks)
D. End-Semester Exam: (40 Marks)

Semester: 1st

Course Title: General Anatomy
Course Code: BOA101

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Learn about the various muscles, organs, bones, joints, tendons, ligaments, blood vessels and cells.
2. Identify cell organelles, blood component, function, skeletal system, circulatory system, lymphatic system and its structure.
3. Recognize the properties of nerve fiber, anatomy of neuralgia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.
4. Enlist the malfunctioning of the organs and diagnose the disorders.

Course Contents

UNIT- I **15 Hours**

Introduction to Human Anatomy and Physiology: General organization Synopsis of all systems Cell Organization and Function: Structure & function of all cell organelles-cell division (Mitosis and meiosis) Tissues (Definition, classification with structure and function)

UNIT-II **15 Hours**

Blood: Functions of blood, composition of blood, plasma& its functions. - Blood clotting (mechanism, clotting factors) Human Body Skeletal System: Structure and function of all individual bones and joints movement of joints, skeletal muscles

UNIT-III **15 Hours**

Respiratory System: Structure of respiratory pathway, function of respiratory tract, cough reflex, intra -pleural pressure, mechanism of breathing and respiration, muscles of respiration, vital capacity, tidal volume, inspiration, reserve volume and residual volume. Cardiovascular System Anatomy and Physiology of Heart Blood circulation Arteries and veins Conductive system of Heart - Cardiac cycle Introduction to ECG

UNIT-IV **15 Hours**

Lymphatic System - Introduction - Structure and function - Lymph

nodes -Spleen - Thymus gland, Tonsils Structure and Function of Sense Organs - Eye - Ear - Nose – Tongue

Transactional modes:
Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Ashalatha, P. R., & Deepa, G. (2012). Textbook of Anatomy & Physiology forNurses. JP Medical Ltd.*
- *Chaurasia, B. D. (2004). Human anatomy (p. 53). CBS Publisher Listinsky, J. J. (1987). The Anatomy Workbook. Radiology, 164(1), 78-78.Sciences.*
- *Waugh, A., & Grant, A. (2014). Ross & Wilson Anatomy and physiology in health and illness. Elsevier Health*
- *Netter, F. H. (2014). Atlas of human anatomy, Professional Edition. Elsevier health sciences.*

Course Name: General Physiology
Course Code: BOA102

L	T	P	Cr
4	0	0	4

Total Hours: 60

Course Learning Outcomes: On successful completion of this course the students will be able to

1. Acquire the knowledge of the relative contribution of each organ system in maintenance of the Milieu Interior (Homeostasis)
2. Compare & contrast Functions of lipids, carbohydrates, proteins & cell organelles.
3. Classify Physiological functions of various systems, with special reference to Musculoskeletal, Neuro-motor, Cardio-respiratory, Endocrine, Uro-genital function, & alterations in function with aging
4. Conclude Properties of nerve fibers, function of neuroglia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.

Course Contents

UNIT-I **15 Hours**

Introduction to physiology of the human body –Composition of body, Homeostasis, Introduction to chemistry of life. Organization of the human body at the cellular level – Function of lipids, carbohydrates, proteins & cell organelles. Organization of the human body at the tissue level – Function of Epithelial, Connective, Muscular & Nervous tissues.

UNIT-II **15 Hours**

Blood – Hemopoiesis, homeostasis, coagulation of blood, blood transfusion. Lymphatic System – Function of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, and thymus. Resistance & Immunity – Innate immunity, acquired immunity, humoral & cell mediated immunity.

UNIT-III **15 Hours**

Nervous System – Properties of nerve fibers, function of neuroglia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes. Muscular System – Properties of skeletal muscle, cardiac muscle, smooth muscle, muscles of the body. Skeletal System – Functions of bones, axial skeleton, and appendicular skeleton. Musculoskeletal System – Movement in the joints of upper & lower limb.

UNIT-IV **15 Hours**

Respiratory System – Physiology of respiration, pulmonary function tests, gas exchange in lungs, transport of gases between lungs & tissues, regulation of respiration. Cardiovascular System - Heart & blood vessels: Systemic circulation, pulmonary circulation, ECG, cardiac output, blood pressure.
Digestive System – Process of digestion, function of oral cavity, pharynx, salivary glands, esophagus, stomach, small intestine, large intestine, liver, gallbladder, and pancreas. Urinary System – Function of kidneys, juxtaglomerular apparatus, Ureter, urinary bladder, urethra, physiology of urine formation, Glomerular filtration, tubular re-absorption, water balance, and micturition.
Introduction to Genetics - Features of chromosomes, DNA, protein synthesis, dominant inheritance, recessive inheritance, and sex linked inheritance.
Reproductive System– Female: Physiology of female reproductive system.
Reproductive System – Male: Physiology of male reproductive system.
Endocrine System - Mechanism of action of hormones, function of pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.
Special Senses - Physiology of olfaction, taste, hearing, balance & vision.
Skin – Function of skin, hair, sebaceous glands, sweat glands, nails, temperature regulation.

Transactional modes
Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Ashalatha, P. R., & Deepa, G. (2012). Textbook of Anatomy & Physiology forNurses. JP Medical Ltd.*
- *Guyton, A. C., & Hall, J. E. (2006). Medical physiology. Gökhan N, Çavuşoğlu H (Çeviren), 3.*
- *Waugh, A., & Grant, A. (2014). Ross & Wilson Anatomy and physiology inhealth and illness. Elsevier Health Sciences.*
- *Sembulingam, K., &Sembulingam, P. (2012). Essentials of medicalphysiology. JP Medical Ltd.*

Course Title: Introduction to Operation Theatre Course Code: BOA106

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Complete steps in operation of autoclave, its maintenance protocol
2. Handle documents to be maintained in CSSD
3. Implement various physical, chemical methods of sterilization
4. Complete steps in operation of Cleaning and sterilization of OT
5. Apply various methods to decrease infections in OT

Course Contents

UNIT-I **15 Hours**

Disinfectants of instruments and Sterilization- Definition, Methods, cleaning agents, detergents, Mechanical washing, ultrasonic cleaner, lubrication inspection and pitfalls, Various methods of chemical treatment- formalin, glutaraldehyde, thermal. Hot Air oven- Dry Heat, Autoclaving, steam Sterilization water etc., UV treatment

UNIT-II **15 Hours**

Sterilization of Equipment Arthroscopy Gastro scope Imago Lamp ApparatussuctionApparatusAnaestheticequipmentincludingendotracheal tubes - OT Sterilization including Laminar Air flow (AllAnesthetic Instrument

UNIT-III **15 Hours**

Sterilization of OT Handling of sterilized articles Lay out of instruments trolley Universal safety precautions Disposal of Biomedical Waste Preparation of Electronic

UNIT-IV **15 Hours**

O.T. Techniques O.T. environment, infection control in O.T., scrubbing Surgical Attire including lead apron and goggles, zoning in O.T.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Bojar, R. M. (2020). Manual of perioperative care in adult cardiac surgery. John Wiley & Sons.*
- *Easley, M. E., & Wiesel, S. W. (Eds.).(2011). Operative techniques in foot andankle surgery.Lippincott Williams & Wilkins.*
- *Ranjit, S. (2010). Manual of Pediatric Emergencies & Critical Care.Paras.*
- *Spuntarelli, V., Luciani, M., Bentivegna, E., Marini, V., Falangone, F., Conforti, G., & Martelletti, P. (2020). COVID-19: is it just a lung disease? A case-based review. SN Comprehensive Clinical Medicine*

Course Title: General Anatomy (Practical)
Course Code: BOA104

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Acquire the demonstration of basic anatomical terminology, anatomical position, anatomical planes, and levels of organization in the body, organ systems, skeleton, and cavities of the body.
2. Evaluate Features of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, thymus

3. Study Central nervous system, brain, cerebellum, spinal cord, cranial nerves, and autonomic nervous system.
4. Differentiate skeletal muscle, cardiac muscle, smooth muscle.
5. Discuss Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

Course Contents

List of experiments/Practical's

1. Basic Anatomical Terminology, Anatomical Position, Anatomical Planes, Levels of Organization in the Body, Organ Systems, Skeleton, Cavities of the Body.
2. Lymphatic System - Features of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, and thymus.
3. Nervous System - Central nervous system, brain, cerebellum, spinal cord, cranial nerves, autonomic nervous system.
4. Muscular System - Skeletal muscle, cardiac muscle, smooth muscle, muscles of the body.
5. Skeletal System - Features of bones, axial skeleton, and appendicular skeleton.
6. Musculoskeletal System - Joints of upper & lower limb. Respiratory System - Nose & paranasal sinuses, pharynx, larynx, trachea, lungs. Cardiovascular System - Heart & blood vessels.
7. Digestive System - Oral cavity, pharynx, salivary glands, esophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas.
8. Urinary System - Kidneys, juxtaglomerular apparatus, Ureter, urinary bladder, urethra.
9. introduction to Genetics - Features of chromosomes, DNA Reproductive System In Females - External & internal genital organs, breast
10. Reproductive System In Males - Penis, scrotum, testes, prostate gland.
11. Endocrine System - Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching,

Group study. ppts

Suggested Readings:

- *Agur, A. M., & Dalley, A. F. (2009).Grant's atlas of anatomy. Lippincott Williams & Wilkins.*
- *Chaurasia, B. D. (2004). Human anatomy (p. 53). CBS Publisher.*
- *Peate, I., & Nair, M. (2015).Anatomy and Physiology for Nurses at a Glance.John Wiley & Sons*

Course Title: General Physiology (Practical)
Course Code: BOA105

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Apply Basic Practical skills on blood testing, Microscope, haemocyto meter and RBC count
2. Study the functions of important physiological systems including the cardio-respiratory, renal, reproductive and metabolic systems.
3. Expansion knowledge of Clinical examination of respiratory system and digestive system.
4. Measure blood pressure and pulse rate

Course Contents

List of experiments

1. Blood test
2. Microscope
3. Haemocytometer
4. Blood RBC count
5. Hb
6. WBC count Differential Count
7. Hematocrit demonstration
8. ESR
9. Blood group & Rh. Type
10. Bleeding time and clotting time.
11. Digestion Test salivary digestions Excretion
12. Examination of Urine Specific gravity Albumin Sugar, Microscopic examination for cells and cysts
13. Respiratory System Clinical examination of respiratory system Spirometry Breath-holding test

14. Cardio Vascular System: Measurement of blood pressure and pulse rate Effect of exercise on blood pressure and pulse rate

Transactional modes

Video-based teaching, Collaborative teaching, Case based teaching, Question, ppt

Suggested Readings:

- *Peate, I., & Nair, M. (2015).Anatomy and Physiology for Nurses at a Glance.John Wiley & Sons.*
- *Pal, G. K. (2006).Textbook Of Practical Physiology-2Nd Edn. Orient Blackswan.*

Course Name: Introduction to Operation Theatre (Practical)

L	T	P	Cr
0	0	4	2

Course Code: BOA106

Total Hours: 30

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Complete steps in operation of autoclave, its maintenance protocol
2. Maintain Documents to be maintained in CSSD
3. Implement Various physical, chemical methods of sterilization
4. Measure Cleaning and sterilization of OT

Course Contents

List of experiments/Practical's

1. Preparation of OT for various surgeries
2. Familiarization with special instruments used for various sub-specialties
3. Carbolization of OT
4. Preparation of trolleys for various types of sub-specialties of surgeries
5. Cleaning, disinfection and storage of various instruments
6. Complete steps in the operation of the autoclave, and its maintenance protocol Documents to be maintained in CSSD

7. Various physical, and chemical methods of sterilization Cleaning and sterilization of OT
8. Methods to decrease infections in OT

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

Suggested Readings:

- *Anesthesia Manual. A.A. Ahanatha PillaiLee*
- *Synopsis (Hand book of Anesthesia)*

Course Title: Introduction to Quality & Patient Safety
Course Code: BOA107

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Implement the quality improvement approaches, NABH, NABL, JCI guidelines.
2. Rescue the patients by the basic life support skills which can save many lives in urgent cases Apply proper disposals of biomedical waste, reducing risk of infection to waste handling personnel
3. Control cross infection which can occur due to improper handling of infected waste polluting surroundings too.
4. Focus on the quality measures and proper handling of disposals providing quality facility to patients.

Course Contents

UNIT-I **15 Hours**

Quality Assurance and Management Introduction, Quality improvement approaches, standards and norms, quality improvement tools, introduction to NABH guidelines. Basic of Emergency Care and Life Support Skills Basic life support (BLS) following cardiac arrest, recognition of sudden cardiac arrest and

activation of emergency response system, early cardiopulmonary resuscitation (CPR) and rapid defibrillation with an automated external defibrillator (AED)

UNIT-II **10 Hours**

Basic Emergency CareFirst aid, choking, rescue breathing methods, ventilation including use ofbag valve master (BVMs)

UNIT-III **10 Hours**

Biomedical Waste Management Definition, waste minimization, BMW-segregation, collection, transportation, treatment and disposal (Including color coding), Liquid BMW, Radioactive waste, metals/chemicals/drug waste, BMW management and methods of disinfection, use of Personal protective equipment (PPE)

UNIT-IV **10 Hours**

Infection Prevention and Control Sterilization, Disinfection, Effective hand hygiene, use of PPE, Prevention and control of common health care associated infections, Guidelines (NABH) and JCI for hospital infection control .Disaster preparedness and management Fundamentals of emergency management

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question,

Suggested Readings:

- *Schriefer, J., & Leonard, M. S. (2012). Patient safety and quality*
- *improvement: an overview of QI. Pediatrics in review,*
- *Yamin, T. (2013). Chemical & Biological Weapons: Positions, Prospects and Trends. Policy Perspectives,*
- *Datta, P., Mohi, G., &Chander, J. (2018). Biomedical waste management in*
- *India: Critical appraisal. Journal of laboratory physicians,*

Course Title: Social Pharmacy
Course Code: BOA108

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Deliberate about roles of pharmacists in the various national health programs
2. Describe various sources of health hazards and disease preventive measures
3. Discuss the healthcare issues associated with food and nutritional substances
4. Describe the general roles and responsibilities of pharmacists in public health

Course Contents

UNIT –I **10 Hours**

Introduction to Social Pharmacy Definition and Scope. Social Pharmacy as a discipline and its scope in improving the public health. Role of Pharmacists in Public Health. Concept of Health - WHO Definition, various dimensions, determinants, and health indicators. National Health Policy – Indian perspective. Public and Private Health System in India, National Health Mission, Introduction to Millennium Development Goals, Sustainable Development Goals, FIP Development Goals.

UNIT –II **10 Hours**

Preventive healthcare – Role of Pharmacists in the following, Demography and Family Planning. Mother and child health, importance of breastfeeding, ill effects of infant milk substitutes and bottle feeding Overview of Vaccines, types of immunity and immunization

UNIT –III **15 Hours**

Nutrition and Health Basics of nutrition – Macronutrients and Micronutrients, Importance of water and fibers000 in diet Balanced diet, Malnutrition, nutrition deficiency diseases, ill effects of junk foods, calorific and nutritive values of various foods, fortification of food , Introduction to food safety, adulteration of foods, effects of artificial ripening, use of pesticides, genetically modified foods , Dietary supplements, nutraceuticals, food supplements – indications, benefits, Drug-Food Interactions

UNIT –IV **10 Hours**

Introduction to health systems and all ongoing National, Health programs in India, their objectives, functioning, outcome, and the role of pharmacists.

Transactional modes

Video-based teaching, Collaborative teaching, Case based teaching, Question, ppt

Suggested Reading:

- *Textbook of Pharmacognosy by C. K. Kokate, S. B. Gokhale, A.P.Purohit, Nirali Prakashan*
- *Textbook of Pharmacognosy by C.S. Shah and J. S. Qadry, CBSPublishers & Distributors Pvt. Ltd.*
- *Text Book of Pharmacognosy by T. E. Wallis. CB Publishers & DistributorsPvt. Ltd.*
- *Study of crude drugs by M. A. Iyengar, Manipal Press Ltd,*
- *Manipal Powder crude drugs by M. A. Iyengar, Manipal Press Ltd,*
- *Manipal Anatomy of crude drugs by M. A. Iyengar, Manipal Press Ltd, Manipal*

Semester 2nd

Course Title: Introduction to Anesthesia
Course Code: BOA201

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Distinguish the history of anesthesia
2. Acquire an understanding of Positioning of Patient
3. Suggesting a simple an aesthetic plan commonly used anesthesia non-invasive
4. Monitoring in the Operation Theatre

Course Contents

UNIT-I **15 Hours**

History of Anesthesia First successful clinical demonstration: Pre -

historic (ether) era, Regional anesthetics era, Intravenous anesthetic era, Modem anesthetic era, Minimum standard of anesthesia, who should give anesthesia General Anesthesia Techniques: General Anesthesia., Regional Anesthesia Including Epidural, Spinal and Nerve Block Anesthesia. Combined General and Epidural Anesthesia, Monitored Anesthesia Care with Conscious Sedation.

UNIT-II **15 Hours**

Pre-Op Preparation: Checklist, Medications, safety, consent, advanced Directives Pre anesthetic assessment: History – Past history Disease Surgery personal history Smoking alcohol General physical assessment, systemic examination CVS, RS, CNS, General examination assessment and physical systemic examination.

UNIT-III **15 Hours**

Monitoring in the Operation Theatre Positioning of Patient Informed consent NBM guidelines nil per orally Premedication advantages, drugs used Special instructions if any Machine Checking the machine 02, N20,suction apparatus Laryngoscopes, Etudes, airways, Cannula's and Catheters for IV Accessibility, Cardiac Monitor Pulse oximeter, other monitoring systems, Vaporizers (Face Mask)

UNIT-IV **15 Hours**

Drugs-Emergency drugs other Drugs used patient care Intraoperative Management Confirm the identification of the patient, Monitoring – minimum, Non- invasive & Invasive monitoring, Induction - drugs used, Endotracheal intubation, Maintenance of anesthesia, Positioning of the patient, Blood / fluid & electrolyte balance, Reversal from anesthesia - drugs used, Transferring the patient, Recovery room set up and things needed . O.T. Techniques: O.T. environment, infection control in O.T., scrubbing, Surgical Attire including lead apron and goggles, zoning in O.T.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

Suggested Readings:

- *Miller, R. D., &Pardo, M. (2011). Basics of anesthesia e-book.Elsevier Health Sciences.*
- *Orthopaedic Surgery.Thieme. Easley, M. E., & Wiesel, S. W. (Eds.).(2011).*
- *Operative techniques in foot and ankle surgery.Lippincott Williams & Wilkins. Ke, J. X. C. (2018).*
- *Basics of Anesthesia Bojar,R.M. (2020).*
- *Manual of perioperative care in adult cardiacsurgery.John Wiley & Sons. Kamal, R., & Weiss, A. P. C. (Eds.).(2016).*

Course Title: Clinical Pharmacology

Course Code: BOA202

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Learn pharmacology drugs acting on blood and blood forming agents.
2. Enlist the drugs acting on urinary system.
3. Study pharmacology drugs acting on GI system.
4. Acquire pharmacology of drugs acting on immune system.

Course Contents

UNIT-I **15 Hours**

Anticoagulants: Atropine, Glycopyrrolate Sedatives I Anxiolytics: Diazepam, Midazolam, Phenergan, Lorazepam, Chlorpromazine, and Triclofos. Narcotics: Morphine, Pethidine, Fentanyl, Pentazozine, tramadol. Anti-emetic's Metoclopramide, Ondanseteron, Dexamethasone

UNIT-II **15 Hours**

Induction Agent: Thiopentone, Diazepam, Midazolam, Ketamine, Propofol, Intimidate. Muscle Relaxants: Depolarizing - Suxamethonium, Non depolarizing - Vecuronium, Atracurium, rocuranium Inhalational Gases: Gases-02, N20, Air, Agents-Ether, Halothane, Isofllurane, And Saevoflurane, Desflurane Reversal Agents: Neostigmine, Glycopyrrolate, Atropine, Naloxone, Flumazenil (Diazepam).

UNIT-III **15 Hours**

Local Anesthetics Xylocaine Bupivacaine Topical, Prilocaine-jelly, Emla Ointment Etidocain Ropivacaine Emergency Drugs Mode or administration dilution dosage and effects Adrenaline Atropine Ephedrine, Mephentramine Bicarbonate,calcium,potassium.

UNIT-IV **15 Hours**

Inotropes: dopamine, dobutamine, amidarone Aminophylline, hydrocortisone, antihistaminic, Antihypertensive –Beta-blockers, Ca-channel blockers. Antiarrhythmic- xylocard
Vasodilators- nitroglycerin & sodium nitroprusside Respiratory system Bronchodilators, Renal system- Diuretics, frusemide, mannitoI.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Goodman, L. S. (1996). Goodman and Gilman's the pharmacological basis of therapeutics (Vol. 1549). New York: McGraw-Hill.*
- *He, J. M., & Mu, Q. (2015). The medicinal uses of the genus Mahonia in traditional Chinese medicine: An ethnopharmacological, phytochemical and pharmacological review. Journal of ethnopharmacology, Zhao,*
- *B. S., Gui, H. S., Zhu, Y. D., &Xu, T. H. (2011). Research progress in chemical compoents, pharmacological effectiveness and toxicity of Psammosilenetunicoides.*

Course Title: Clinical Microbiology
Course Code: BOA203

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Get detailed information about the host, parasite, their life cycle and various diseases caused by them
2. Learn the procedures of sample collection and transportation for microbiology tests.

3. Capable to prepare various culture medias, Care &handling of laboratory animals and get their extracts for culture preparations
4. Classify microbes with special reference to prokaryotes & eukaryotes, Bacterial anatomy

Course Contents

UNIT-I **15 Hours**

Morphology Classification of microorganisms, size, shape and structure of bacteria. Use of microscope in the study of bacteria**.**

UNIT-II **15 Hours**

Growth and nutrition, growth and multiplications of bacteria, use of culture media in diagnostic bacteriology. Culture media Use of culture media in diagnostic bacteriology, antimicrobial sensitivity test. Sterilization and Disinfection .Principles and use of equipment of sterilization namely hot air oven, autoclave and serum inspissation, pasteurization, antiseptic and disinfectants.

UNIT-III **15 Hours**

Immunology, Immunity, vaccines, types of vaccine and immunization schedule, principles and interpretation of common serological tests namely Widal, VDRL, ASLO, CRP, and RF& ELISA. Rapid tests for HIV and HBsAg (excluding technical details) Systematic Bacteriology Morphology, cultivation, diseases caused, laboratory diagnosis including specimen collection of the following bacteria (excluding classification, antigenic structure and pathogenicity),

UNIT-IV **15 Hours**

Staphylococci,Streptococci,Pneumococcus,Gonococci, Meningococci, Cdiphtheria, Mycobacterium, Clostridia, Bacillus, Shigella, Salmonella, E.coli, Klebsiella, Proteus, Vibrio cholera, Pseudomonas & Spirochetes. Parasitology Morphology, life cycle, laboratory diagnosis of following parasites: Histolytic, Plasmodium, tape worms, Intestinal nematodes Mycology Morphology, diseases caused and lab diagnosis of following fungi. Candida, Cryptococcus, Dermatophytes, opportunistic flung Virology General properties of viruses, diseases caused lab diagnosis and prevention of following viruses, Herpes, Hepatitis, HIV, Rabies and Poliomyelitis.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Practical Medical Microbiology by Mackie & McCartney Volume 1 and 2*
- *Text book of Microbiology by Ananthanarayanan*
- *Medical Microbiology by Paniker&SatishGupte*

Course Name: Introduction to Anesthesia (Practical)

Course Code: BOA204

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Be familiar with the history of Anesthesia
2. get an understanding of Positioning of Patient
3. Suggesting a simple anesthetic plan commonly used anesthesia non-invasive
4. Monitoring in the Operation Theatre
5. Implement methods to decrease infections in OT

Course Contents

List of Experiments/Practical's

1. Setting of trolley for GA and Regional Anesthesia
2. Rapid sequence intubation,
3. Sellick's maneuver (Cricoid pressure)
4. Monitoring of patients in PACU, setting of alarms
5. Post-op management of pain, nausea, vomiting, and bladder distension

Transactional modes

Video-based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Anesthesia manual. A.A.Ahanatha PillaiLee Synopsis (Hand book of Anesthesia) Text book of Anesthesia (Ajay Yadav) edition 6TH*
- *Goodman, L. S. (1996). Goodman and Gilman's the pharmacological basis of therapeutics (Vol. 1549). New York: McGraw-Hill.*
- *He, J. M., & Mu, Q. (2015). The medicinal uses of the genus Mahonia in traditional Chinese medicine: An ethnopharmacological, phytochemical and pharmacological review. Journal of ethnopharmacology, Zhao,*

Course Name: Clinical Pharmacology (Practical)
Course Code: BOA205

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Know the use of various types of emergency drugs, their dosage and effects.
2. Understand the action of drugs on the neuromuscular system, cardiovascular system.
3. Application of Bicarbonate, calcium, potassium in patient care.
4. Understand the mode of action of pain killer drugs and their effects.

Course Contents

List of Experiments/Practical's

1. Emergency Drugs: Mode or administration, dilution, dosage and effects
2. Adrenaline, Atropine Ephedrine, Mephentramine Bicarbonate, calcium, potassium.
3. Inotropes: dopamine, dobutamine, amidarone Aminophylline, hydrocortisone, antihistaminic,
4. Antihypertensive –Beta-blockers, Ca-channel blockers.

Antiarrhythmic- xylocard Vasodilators- nitroglycerin & sodium nitroprusside
5. Respiratory system- Bronchodilators
6. Renal system- Diuretics, frusemide, mannitol

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Goodman, L. S. (1996). Goodman and Gil man's the pharmacological basis of therapeutics (Vol. 1549). New York: McGraw-Hill He, J. M., & Mu, Q. (2015).*
- *The medicinal uses of the genus Mahonia in traditional Chinese medicine: An ethno pharmacological, phytochemical and pharmacological review. Journal of ethno pharmacology, Zhao, B. S., Gui, H. S., Zhu, Y. D., &Xu, T. H. (2011).*
- *Research progress in chemical components, pharmacological effectiveness and toxicity of Psammosilenetunicoides. Chin. J. Exp. Traditional Med. Form.*

Course Name: Clinical Microbiology (Practical)

Course Code: BO206

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Collect sample for identification of bacteria, virus, fungi or parasite.
2. Cleaning techniques of glassware by various methods according to their uses in laboratory.
3. Operating microscope, cleaning and maintenance of microscope and objectives.
4. Sterilization techniques- dry and moist heat, working of hot air oven and autoclave

Course Contents

List of Experiments/Practical's

1. Specimen Collection: Demonstrating proper techniques for collecting various clinical specimens such as blood, urine, sputum, wound swabs, throat swabs, etc.
2. Sample Processing: Preparing collected specimens for analysis,

including centrifugation, filtration, and concentration techniques.
3. Culture Techniques: Inoculating specimens onto different culture media, such as blood agar, MacConkey agar, chocolate agar, Sabouraud agar, etc., and incubating them under appropriate conditions.
4. Gram Staining: Performing Gram staining to differentiate bacteria into Gram-positive and Gram-negative groups.
5. Acid-Fast Staining: Staining samples with Ziehl-Neelsen or Kinyoun method to detect acid-fast bacteria, especially Mycobacterium tuberculosis.
6. Biochemical Tests: Conducting various biochemical tests to identify bacteria, such as catalase test, oxidase test, coagulase test, indole test, urease test, etc.

7. Antibiotic Susceptibility Testing: Performing Kirby-Bauer disk diffusion method or automated systems to determine the susceptibility of bacteria to different antibiotics.
8. Serological Tests: Carrying out serological tests to detect antibodies or antigens in patient samples, including enzyme immunoassays (ELISA), latex agglutination tests, rapid antigen tests, etc.
9. Molecular Diagnostics: Using techniques like polymerase chain reaction (PCR) or real-time PCR to identify specific microbial DNA or RNA sequences, such as for detecting viral or bacterial pathogens.
10. Microscopic Examination: Using light microscopy to observe and identify microbial structures, including bacteria, fungi, parasites, and yeast.
11. Bacterial Identification: Applying phenotypic methods like API systems, Vitek systems, or manual identification schemes to identify bacteria.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

Suggested readings:

- *Practical Medical Microbiology, Mackie & McCartney Volume 1 and 2*
- *Text book of Microbiology by Ananthanarayanan*
- *Medical Microbiology by Paniker&SatishGupte*

Semester 2nd

Course Title: Principles of Management
Course Code: BOA207

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Evaluate the management evolution and how it will affect future management.
2. Practice the process of management's functions: - planning, organizing, leading, directing and controlling.
3. Observe and evaluate social responsibility and ethical issue involved in business situations and logically articulate own position on such issue
4. Observe Functions of Management: Planning – Organizing – Directing –Controlling Planning.

Course Contents

UNIT-I **15 Hours**

Development of Management: Definitions of Management – Contributions of F.W. Taylor, Henry Fayola and others Functions of Management: Planning – Organizing – Directing – Controlling Planning: Types of planning – Short–term and long plans – Corporate or Strategic Planning – Planning premises – Polices – Characteristics and sources – principles of policy making – Strategies as different from policies – Procedures and methods– Limitations of planning Organizing: Importance of organization – Hierarchy – Scalar chain – Organization relationship – Line relationship – Staff relationship - Line staff relationship – Functional relationship - Committee organization – Management committees – Depart mentation Motivation: Motivation theories – McGregor's theory X and theory Y – Maslow's and Herzberg's theory – Porter and Lawler model of complex view of motivation– Other theories – Diagnostic signs of motivational problems – Motivational Techniques Communication: Types of communication – Barriers of effective communication

UNIT-II **10 Hours**

Techniques for improved communication**.** Directing: Principles relating to Direction process – Principles and theories of leadership – Leadership Styles – Delegation of authority. Controlling: Span of control – Factors limiting effective span of control – Supper management, General managers, Middles managers and supervisors Planning and controlling relationships – Management control process – Corrective

measures– Strategic control points – Budgetary control – Types of budgets-ordination: Co-ordination and co-operation – Principles of co-ordination Techniques of co-ordination charts and records – Standard procedure instructions.

UNIT-III **10 Hours**

Objective of Personnel Management – Role of Personnel Manager in an organization – Staffing and work distribution techniques – Job analysis and description – Recruitment and selection processes – Orientation and training Coaching and counseling – disciplining – Complaints and grievances – Termination of employees – Performance appraisal – Health and safety of employees - Consumer Protection Act as applicable to health care services.

UNIT-IV **10 Hours**

Definition of financial Management – Profit maximization – Return maximization– wealth maximization – Short term Financing – Intermediate Financing – Long term Financing – leasing as a source of Finance – cash and Security Management – Inventory Management – Dividend policies – Valuations of Shares – Financial Management in a hospital – Third party payments on behalf of patients. Insurance – health schemes and policies.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question,pptx

Suggested Readings:

- *Sproull, L. S. (1984).“The Nature of Managerial Attention,” in L. S. Sproull (ed.), Advances in Information Processing in Organizations. Greenwich, CT: JAI Press.*
- *Stewart, R. (1967). Managers and Their Jobs. London: Macmillan*
- *Pondy, L. R. (1978). “Leadership Is a Language Game,” in M. W. McCall, Jr. and M. M. Lombardo (eds.), Leadership: Where Else Can We Go? Durham, NC: Duke University Press.*
- *Katz, Robert L., (1974). “Skills of an Effective Administrator.” Harvard Business Review.*

L	T	P	Cr

Course Title: Biochemistry
Course Code: BOA208

3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Study the chemistry of carbohydrate, lipids, proteins and amino acid
2. Narrate the significance of biochemistry in patient's status.
3. Clarify the importance of mineral and vitamins in human body.
4. Recognize the Nomenclature, Classification, Factors affecting enzyme activity
5. Accept the brief description of chemistry of blood.

Course Contents

UNIT-I **10 Hours**

Carbohydrates - Glucose and Glycogen Metabolism Proteins- Classification of proteins and functions Lipids- Classification of lipids and functions

UNIT-II **10 Hours**

Enzymes- Definition, Nomenclature, Classification, Factors affecting enzyme activity, Active site. Coenzyme, Enzyme Inhibition, Units of enzymes, Iso-enzymes and Enzyme pattern in diseases

UNIT-III **15 Hours**

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, calorific value of foods, Basal Metabolic Rate (BMR), Respiratory Quotient (RQ), Specific Dynamic Action (SDA), balanced diet, Marasmus and Kwashiorkor Acids and bases- Definition, pH, Henderson – Hassel Balch equation, Buffers, Indicators, Normality, Molarity, Molality, Hormones

UNIT-IV **10 Hours**

Nomenclature of compounds containing Halogen. Alcohols and

Phenol .Ethane, Propane, Ether, Aldehydes, Ketones, Carboxylic acid, Cyanide s,Isocyanides, Nitrogen compounds and amines.

Catalysis Hemoglobin, Blood and respiration

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

Suggested Readings:

- *Textbook of Medical Biochemistry M N andShindeRena, Jaypee BrothersMedical Publishers Pvt. Ltd.*
- *Textbook Of Medical Biochemistry By Godkar P.B And Godkar D.P, BhalaniPublishing House*
- *Principles and Techniques in Practical Biochemistry ByTeitz, Elsevier*
- *Practical Biochemistry by Gupta R. C and Bhargava. S, Cbs Publisher &Distributors PVT. LTD*

Course Name: Professionalism and Values

Course Code: BOA209

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Develop effective communication and interpersonal skills in professional contexts.
2. Relate critical thinking and decision-making skills to ethical challenges.
3. Cultivate personal values and ethical principles that align with professional standards.
4. Reflect on their own professional development and personal growth.

Course Contents

UNIT-I **9 Hours**

Introduction to Professionalism and Ethics, Definition of

professionalism, Key attributes of a professional, Ethical principles and values, Professional Codes of Conduct and Standards
Overview of professional codes and standards in different fields (e.g., medicine, law, engineering), Analysis of code violations and their consequences, Comparison of different ethical frameworks

UNIT-II **12 Hours**

Ethical Decision Making, Models of ethical decision making, Identifying ethical dilemmas, Strategies for resolving ethical conflicts, Communication and Interpersonal Skills
Effective verbal and non-verbal communication, Active listening and empathy Professional etiquette and workplace relationships

UNIT-III **12 Hours**

Workplace Integrity and Accountability, Building trust and credibility Personal and professional integrity, Taking responsibility for actions and decisions, Ethical Leadership and Teamwork
Leadership styles and ethical leadership, Collaboration and teamwork ethics, Managing ethical challenges within teams, Cultural issues in the healthcare environment

UNIT-IV **12 Hours**

Ethical Issues in Technology and Social Media, Privacy and data protection, Digital professionalism and online identity
Ethical considerations in technology use, Professional Development and Lifelong Learning
Setting professional goals, Continuing education and professional growth, Reflective practice and self-assessment

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Rokeach, M. (2008). Understanding human values.Simon and Schuster.Inglehart, R. F., Basanez, M., Basanez, M., & Moreno, A. (1998).*
- *Human values and beliefs: A cross-cultural sourcebook. University of MichiganPress. Kerruish, A. (1995).*
- *Basic human values: The ethos for methodology. Journal of community & applied social psychology, 5(2), 121-143.*

Subject Title: Basic Procedures and Techniques

Subject Code: BOA210

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Know the use of various types of emergency drugs, their dosage and effects.
2. Understand the action of drugs on the neuromuscular system, cardiovascular system.
3. Application of Bicarbonate, calcium, potassium in patient care.
4. Understand the mode of action of pain killer drugs and their effects.

UNIT-I **10 Hours**

I.V. Cannulation Sizes, Color Coding, Technique of I.V. cannulation Preparation of I.V. drip Types of fluids Precaution during IV cannulation Central Venous Catheterization and CVP • Role, Types, sizes, Locations Positions, Technique, Precautions Complications Arterial Cannulation Significance, Locations.

UNIT-II **15 Hours**

Types, sizes Techniques Complications Intubation Technique of endotracheal intubation Insertion of SGADs (LMA, I -Gel etc) Cuff inflation and pressure difficult intubation kit Sellick maneuver, BURP Technique 5. Bandaging and Splinting Types of bandages and various techniques Scalp bandage, Figure of, Bandages of Eye Ear Splinting Techniques, Use of Splints / Crape Bandage Pressure Points, Emergency Tourniquet Drainage of Abscess

UNIT-III **10 Hours**

Cleaning Incision, Drainage Bandaging. Foley Catheter Types, sizes, Insertion Technique Sterile precautions. Nasogastric Tube Size, uses Techniques of Insertion. Face Masks & Airways, ETT, Laryngoscopes, CPR Types of masks: Open and closed Technique of holding Anesthesia mask Airways- Types, Sizes, insertion technique Laryngoscopes- Types, Parts

UNIT-IV **10 Hours**

Endotracheal tubes - Types, sizes, Specialized ETT, Double lumen tubes (DLT), bronchial blockers Supraglottic Airway Device (SGADs): Types, sizes Checking tube position, complications Difficult Intubation Trolley / Tray Types of Oxygen masks Basic CPR Protocol Drop Factor Drops per min, infusion rate calculation.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Smith, J. D. (2020). Basic Techniques in Photography. Photography Publishing.*
- *L. M. (2018). Essential Procedures in Surgical Nursing. Medical Publishing.*
- *Williams, R. S. (2021). Fundamentals of Painting: Techniques and Tools. Art Publishing.*

Semester 3rd

Course Title: Basic Intensive Care

Course Code: BOA301

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Evaluate and integrates the use of analytical enquiry and critical reflection.
2. Determine knowledge of the pathophysiological nature of disorders resulting in critical illness.
3. Integrate advanced and integrated theoretical and clinical knowledge required for the, assessment and management of the complex critically ill patient.
4. Determine a systems approach to the assessment, monitoring and support of physiological function in the critically ill patient
5. Integrates care which is patient centered and embraces cultural diversity, individuality and experience

Course Contents

UNIT-I **15 Hours**

Care and maintenance of ventilators, suction machine, monitoring devices. Sterilization and disinfection of ventilators.
Care, maintenance and operational capabilities of beds, lights and other apparatus. Air conditioning and control of pollution in ICU.
Attachment and intra-operative utility of ventilators and monitoring devices.

UNIT-II **15 Hours**

Care of unconscious adult and pediatric patients. Physiotherapy techniques, feeding, Ryle's tube insertion and hyper alimentation.
Suctioning and posturing of semiconscious and unconscious patients. Oxygen therapy, maintenance of clear Airway. Ventilation of patient in crisis: Mouth to mouth. Mouth to ET Tube Resuscitator/ bag valve mask assembly Different types of Airways.
Short term ventilation/ Transport ventilators.

UNIT-III **15 Hours**

ICU Laboratory; Detection of blood gases of the patient, Principles of ABG machines. Management of asepsis. Management of tetanus patient. Psychological aspects of the patient, relative and staff. Hemofiltration and hemodialysis. Monitoring techniques and equipment; Cardiac monitors, Respiratory monitors

UNIT-IV **15 Hours**

Ventilators: Principles of working of different ventilators: Volume cycled/Time cycled/Pressure cycled ventilators. High frequency ventilators and other types. Methods of measuring the expired gases from the patient; Types of spirometers, Principles of working of spirometers. Clinical application of above apparatus. Apparatus and techniques of measuring of blood pressure and temperature; Principle and working of direct/indirect blood pressure monitoring apparatus; structure, principle and working of the o B.P. instrument. Laryngeal sprays; Types, material, principle and mechanism.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

Suggested Readings:

- *Ranjit, S. (2010). Manual of Pediatric Emergencies & Critical Care.Paras.*
- *McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: a review of worldwide literature.*
- *Journal of Medical Education and Curricular Development, 3, JMECD-S20377.*
- *Spuntarelli, V., Luciani, M., Bentivegna, E., Marini, V., Falangone, F., Conforti, G.,& Martelletti, P. (2020).*
- *COVID-19: is it just a lung disease? A case-based review. SN Comprehensive Clinical Medicine,*

Course Name: Surgical Instruments & Procedures

L	T	P	Cr
4	0	0	4

Course Code: BOA302

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Recognize the general principles and preventive maintenance for normal delivery and caesarian delivery.
2. Must know about routine testing and devaluation of results of routine testing for follow up of pregnancy.
3. Department staffing and organizations; records relating to child born in hospital and complete the documentation.
4. Comprehend the general principles and preventive maintenance for Medical termination of pregnancy

Course Contents

UNIT-I **15 Hours**

Neck Surgery Thyroidectomy Para thyroidectomy Thyroglossal Cystectomy Breast Procedures Beast Biopsy Mastectomy

UNIT-II **15 Hours**

Abdominal Extra-intestinal Surgery Abdominal laparotomy Abdominal Hernlography Cholecystectomy Drainage of Pancreatic Cyst (Pseudocyst) Pancreatic duodectomy (Whipples procedure) Pancreatectomy Drainage of Abscess (es) in the region of liver • Hepatic Resection Splenectomy.

UNIT-III **15 Hours**

Gastriubtestinal Surgery Esopghagoscopy Gastroscopy Colonoscopy Sigmoidoscopy Vagotomy and Pyloroplasty Gastrostomy Gastrectomy

Small Bowel Resection Cutaneous ileostomy Appendectomy Colostomy Closure of colostomy

UNIT-IV **15 Hours**

Major procedures tray Basic /Minor procedures tray Limited procedures tray Thyroid tray Long instruments tray Biliary tract procedures tray Choledochoscopy tray Basic rigid sigmoidoscopy tray Gastrointestinal procedures tray Rectal procedures tray Gynaecologic and Obstetric Trays Dilatation of the Cervix and Curettage of the Uterus (D&C) Tray Cervical Cone Tray Laparoscopy Abdominal Hysterectomy Caesarean Section tray Vaginal Hysterectomy tray

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Lee Synopsis Lee synopsis MRogan Medical surgical – Brunner & Siddharth Ortho-Lippincctt*
- *OBG/ GYN – D.C. Dutta*
- *Berry & Kohnis-Berry and Kohnis Operating RAM Technique*

Course Name: Basic Intensive care (Practical)

L	T	P	Cr
0	0	4	2

Course Code: BOA303

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Acquaintance about all ICU and Operation theatre machines.
2. Recognize the uses of instruments which are used in OT, ICU, and CCU.
3. Care and maintenance of all devices in OT.
4. Acquire care, maintenance and operational capabilities of beds, lights and other apparatus.

Course Contents

List of Experiments/Practical's

1. Ventilators: Principles of working of different ventilators: Volume

cycled/Time cycled/Pressure cycled ventilators. High frequency ventilators and other types.

2. Methods of measuring the expired gases from the patient; Types of spirometers,
3. Principles of working of spirometers. Clinical application of above apparatus.
4. Apparatus and techniques of measuring of blood pressure and temperature; Principle and working of direct/indirect blood pressure monitoring apparatus; structure, B.P. instrument.
5. Laryngeal sprays; Types, material, principle and mechanism. Monitoring techniques and equipment; Cardiac monitors, Respiratory monitors,

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Ranjit, S. (2010). Manual of Pediatric Emergencies & Critical Care.Paras.*
- *Spuntarelli, V., Luciani, M., Bentivegna, E., Marini, V., Falangone, F., Conforti, G., &Martelletti, P. (2020).*
- *McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: a review of worldwide literature.*
- *Journal of Medical Education and Curricular Development, 3, JMECD-S20377.*

Course Name: Surgical Instrument & Procedures (Practical)
Course Code: BOA304

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Realize the general principles and preventive maintenance for normal delivery and cesarean delivery.
2. Must know about routine testing and devaluation of results of routine testing for follow up of pregnancy.
3. Department staffing and organizations; records relating to child born in hospital and complete the documentation.
4. Recognize the general principles and preventive maintenance

for Medical termination of pregnancy

Course Content

List of Experiments/Practical's

1. Otoscopy: Examination of the ear using an otoscope to visualize the external ear canal and tympanic membrane.
2. Nasal Endoscopy: Using a flexible or rigid endoscope to visualize the nasal cavity and sinus passages for diagnostic or surgical purposes.
3. Laryngoscopy: Examination of the larynx (voice box) using a laryngoscope to assess vocal cord function and visualize abnormalities.
4. Tympanometry: Measurement of middle ear pressure and compliance using a tympanometer to assess middle ear function and detect conditions like otitis media or eustachian tube dysfunction.
5. Audiometry: Evaluation of hearing using pure-tone and speech audiometry tests to assess hearing thresholds and identify hearing loss.
6. Nasal Packing: Inserting gauze or specialized nasal packs into the nasal cavity to control bleeding or support the nasal septum after surgery.
7. Nasal Polypectomy: Surgical removal of nasal polyps using instruments like forceps or microdebriders to alleviate nasal obstruction.
8. Tonsillectomy and Adenoidectomy: Surgical removal of the tonsils and adenoids to treat chronic infections, sleep apnea, or recurrent tonsillitis.
9. Myringotomy: Creating a small incision in the tympanic membrane to drain fluid or release pressure from the middle ear, often followed by the insertion of tympanostomy tubes.
10. Sinus Surgery: Various procedures to address chronic sinusitis or sinus-related problems, such as functional endoscopic sinus surgery (FESS) or balloon sinuplasty.
11. Thyroidectomy: Surgical removal of the thyroid gland in cases of thyroid cancer, goiter, or hyperthyroidism.
12. Tracheostomy: Creation of an opening in the trachea through the neck to establish an airway for patients with severe respiratory distress or those requiring long-term ventilation.

Suggested Readings:

- *Lee Synopsis Lee synopsis MRogan*
- *Medical surgical – Brunner & Siddharth Ortho-Lippincctt*
- *OBG/GYN – D.C. Dutta*

- *Berry & Kohnis-Berry and Kohnis Operating RAM Technique.*

Course Name: Electronics and Technology in Surgery and Anesthesia
Course Code: BOA305

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. Maintain the electronic clinical record and prescribing system and drugs timing.
2. Provide electronic automatic coding, recovery progress, activity analysis.
3. Manage financial analysis, identification of staff, and all record of patients.
4. Find out engineering aspects of operation theatre equipment, power supplies, CVT, servo-stabilizers, and ups etc.

Course Contents

UNIT-I **15 Hours**

Electronics and electro mechanical techniques-Electrical safety precautions in operation theatre. OT tables, OT lights, suction machines, electrodes, pressure transducers, electrical safety, application, handling operation.

UNIT-II **15 Hours**

Basic electronics basic principle, care and maintenance and uses of surgical diathermy machine, defibrillator, Boyle's apparatus, anesthesia machine, monitors, pace-makers and stimulators etc. Engineering aspects of operation theatre equipment, power supplies, CVT, servo-stabilizers, and ups etc.

UNIT-III **15 Hours**

Book keeping and Stock maintenance. Moral aspects and duties of OT technologist. Indenting, Book keeping and storage procedures of different articles. Co-ordination with all working personal in operation Theatre. Psychological aspects of patient, staff and relatives of the patient. Management of operation theatre in routine

and emergency

UNIT-IV **15 Hours**

Computer data processing, software information and Data management. Logging on and off, Security concepts, Sending and receiving Emails. Hospital information system.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *El-Hindy, N., Johnston, R. L., Jays cock, P., Eke, T., Braga, A. J., Tole, D. M., & Sparrow, J. M. (2009). The Cataract National Dataset Electronic Multi-centre Audit of 55 567 operations: anaesthetic techniques and complications. Eye*
- *Sanborn, K. V., Castro, J., Kuroda, M., &Thys, D. M. (1996). Detection of intraoperative incidents by electronic scanning of computerized anaesthesia records: comparison with voluntary reporting. The Journal of the American Society of Anaesthesiologists Baddour, L. M., Epstein,*

Course Title: Medical Ethics & Legal Aspects
Course Code: BOA306

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Interact with the patients and health care professionals in working area.
2. Handle Legal Responsibilities, Patient safety and quality
3. Manage Biomedical waste generated from hospital or
4. Maintain Medical records and reports preparation.

Course Contents

UNIT-I **13 Hours**

Role, Definition and Interaction with the patients and health care professionals, Ethical, Moral, and Legal Responsibilities, Patient

safety and quality, restrain policies and role of health professionals.

UNIT-II **10 Hours**

Biomedical waste Management, medical records and reports. Medical terminology- The course employs a body systems-oriented, word-analysis approach to learning medical terminology.

UNIT-III **12Hours**

The goal of the class is to prepare students for the terminology they might encounter in their subsequent coursework, in their clinical rotations and ultimately in their roles as health care professionals.

UNIT-IV **10 Hours**

Ethical Issues in Research and Clinical Trials, Ethical principles in research involving human subjects, Informed consent in research, Ethical challenges in clinical trials, Legal Aspects in Healthcare
Overview of healthcare laws and regulations, Liability and malpractice issues in healthcare, Medical documentation and record-keeping

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- Beauchamp, T. L., Childress, J. F., & Principles, B. H. (2019). Principles of Biomedical Ethics (8th ed.). Oxford University Press.
- Devettere, R. J. (2012). Practical Decision Making in Health Care Ethics: Cases, Concepts, and the Virtue of Prudence (3rd ed.). Georgetown University Press.
- Lo, B., & Field, M. J. (Eds.). (2009). Conflict of Interest in Medical Research, Education, and Practice. National Academies Press.
- Pellegrino, E. D., & Thomasma, D. C. (2017). The Philosophy of Medicine Reborn: A Pellegrino Reader. University of Notre Dame Press.
- Crowley, M., & Lodge, A. (2018). Medicine, Ethics, and the Law: The Core Curriculum (2nd ed.). Churchill Livingstone.

Course Title: Medical Diseases Influencing Choice of Anesthesia
Course Code: BOA307

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the

learner will be able to:

1. Learn the application of anesthetic medications in Various Heart diseases.
2. Understand Respiratory diseases such as Chronic Obstructive Pulmonary Disease and Acute
3. Understand Respiratory Failure in renal diseases, diseases of Liver and endocrine disorders and In metabolic Diseases
4. Apply the knowledge related to drugs, calculations of anesthetic medications in different cardiovascular, respiratory and renal diseases.

Course Contents

UNIT- I **10 Hours**

Ischemic Heart Disease: Risk factors: Medications, Acute MI, and Anesthesia for IHD cases. Post op management Valvular Heart Disease: Mitral stenosis: Anesthetic problems, Aortic regurgitation Hypertension: Drugs Anaesthesia for Hypertension. Hypertensive Crises. Complications

UNIT- II **11Hours**

Respiratory Diseases: COPD, Bronchiectasis, Asthma, Pneumonia, Acute Respiratory Failure , Tuberculosis Diseases of CNS- Cerebral Edema & Its Management, Ocular Trauma, Meningitis, Encephalitis .

UNIT-III **12 Hours**

Diseases of Liver and Biliary Tract-Liver Functions, Liver Function Tests, Hepatitis, Jaundice, Types, Cirrhosis; Hepatorenal Syndrome Renal Disease: Functions of Kidney, Kidney Function, tests, Renal Failure, Anesthesia for renal failure patients (Acute and Chronic), Urinary Tract Infection

UNIT-IV **12 Hours**

Endocrine Disease: Diabetes Mellitus, Thyroid Dysfunction – Thyrotoxicosis, Hypothyroidism, Adrenal Gland Dysfunction, Diabetes Insipidus. Obesity, Anemia, Iron Deficiency Anemia

Head Injury: Classification, Mechanism of Head Injury, SDH, EDH, SAH

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *George Mathews:- Handbook MedicineLee Synosis: Anaethesia Handbook.*
- *Stoelting, R. K., & Hillier, S. C. (2019). Anesthesia and Co-Existing Disease (7th ed.). Elsevier.*
- *Dripps, R. D., & Eckenhoff, J. E. (2016). Introduction: The Patient with Systemic Disease. In Dripps/ Eckenhoff/ Vandam's Introduction to Anesthesia: The Principles of Safe Practice (6th ed., pp. 1-17). Lippincott Williams & Wilkins.*
- *Longnecker, D. E., Brown, D. L., Newman, M. F., & Zapol, W. M. (2017). Chapter 5: Coexisting Disease. In Anesthesiology (3rd ed., pp. 93-109). McGraw-Hill Education.*
- *Pino, R. M., Aliaga, L., & Cassorla, L. (2016). Coexisting Disease: The Pediatric Patient. In Anesthesia and Perioperative Care for Organ Transplantation (1st ed., pp. 57-69). Springer.*

Course Title: Medical Terminology & Medical Records

Course Code: OEC021

L	T	P	Cr
2	0	0	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Recognize interaction between society and educational institutions.

2. Making the learners acquire conceptual clarity and develop respect fornorms and values of freedom, equality, fraternity and justice.

3. Outline to medical terminology Word formation

4. Importance of medical record, Flow chart of function, statutory requirements of maintenance.

UNIT I **10 Hours**

Introduction to medical terminology Word formation commonly used prefixes, suffixes and root words in medical terminology D

Common Latin term used in prescription writing Study of standard abbreviations commonly used medical terms to define different parts of the body

UNIT II **05 Hours**

Medical terminology used by: Cardiologist, Neurologist, Nephrologist, Gastrointestinologist, ENT surgeon, Dentist, Orthopedic surgeon, Gynecologist, Oncologist, Dermatologist and Endocrinologist.

UNIT III **05 Hours**

Medical record: Definition and Types of medical record, Importance of medical record, Flow chart of function, Statutory requirements of maintenance, coding, indexing and filing, Computerization of record, Report and returns by the record department, Statistical information and ICD.

UNIT IV **10 Hours**

Utility & functions of Medical Records in Health care delivery System. Organizations & management of the Medical Records Department. Role of Hospital managers & MRD personnel in Medical record keeping. Reports & returns in the Medical Record System.

Suggested Readings:

- *F.J. Baker & R.E. Silverto An introduction to Med. Lab. Technology Pb. London Butterworthand Co.Ltd. Paramedics-Six in One Jaypee Brothers*
- *B. M. Sakharkar Principles of Hospital Administration & Planning Jaypee Brothers4 C.*
- *M.Francis Hospital Administration Jaypee Brothers*
- *G.D. Mogli Medical Records Jaypee Brothers.*

Course Name: Human Rights & Profession Values
Course Code: OEC018

L	T	P	Cr
2	0	0	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Realize interaction between society and educational institutions.

2. Sensitize the citizens so that the norms and values of human rights and duties of education Programme are realized.
3. Encourage research activities.
4. Encourage research studies concerning the relationship between Human Rights and Duties Education.

Course Contents

UNIT – I **05 Hours**

Background – Introduction, Meaning, Nature and Scope, Development of Human Rights, Theories of Rights, Types of Rights Human rights at various level- Human Rights at Global Level UNO, Instruments: U.N. Commission for Human Rights, European Convention on Human Rights.

UNIT – II **10 Hours**

Human rights in India – Development of Human Rights in India, Human Rights and the Constitution of India, Protection of Human Rights Act 1993- National Human Rights Commission, State Human Rights Commission, Composition Powers and Functions, National Commission for Minorities, SC/ST and Woman

UNIT – III **10 Hours**

Human Rights Violations -Human Rights Violations against Women, Children, Violations against Minorities SC/ST and Trans-genders, Preventive Measures. Professional values- Integrity, Objectivity, Professional competence and due care, Confidentiality

UNIT – IV **05 Hours**

Personal values- ethical or moral values, Attitude and behaviour professional behaviour, treating people equally Code of conduct professional accountability and responsibility, misconduct, Cultural issues in the healthcare environment

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Jagannath Mohanty Teaching of Humans Rights New Trends and Innovations Deep & Deep Publications Pvt. Ltd. New*

Delhi2009

- *Ram Ahuja: Violence Against Women Rawat Publications Jewahar NagerJaipur.1998.*
- *Sivagami Parmasivam Human Rights Salem 2008Hingorani R.C.: Human Rights in India: Oxford and IBA New Delhi.*

Semester 4th

L	T	P	Cr
4	0	0	4

Course Name: Anesthesia for Specialty Surgeries
Course Code: BOA401

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. A primary purpose of the course is to know about uses of anesthetic instruments, anesthetic
2. Procedure and anesthetic drugs in different medical conditions.
3. know about uses of anesthetic instruments, anesthetic procedure
4. Elaborate anesthetic drugs in different medical conditions.

Course Contents

UNIT I **15 Hours**

Anesthesia for Obese Patients Neurosurgical anesthesia. Anesthesia in Laparoscopic surgery.

UNIT II **15 Hours**

Anesthesia for Obstetric procedure, Anesthesia in pediatric patient's surgery. Anesthesia in Orthopedic surgery

UNIT III **15 Hours**

Anesthesia in geriatric surgery, Anesthesia for Ophthalmic surgery, Anesthesia in day care surgery.

UNIT IV **15 Hours**

Anesthesia for ENT surgery, Anesthesia for management of burn patients. Anesthesia in Pain management.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Synopsis of medical instruments & procedure by JP Brothers.*

- *Short text book of anesthesia by JP Brothers.*
- *Textbook-Anesthesiav by Pramod Kumar*
- *Equipment-Drugs-Waveforms- by JP Brother*

Course Name: CSSD Procedures
Course Code: BOA402

L	T	P	Cr
4	0	0	4

Total Hours: 60

Learning Outcomes: After completion of this course, the learner will be able to:

1. The purpose of sterilization and disinfection procedures is to prevent transmission of microbes to
2. Patients. These standard precautions should be used in interaction with all patients because it is
3. Know whether any particular patient may be the reservoir of transmissible bacteria, viruses, or other microbes.
4. Information about the purpose of sterilization and disinfection procedures is to prevent transmission of microbes to patients.

Course Contents

UNIT I **15 Hours**

Waste disposal Introduction to bio medical waste, Types of bio medical waste, Bio Medical Waste Management, Collection of bio medical waste, Hazards of Biomedical waste.

UNIT II **15 Hours**

Disinfectants, Types of disinfectants Use of disinfectants for cleaning equipment's, sharps, blunt and etc. Contaminated high risk baby care - delicate instruments or hot care instruments.

UNIT III **15 Hours**

Cleaning process - use of detergents. Mechanical cleaning apparatus, cleaning instruments, cleaning of catheters and tubing's, cleaning glass ware, cleaning syringes and needles.

UNIT IV **15 Hours**

Ionizing and non-Ionizing sterilization and Disinfection. Moist heat sterilization. Dry heat sterilization EO gas sterilization, gowning, gloving and scrubbing techniques.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching,

Question

Suggested Readings:

- Kumar S. Textbook of microbiology. JP Medical Ltd; 2012 Sep 30.
- Draugalis JR, Coons SJ, Plaza CM. Best practices for survey research reports: a synopsis for authors and reviewers. American journal of pharmaceutical education. 2008 Sep

Course Name: General Anesthesia
Course Code: BOA403

L	T	P	Cr
4	0	0	4

Total Hours:60

Learning Outcomes: After completion of this course, the learner will be able to:

1. To know about general anesthesia, indication, complications and management of patients throughout General Anesthesia.
2. To knowledge about general anesthesia, indication and complications during use.
3. To know about management of patients throughout General anesthesia.
4. Elaborate anesthetic drugs and Indications & Contraindications

Course Contents

UNIT I **15 Hours**

Introduction General Anesthesia- Components, Triad of anesthesia, balanced anesthesia, Stages of General Anesthesia (Guedel's Classification)

UNIT II **15 Hours**

Indications & Contraindications Indications of General anesthesia, Contraindications of General Anesthesia. Preparations for General anesthesia.

UNIT III **15 Hours**

Pre anesthetic medication- Changes, Uses and Preoperative Fasting. Patient Preparation and transport of patients to the OT. Gasses used in Anesthesia Intravenous / inhalation of volatile Anesthetics Muscle relaxants, analgesics

UNIT IV **15 Hours**

Difficult Airway, LMA Complications of General Anesthesia- intraoperative, immediate, postoperative & delayed. Post-operative care after anesthesia.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching,

Question

Suggested Readings:

- G. Smith & A.R. Aitkenhead's Textbook of Anaesthesia ELSEVIER
- Ajay Yadav Short Textbook of Anaesthesia Jaypee Brothers.
- Anshul Jain Essentials of Anaesthesia& Critical Care Jaypee Brothe

Course Name: Anesthesia for Specialty Surgeries (Practical)
Course Code: BOA404

L	T	P	Cr
0	0	4	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. A primary purpose of the course is to know about uses of anesthetic instruments, anesthetic
2. A primary purpose of the course is to know about uses of anesthetic
3. Analysis of anesthetic instruments, anesthetic procedure
4. Elaborate anesthetic drugs in different medical conditions.

List of Experiments/Practical's

1 Neurosurgical anesthesia, Anesthesia in Laparoscopic surgery, Anesthesia for Obstetric procedure,
2 Anesthesia in pediatric patient's surgery.
3 Anesthesia in Orthopedic surgery Anesthesia for Ophthalmic surgery
4 Anesthesia in day care surgery Anesthesia for ENT surgery Anesthesia in Pain management

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Synopsis of medical instruments & procedure by JP Brothers Short text book of anesthesia by JP Brothers.*
- *Textbook-Anesthesia by Pramod Kumar Equipment-Drugs-Waveforms- by JP Brother*

Course Name: CSSD Procedures (Practical)
Course Code: BOA405

L	T	P	Cr
0	0	4	2

Total Hours: 30
Learning Outcomes: After completion of this course, the learner will be able to:

1. The purpose of sterilization and disinfection procedures is to prevent transmission of microbes to patients. These
2. Whether any particular patient may be the reservoir of transmissible bacteria, viruses, or other microbes.
3. Attain knowledge about the purpose of sterilization and disinfection procedures is to prevent transmission of microbes to patients.
4. Knowledge about the standard precautions should be used in interaction with all patients

List of Practical's /Experiments

1. Procedure of Autoclave.
2. Procedure of Hot air oven
3. Procedure of EO.
4. Procedure of instruments packing.
5. Procedure of Fumigation of Operation Theater.
6. Techniques of Disinfectants.
7. Procedure of scrubbing
8. Procedure of washing.
9. Sterilization of the anesthetic instruments.
10. Procedure of sterilization in chamber.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- Kumar S. Textbook of microbiology. JP Medical Ltd; 2012 Sep 30.
- Draugalis JR, Coons SJ, Plaza CM. Best practices for survey research reports: a synopsis for authors and reviewers. American journal of pharmaceutical education. 2008 Sep 1;72(1)

L	T	P	Cr
2	0	0	2

Course Name: Environment Studies

Course Code: BOA406 **Total Hours: 30**

Learning Outcomes: After completion of this course, the learner will be able to:

1. Realize natural Resources and associated problems, use and over exploitation.
2. Classify causes, effects and control measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution
3. Categories the concept of ecosystem, structure, interrelationship of producers, consumers and decomposers.
4. Inspect sustainable development, urban problems related to energy, Water conservation, rain water harvesting

Course Contents

UNIT-I **05 Hours**

Introduction Definition and scope and importance of multidisciplinary nature of environment. Need for public awareness. Natural Resources Natural Resources and associated problems, use and over exploitation, case studies of forest resources and water resources.

UNIT-II **10 Hours**

Ecosystems Concept of Ecosystem, Structure, interrelationship, producers, consumers and decomposers, ecological pyramids-biodiversity and importance. Hotspots of biodiversity Environmental Pollution Definition, Causes, effects and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste management: Causes, effects and control measure of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies, Disaster management: Floods, earthquake, cyclone and landslides.

UNIT-III **10 Hours**

Environment Protection Act, Air (Prevention and Control of Pollution) Act. Water (Prevention and control of pollution) Act. Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation Public awareness. Human

Population and the Environment, Population growth, variation among nations. Population explosion–Family Welfare Program. Environment and human health, Human Rights, Value Education, HIV/AIDS. Women and child Welfare. Role of Information Technology in Environment and human health. Case studies.

UNIT-IV **05 Hours**

Understanding the Hospital Environment Understanding the environment in the following clinical laboratories: Microbiology, Biochemistry, Histopathology, Hematology Clinical laboratory hazards to the environment from the following and means to prevent Infectious material, Toxic Chemicals, Radioactive Material, Other miscellaneous wastes

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question, ppt.

Suggested Reading:

- *Chawla S., 2012. A Textbook of Environmental Studies, TataMcGrawHill,NewDelhi.*
- *Jadhav,H&Bhosale,V.M.,1995.Environmental ProtectionandLaws.Himalaya Pub.House, New Delhi.Gadi R., Rattan, S., 2006.*
- *Environmental Studies, KATSON Books, New Delhi.McKinney, M.L. & School, R.M., 1996.*
- *Environmental Science Systems &Solutions, Web enhanced edition.WangerK.D.,1998.*
- *Environmental Management.W.B.SaundersCo. Philadelphia, USA*

Course Name: Drug Abuse: Problem, Management and Prevention
Course Code: BOA407

L	T	P	Cr
2	0	0	2

Total Hours: 30

Learning Outcomes: After completion of this course, the learner will be able to:

1. Understand the concept of drug abuse and their impact on public health.
2. Make them aware of the impact of drugs addiction on families and peers.
3. Make students understand the management and prevention of drug abuse.
4. Apply personal protective equipment's for self-protection.

Course Contents

UNIT-I **10 Hours**

Problem of Drug Abuse: Concept and Overview; Types of Drug Often Abused Concept and Overview what are drugs and what constitutes Drug Abuse? Prevalence of menace of Drug Abuse

How drug Abuse is different from Drug Dependence and Drug Addiction? Physical and psychological dependence- concepts of drug tolerance Introduction to drugs of abuse: Short Term, Long term effects & withdrawal symptoms Stimulants: Amphetamines, Cocaine, Nicotine Depressants: Alcohol, Barbiturates- Nembutal, Secondly, Phenobarbital Benzodiazepines Diazepam, Alprazolam, Flunitrazepam Narcotics: Opium, morphine, heroin.

Hallucinogens: Cannabis & derivatives (marijuana, hashish, hash oil), Steroids and inhalants.

UNIT-II **05 Hours**

Nature of the Problem: Vulnerable Age Groups, Signs and symptoms of Drug Abuse Physical indicators. Academic indicators. Behavior and Psychological indicators.

UNIT-II **10 Hours**

Causes and Consequences of Drug Abuse Causes Physiological Psychological Sociological Consequences of Drug Abuse For individuals for families or society & Nation

UNIT-IV **05 Hours**

Management & Prevention of Drug Abuse Management of Drug Abuse Prevention of Drug Abuse Role of Family, School, Media, Legislation & De addiction Centers

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *Kapoor. T., Drug Epidemic among Indian Youth, Mittal Pub, New Delhi,1985.*
- *Ishwar and Shalini, Drugs: Addiction and Prevention, Rawat Publication,Jaipur, 1997.*
- *Ahuja, Ram, Social Problems in India, Rawat Publications, Jaipur, 2003.*
- *National Household Survey of Alcohol and Drug Abuse. New Delhi, ClinicalEpidemiological Unit, All India Institute of Medical Sciences, 2004.World Drug Report , United Nations Office of Drug and Crime,2011*
- *WorldDrug Report, United nations Office of Drug and Crime, 2010.*

Course Name: Medicine

Course Code: BOA408

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Obtain an accurate and complete medical history of the patient.
2. Perform complete and organ-system specific examinations, including amental status examination.
3. Recommend and interpret the results of commonly used diagnostic procedures and tests.
4. Recognize Common urinary symptoms- dysuria, pyuria, anuria, oliguria, polyuria

UNIT-I **10 Hours**

Common symptoms of diseases –Pain: pathophysiology, clinical types, assessment and management Fever: clinical assessment and management Cough chest pain, dyspnoea, and haemoptysis Oedema, anasarca, ascites Pallor, jaundice Bleeding Anorexia, nausea and vomiting Constipation and diarrhea

UNIT-II **10 Hours**

Hematemesis, malena and hematochezia Common urinary symptoms- dysuria, pyuria, anuria, oliguria, polyuria, nocturia, enuresis Body pains and joint pains Headache, seizures, fainting, syncope, dizziness, vertigo Disturbances of consciousness and coma ,Weight loss and weight gain

UNIT-III **10 Hours**

Immune Response and Infections Approach to infectious diseases – diagnostic and therapeutic principles Immune defence mechanisms Laboratory diagnosis of infections Principles of immunization and vaccine use Immunodeficiency disorders - acquired Immunodeficiency disorders – congenital

UNIT-IV **15 Hours**

Cardiovascular system- Clinical examination of the cardiovascular system, major manifestations of cardiovascular disease

Respiratory system - Clinical examination of the respiratory system, major manifestations of respiratory disease

Renal and genito-urinary system- Major manifestations of renal and urinary tract disease Liver and biliary tract disease - Viral hepatitis, alcoholism. Endocrinology and metabolism, Diabetes mellitus, Hyper-and hypothyroidism. Disorders of the Immune System, Connective Tissue and Joints Disorder of haemopoesis - Anemia - iron deficiencies anemia. Types

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

- Greenhalgh, T. (2019). How to Read a Paper: The Basics of Evidence-Based Medicine (6th ed.). John Wiley & Sons.
- Kumar, P., & Clark, M. (2017). Kumar and Clark's Clinical Medicine (9th ed.). Elsevier.
- Kasper, D. L., Fauci, A. S., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (Eds.). (2020). Harrison's Principles of Internal Medicine (20th ed.). McGraw-Hill Education.

- Deakin, C. D., & King, P. (Eds.). (2019). Advanced Life Support: A Practical Approach (6th ed.). Wiley-Blackwell.
- McPhee, S. J., Papadakis, M. A., & Rabow, M. W. (Eds.). (2019). Current Medical Diagnosis & Treatment 2020. McGraw-Hill Education.

Course Name: Pre - Operative Anesthetic Care & Preparation
Course Code: **BOA409**

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Learn the knowledge of advance techniques regarding anesthesia.
2. Understand about the advance heart surgery techniques and machinery
3. Use of all types of clinically techniques of ventilation.
4. Apply Cardiac Arrhythmias (atrial fibrillation, ventricular tachycardia, extra systoles)

Course Content

UNIT – I **10 Hours**

An aesthesia Techniques Phases of GA Balanced anesthesia, TIVA Regional anesthesia Techniques IVRA, CNB, Plexus Block, Topical Sedation / MAC Complication of GA / RA

UNIT – II **15 Hours**

Pre anesthetic assessment History – past history - disease / Surgery / and personal history - Smoking/ alcohol / drugs / medication General physical assessment, systemic examination – CVS, RS, CNS Investigations – Hematological, Urine, ECG, Chest X- ray, Endocrine, Hormonal assays, Echocardiography, angiography, Liver function test, renal function test ASA grading - I, II, III, IV, V

UNIT – III **10 Hours**

Patient check List: Protocol Part preparation Consent, PAC, Investigations NPO Status, OT Dress, Lipstick/ Nail polish Premedication Basal parameters I.V. Line an aesthesia Machine / Gas Supply Suction Machine Monitors anesthesia Airway Devices – Laryngoscope, Airways, ETT, Stylette, tape jelly I.V.Cannula, I.V. fluids

UNIT – IV **10 Hours**

Drugs – Anesthesia related and Emergency Special preparation – As per specific patient need difficult intubation tray: Contents PACU, Discharge Criteria Modified Aldreth Score Five Vital Signs Bladder Distension Pain management.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggestion Reading

- *Alam, A., Rampes, S., Patel, S., Hana, Z., & Ma, D. (2021). Anesthetics or anesthetic techniques and cancer surgical outcomes: a possible link. Korean Journal of Anesthesiology*
- *Malamed, S. F. (2014). Handbook of local anesthesia-e-book. Elsevier Health Sciences.*
- *Miller, R. D., Eriksson, L. I., Fleisher, L. A., Wiener-Kronish, J. P., Cohen, N. H., &Young, W. L. (2014). Miller's anesthesia e-book. Elsevier Health Sciences.*

L	T	P	Cr
4	0	0	4

Course Name: Regional anesthesia

Course Code: BOA501 **Total Hours: 60**

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. To know about the concept of Regional Anesthesia. Various methods of regional anesthesia and its comparison with General Anesthesia.
2. Information about concept of Regional Anesthesia.
3. Various methods of regional anesthesia and its comparison with General Anesthesia.
4. Elaborate Systemic effects, Spinal Anesthesia

UNIT I **15 Hours**

Regional Anesthesia- Introduction and classification- Local Block, Peripheral Nerve Block & Central Neuraxial Block-Drugs used in Regional Anesthesia. Needles used in Regional Anesthesia.

UNIT II **15 Hours**

Considerations, Systemic effect & toxicity. Individual Agents used, Methods of Local Anesthesia, Causes of Failure of Local Anesthesia.

UNIT III **15 Hours**

Peripheral Nerve Block- Technique Blocks in Upper Limb, Lower Limb, Head & Neck, Thorax & Abdomen area. Contraindications of Peripheral Nerve Block.

UNIT IV **15 Hours**

Central Neuraxial Blocks: Applied Anatomy, Advantages of CNB over General Anesthesia, Systemic effects, Spinal Anesthesia/Block, Intrathecal Block, Saddle Block. Epidural Anesthesia (Epidural Block) Combined Spinal Epidural Block Caudal Block Level of Block Required for common Surgeries.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question,ppts.

Suggestion Reading

- *Ajay Yadav Short Textbook of Anesthesia Jaypee publications*
- *Pillai Manual of Anesthesia for Operation Theatre Technicians Jaypee Brothers*
- *Maxine Goldman Pocket Guide to Operating Room F A Davis Company*

L	T	P	Cr
4	0	0	4

Course Name: Anesthesia Technology

Course Code: BOA502 **Total Hours: 60**

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. A primary purpose of the course is to know about uses of basic anesthetic instruments and anesthetic procedure.

2. Understand uses of basic anesthetic instruments and basic anesthetic procedure.
3. Elaborate Pharmacology related to Anesthesia General Principles
4. Analysis to Important groups of drugs

UNIT I **15 Hours**

Anesthesia Equipment Boyle's Machine & its functioning. Boyle's vaporizers Magill's breathing circuit, Bain's breathing circuit, pediatrics anesthesia circuit Gas cylinders & flow meters Carbon dioxide absorption canisters.

UNIT II **15 Hours**

Suction apparatus foot operated, electrically operated AMBU bag& laryngoscope endotracheal tubes Catheters, face masks, ventimask Anaesthesia Ventilators & Monitoring.

UNIT III **15 Hours**

Pharmacology related to Anesthesia General Principles- Pharmacological classification of Drugs, Route of drug administration, precautions in administration, and principles of drug toxicity, prevention & treatment of poisoning adverse drug reaction. Sedatives & hypnotics, barbiturates, morphine & others.

UNIT IV **15 Hours**

Important groups of drugs- Antimicrobial agents & anti-allergy drugs, Diuretics & NSAIDS. Pre-anesthetic medication Local Anesthesia - technique & agents Spinal Anesthesia- technique agents General Anesthesia - technique & agents

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Questions,ppts.

Suggestion Reading

- *Ajay Yadav Short Textbook of Anaesthesia Jaypee Anshul Jain Essentials of Anaesthesia& Critical Care Jaype*
- *Pillai Manual of Anesthesia for Operation Theatre Technicians Jaypee Brothers*
- *Maxine Goldman Pocket Guide to Operating Room F A Davis Company*

L	T	P	Cr
4	0	0	4

Course Name: Basic Concepts of Anesthesia
Course Code: BOA503
Total Hours: 60
Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Clarify concepts and techniques in Anesthesia.
2. To Study about the techniques in Anesthesia for surgical patient
3. Understand about uses of medical apparatus in anesthesia.
4. Elaborate preparation of general apparatus before anesthesia

UNIT I **15 Hours**

Intravenous Cannula: Setting up an IV Line, Color coding of different IV cannula, Flow through IV cannula, places where IV cannula can be inserted, Technique of inserting IV cannula in adults and children. Intra-arterial Line: Uses and techniques, position, places where IA cannula can be put. Central Venous Cannulation: Uses and technique, Measurement of CVP, precautions during insertion, indications and contraindications. Brief idea about Cardiac catheterization and Pulmonary Catheterization.

UNIT II **15 Hours**

Ryle's Tube: Technique of insertion, Sizes available, Precautions and complications, Suction catheters: Uses and color coding, Sizes available. Foley's catheter: Insertion Technique, Precautions, Care and complications. Supra-pubic catherization: Indications and placement.

UNIT III **15 Hours**

Endotracheal Tubes, Combitubes, Double Lumen Tubes: Uses and advantages. Nasal and oral tubes: indications and advantages. Oral Airways: Classification, Sizes and color coding indications. Supraglottic devices: LMA, I-gel and Proseal. Uses and indications.

UNIT IV **15 Hours**

Transport of patient: Intra-hospital transport, Inter-hospital transport. Transportation of critically ill patients, Indications, preparation and Precautions of transportation. Patient handover to nursing staff.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Questions,ppts

Suggestion Reading

- *Ajay Yadav Short Textbook of Anaesthesia Jaypee Brothers*
- *Ahanantha Pillai Manual of Anesthesia for Operation Theatre Technicians Jaypee Brothers*
- *Maxine Goldman Pocket Guide to Operating Room F A Davis Company*

Course Name: Regional Anesthesia (Practical)
Course Code: BOA504

L	T	P	Cr
0	0	4	2

Total Hours:30

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. To learn about the concept of Regional Anesthesia and understand various methods and
2. Apply Techniques of regional Anesthesia.
3. Knowledge about concept of Regional Anesthesia.
4. Knowledge about various methods of regional anesthesia and its comparison with General Anesthesia.

List of Practical's /Experiments

1. Learn about various needles used in regional anesthesia.
2. Positions given during administration of local anesthesia.
3. To check the effect of Local Anesthesia after block and to learn about various drugs used in regional anesthesia.
4. To understand the technique of Spinal Anesthesia and Epidural Anesthesia.
5. To see the various complications of Regional Anesthesia and their management.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Questions,ppts

Suggestion Reading

- *Ajay Yadav Short Textbook of Anesthesia Jaypee*
- *Pillai Manual of Anesthesia for Operation Theatre Technicians Jaypee Brothers*
- *Maxine Goldman Pocket Guide to Operating Room F A Davis Company*

Course Name: Anesthesia Technology (Practical)

L	T	P	Cr
0	0	4	2

Course Code: BOA505 **Total Hours: 30**

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. About basic and advanced of Anesthesia Technology and about various methods and techniques of Anesthesia in detail.
2. Recognize the Basic and advanced of Anesthesia Technology.
3. Analysis various methods and techniques of Anesthesia in detail.
4. Elaborated different types technologies for anesthesia

List of Practical's /Experiments

1. To learn about the duties of an anesthesia Technician.
2. To learn how to assist the Anesthetist.
3. To learn about checking an anesthesia machine.
4. To learn how to monitor the patient during anesthesia.
5. To Learn about CPR, BLS and ACLS see the various complications of Regional Anesthesia and their management.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Questions,

Suggestion Reading

- *Ajay Yadav Short Textbook of Anaesthesia Jaypee*
- *Pillai Manual of Anesthesia for Operation Theatre Technicians Jaypee Brothers*
- *Maxine Goldman Pocket Guide to Operating Room F A Davis Company*
- *Anshul Jain Essentials of Anaesthesia & Critical Care*

Course Name: First Aid

L	T	P	Cr
2	0	0	2

Course Code: BOA506 **Total Hours: 30**

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. This course emphasizes to know about first aid techniques
2. This course emphasizes the students deal with first aid techniques
3. The aims and objectives of the first aid and to can provide it.
4. Elaborate first steps for patient in emergency situation.

UNIT- I **05 Hours**

Basic first aid techniques on, Respiratory system & breathing, cardiac condition, blood circulation & Shock

UNIT-II **10 Hours**

Wounds & injuries, Dressing and bandages and Fractures & dislocation of the bone & joints. Neurological conditions & unconsciousness

UNIT-III **05 Hours**

Abnormality of the gastrointestinal tract & food poisoning, Electric shock; burns, hemorrhage.

UNIT-IV **10 Hour**

Drug toxicity & poisoning. Bites & stings and foreign body in ENT & Skin. CPR, ABC method in CPR.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Questions.

Suggestion Reading

- Emerich K, Gazda E. Review of recommendations for the management of dental trauma presented in first-aid textbooks and manuals. Dental traumatology. 2010 Jun;26(3):212-6.
- Altintas KH, Aslan D, Yildiz AN, Subasi N, Elçin M, Odabasi O, Bilir N, Sayek I. The evaluation of first aid and basic life support training for the first year university students. The Tohoku journal of experimental medicine. 2005;205(2):157-69.
- Le T, Bhushan V, Sheika-Ali M, Cecilia Lee K. First Aid for the USMLE Step 2 CS. McGraw Hill Education.; 2014

L	T	P	Cr
3	0	0	3

Course Name: Hematology & Blood Bank

Course Code: BOA508 **Total Hours: 45**

Learning Outcomes: After successful completion of this course, the learner will be able to:

1. Components, characteristics and function of human blood and to identify the principle of routine
2. Hematological tests including sources of error and clinical significance of results.
3. Study the components, characteristics and function of human blood.
4. Identify the principle of routine hematological tests including sources of error and clinical significance of results.

UNIT I **05 Hours**

Blood cells, Hemoglobin, Coagulation Factors, Immunoglobulin, Red Cell Antigen, Natural Antibodies, Rh System, Rh Antigens & Rh Antibodies, Antigen antibody reaction, Agglutination, Hem agglutination. Blood grouping techniques, Methods for ABO grouping, Slide & Tube Method, Difficulties in ABO grouping, Antiserum used in ABO test procedures, Anti –A, Anti B, Anti-AB, and Inheritance of the Blood groups.

UNIT II **15 Hours**

Methods of blood collection, Anticoagulant- Definition, types of anticoagulant-(EDTA, Citrate, Oxalate, Heparin, sodium fluoride), mechanism of coagulation, Hemolysis of blood. Separation of serum & plasma, Criteria for blood specimen rejection, Changes in blood, Maintenance of specimen identification, Transportation of the blood, Storage of blood in blood bank, Universal precautions.

UNIT III **10 Hours**

Bone Marrow, Cell composition of normal adult Bone marrow, Aspiration, Indication, Preparation & Staining, Basic Hematological Techniques. Characteristics of a good technician, Preparation of specimen collection material, Lab request form, Collection methods of bone marrow specimen, Indication and complications.

UNIT IV **15 Hours**

Blood Transfusion: Indications of blood transfusion, reactions of blood transfusion and precaution of blood transfusion. Blood Donation: Introduction, Blood donor requirements, Criteria for selection & rejection, Medical history & personal details, Self-exclusion, Health checks before donating blood, Blood collection packs, Anticoagulants, Instructions given to the donor after blood donation, Adverse donor reaction. Testing Donor Blood, Blood Donor Records, Storage of blood, Changes in blood after storage.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question.

- *Hoffbrand, A. V., Moss, P. A. H., & Pettit, J. E. (2019). Essential Haematology (7th ed.). Wiley-Blackwell.*
- *Rodak, B. F., & Carr, J. H. (2016). Clinical Hematology Atlas (5th ed.). Elsevier.*
- *Harmening, D. M. (2019). Modern Blood Banking & Transfusion Practices (7th ed.). F.A. Davis Company.*
- *Rodak, B. F., Fritsma, G. A., & Keohane, E. M. (2018). Hematology: Clinical Principles and Applications (5th ed.). Elsevier.*
- *Turgeon, M. L. (2019). Clinical Hematology and Fundamentals of Hemostasis (6th ed.). F.A. Davis Company.*

Course Title: Health Care

Course Code: BOA509

L	T	P	Cr
3	0	0	3

Total Hours: 45

Learning Outcomes: After completion of this course, the learner will be able to:

1. Teach the measures of the health services and high-quality health care
2. Recognize whether the health care delivery system is providing high-quality health care and whether quality is changing over time.
3. Provide to National Health Programme- Background objectives, action plan, targets, operations, in various National Heath Programme.
4. Introduce the AYUSH System of medicines.

Course Contents

UNIT-I **05 Hours**

Introduction to healthcare delivery system - Healthcare delivery system in India at primary, secondary and tertiary car; Community participation in healthcare delivery system; Health system in developed countries; Private / Govt. Sector;

UNIT-II **10 Hours**

National Health Mission; National Health Policy; Issues in Health Care Delivery System in India Medicine - Introduction to Ayurveda; Yoga and Naturopathy; Unani; Siddha; Homeopathy; Need for integration of various system of medicine

UNIT-III **15 Hours**

National Health Programme- Background objectives, action plan, targets, operations, achievements and constraints in various National Heath Programme. Introduction to AYUSH system of Health Scenario of India- past, present and future Demography & Vital Statistics- Demography – its concept; Census & its impact on health policy Epidemiology - Principles of Epidemiology Natural History of disease.

UNIT-IV **15 Hours**

Methods of Epidemiological studies Epidemiology of communicable & non-communicable diseases, disease, and transmission, host defense immunizing agents, cold chain, immunization, disease,

monitoring and surveillance.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question,

Suggested Readings

- *National Health Programs Of India National Policies and Legislations Related to Health: J. Kishore (Author)*
- *A Dictionary of Public Health Paperback by J Kishor*
- *Health System in India: Crisis & Alternatives , National Coordination Committee, Jan Swasthya AbhiyanIn search In Search of the Perfect Health SystemCentral Bureau of Health Intelligence (1998). Health Information of India, Ministry of Health and Family Welfare, New Delhi.Goyal R. C. (1993).*
- *Handbook of Hospital Personal Management, Prentice Hall of India, New*

Course Title: Training/Internship report

Course Code: BOA601

L	T	P	Cr
0	0	0	20

Learning Outcomes: After completion of this course, the learner will be able to:

1. Prepare and maintain Operation Theatre as well as patients before surgery.
2. Maintain a sterile field and theatre equipment and follow infection control policies.
3. Manage hazardous waste and follow biomedical waste disposal protocols.
4. Demonstrate skills and knowledge to assist anesthetist in handling emergencies.

Training Report

Students have to carry out a Training Report (on any topic related to operation theatre technology) under the supervision of a Surgeon and Doctor. The training report has to be prepared on the basis of the research work carried out. The assessment is done on the basis of the work done and the presentation and viva.