GURU KASHI UNIVERSITY

Bachelor of Science in Operation Theatre Technology

Session: 2022-23

Department of Paramedical Sciences

Program Learning Outcomes

After completion of the program the Masters students will be able to

- Demonstrate ability to prepare the patient for operative procedures.
- Demonstrate skills and knowledge to assist anesthetist inhandling emergencies outside of OT room
- Demonstrateability to prepare and maintain Operation Theatre.
- Demonstrate ability to maintain equipment support in anacute care environment.
- Identify and move to maintain a sterilefield.
- Follow infection control policies andprocedures.
- Manage and maintain theatre Equipment.

Program Structure

Semester -1st							
Sr. No	**Course Code**	**Course Title**	**Type of course**	**L**	**T**	**P**	**Credits**
1	BOT101	General Anatomy	Core course	4	0	0	4
2	BOT102	General Physiology	Core course	4	0	0	4
3	BOT103	Introduction to Quality & Patient Safety	Core course	4	0	0	4
4	BOT104	General Anatomy (practical)	Technical skills	0	0	4	2
5	BOT105	General Physiology (practical)	Technical skills	0	0	4	2
6	BOT106	Introduction to Quality & Patient Safety (practical)	Technical skills	0	0	4	2
7	BOT107	Introduction to National Health Care System	ACE	4	0	0	4
8	BOT108	Basic Computer	Technical Skills	2	0	0	2
			TOTAL	**18**	**0**	**12**	**24**

Semester -2nd							
S. No	**Course Code**	**Course Title**	**Type of course**	**L**	**T**	**P**	**Credits**
1	BOT201	Introduction to Operation Theatre	Core Course	4	0	0	4
2	BOT202	Introduction to Anesthesia	Core Course	4	0	0	4
Disciplinary Elective (Any one of the following)							
3	BOT203	Principles of management	Disciplinary Elective	3	0	0	3
4	BOT204	English and Communication Skills					
Disciplinary Elective (Any one of the following)							
5	BOT205	Biochemistry	Disciplinary Elective	3	0	0	3
6	BOT206	Professionalism & values					
7	BOT207	Research Methodology& Biostatistics	Research based skills	3	0	0	3
8	BOT208	Introduction to Operation Theatre(practical)	Technical skills	0	0	6	3
9	BOT209	Introduction to Anesthesia (practical)	Technical skills	0	0	6	3
			TOTAL	**17**	**0**	**12**	**23**

Semester -3rd							
S. No	**Course Code**	**Course Title**	**Type of course**	**L**	**T**	**P**	**Credits**
1	BOT301	Clinical Pharmacology	Core course	4	0	0	4
2	BOT302	Clinical Microbiology	Core course	4	0	0	4
3	BOT303	Basic Intensive care	Core course	4	0	0	4
Disciplinary Elective (Any one of the following)							
4	BOT304	Basic Techniques of Anesthesia	Disciplinary Elective	3	0	0	3
5	BOT305	Basic of Surgical Procedures					
Disciplinary Elective (Any one of the following)							
6	BOT306	Social Pharmacy	Disciplinary Elective	3	0	0	3
7	BOT307	Medical Diseases Influencing Choice ofAnesthesia					
8	BOT308	Clinical Pharmacology(practical)	Technical skills	0	0	6	3
9	BOT309	Clinical Microbiology(practical)	Technical skills	0	0	6	3
10	BOT310	Basic Intensive care(practical)	Technical skills	0	0	6	3
11	BOT311	Medical Ethics &legal Aspects	Research Based Technical skills	2	0	0	2
			TOTAL	**20**	**0**	**18**	**29**

Semester - 4th							
S. No	**Course Code**	**Course Title**	**Type of course**	**L**	**T**	**P**	**Credits**
1	BOT401	Surgical Instrument & Procedures	Core Course	4	0	0	4
2	BOT402	Principle of Anesthesia	Core Course	4	0	0	4
Open Elective Courses (For other Department)							
3			Open Elective	3	0	0	3
Disciplinary Elective (Any one of the following)							
4	BOT405	Hospital Operation Management	Disciplinary Elective	3	0	0	3
5	BOT406	Organizational Behavior					
Value Added Course (For other disciplines also)							
6	BOT407	Fundamentals of Nursing	VAC	2	0	0	2
7	BOT408	Surgical Instruments & Procedures(Practical)	Technical skills	0	0	6	3
8	BOT409	Principle of Anesthesia (Practical)	Technical skills	0	0	6	3
			TOTAL	**16**	**O**	**12**	**22**
Open Elective Courses (For other Department)							
9	BOT403	Electronics and Technology in Surgery and Anesthesia	Open Elective	3	0	0	3
10	BOT404	Environmental Studies					

Semester - 5th							
S. No	**Course Code**	**Course Title**	**Type of course**	**L**	**T**	**P**	**Credits**
1	BOT501	CSSD Procedures	Core Course	4	0	0	4
2	BOT502	Specialized Surgery and Instruments	Core Course	4	0	0	4
Discipline Elective-I (Any of the following)							
3	BOT503	Advanced Anesthetic c Techniques	Disciplinary Elective	3	0	0	3
4	BOT504	Pre - operative Anesthetic Care & Preparation					
Discipline Elective-I (Any of the following)							
5	BOT505	Medicine	Disciplinary Elective	3	0	0	3
6	BOT506	Drug Abuse, Problem, Management & Prevention					
7	BOT507	Human Rights & profession Values	ACE	2	0	0	2
8	BOT508	CSSD Procedures(practical)	Technical skills	0	0	6	3
9	BOT509	Specialized Surgery and Anesthesia(practical)	Technical skills	0	0	6	3
			TOTAL	**16**	**0**	**12**	**22**

Semester 6th						
S. No	**Course Code**	**Course Title**	**L**	**T**	**P**	**Credits**
1	BOT601	Dissertation	0	0	0	20
		TOTAL	**0**	**0**	**0**	**20**

Evaluation Criteria for Theory Courses

A. Continuous Assessment: [25 Marks]

i. Surprise Test (Two best out of three) - (10 Marks)

ii. Term paper (10 Marks)

iii. Assignment(s) (10 Marks)

iv. Attendance (5 marks)

B. Mid Semester Test-1: [30 Marks]

C. MST-2: [20Marks]

D. End-Term Exam: [20 Marks]

Evaluation Criteria for other courses has been given separately with the Respective courses

Semester: 1st

Course Title: General Anatomy
Course Code: BOT101

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. 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. Understand 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 **12 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 **16 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 **16 Hours**

Respiratory System: Structure of respiratory pathway,

function ofrespiratory tract, cough reflex, intrapleural 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 - Bloodcirculation - Arteries and veins - Conductive system of Heart - Cardiac cycle
- Introduction to ECG

UNIT-IV **16 Hours**

Lymphatic System - Introduction - Structure and function -Lymph nodes - Spleen - Thymus gland, Tonsils Structure and Function of Sense Organs - Eye - Ear - Nose - TongueTransactional modes: Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

Ashalatha, P. R., & Deepa, G. (2012). *Textbook of Anatomy & Physiology for Nurses*. 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 andphysiology in health and illness.* Elsevier Health Netter, F. H. (2014). *Atlas of human anatomy, ProfessionalEdition.* Elsevier health sciences.

Course Title: General Physiology
Course Code: BOT102

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1. Acquire the knowledge of the relative contribution of each organsystem 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. Determine Properties of nerve fibers, function of neuroglia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.

5. Learn the skills of basic clinical examination, with special emphasis to Peripheral & Central Nervous system, Cardiovascular & Respiratory system, & Exercise

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 oflipids, 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 – Haemopoesis, 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-II **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 ofthe body.

Skeletal System – Functions of bones, axial skeleton, and appendicular skeleton.

Musculoskeletal System – Movement in the joints of upper & lowerlimb.

UNIT-III **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, pancreas. Urinary System – Function of kidneys, juxtaglomerular apparatus, Ureter, urinary bladder, urethra, physiology of urine formation, Glomerular filtration, tubular re-absorption, water balance, and micturating. Introduction to Genetics - Features of chromosomes, DNA, protein synthesis, dominant inheritance, recessive inheritance, and sex linkedinheritance. 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, parathyroidglands,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 Quality & Patient Safety
Course Code: BOT103

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. Narrate the health care discipline that emerged with the evolving complexity
2. Absorb knowledge to prevent and reduce risks, errors and harm that occur to patients during provision of health care.
3. Restate continuous improvement based on learning from errors and adverse events
4. Perform important role in quality improvement approaches, standards and norms.
5. Use quality improvement tools, introduction to NABH guidelines.

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 SkillsBasic life support (BLS) following cardiac arrest, recognition of suddecardiac arrest and activation of emergency response system, early cardiopulmonary resuscitation (CPR) and rapid defibrillation with an automated external defibrillator (AED)

UNIT-II **12 Hours**

Basic Emergency Care First aid, choking, rescue breathing methods, ventilation including use of bag valve master (BVMs)

UNIT-III **18 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-III **15 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, Presentation

Suggested Readings:

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

Course Title: General Anatomy (practical)
Course Code: BOT104

L	T	P	Cr.
0	0	4	2

Total Hours: 45

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

1. Learn the demonstration of basic anatomical terminology, anatomical position, anatomical planes, 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, cranialnerves, 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/ Practicals

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

Transactional modes:

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

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: BOT105

L	T	P	Cr.
0	0	4	2

Total Hours: 45

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

1. Apply Basic practical skills on blood testing, Microscope, haemocytometer and RBC count
2. Learn the functions of important physiological systems including thecardio-respiratory, renal, reproductive and metabolic systems.
3. Gain knowledgeof Clinical examination of respiratory system and digestive system.
4. Measure blood pressure and pulse rate
5. Perform, analyze and report on experiments and observations in Examination of urine.

Course Contents

List of Experiments/ Practicals

Blood test: m Microscope Haemocytomete . Blood . RBC count . Hb . WBC count . Differential Coun Hematocrit demonstration . ESR . Blood group & Rh. Type . Bleeding time and clotting time. Digestion Test salivary digestions Excretion . Examination of Urine Specific gravity . Albumin Sugar Microscopic examination for cells and cyst Respiratory System . Clinical examination of respiratory system Spirometry Breath holding test 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,Presentation.

Suggested Readings:

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

Course Title: Introduction to Quality & Patient Safety (practical)
Course Code: BOT106

L	T	P	Cr.
0	0	4	2

Total Hours: 45

Course Learning Outcomes: On successful completion ofthis course, the students 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 manylives in urgent casesApply proper disposals of biomedical waste, reducing risk of infection towaste handling personnel
3. Control cross infection which can occur due to improperhandling ofinfected waste polluting surroundings too.
4. Focus on the quality measures and proper handling ofdisposals providing quality facility to patients.

Course Contents

List of Experiments/ Practicals

Infection prevention and control -

Evidence-based infection control principles and practices [such as sterilization, disinfection, effective hand hygiene and use of Personal protective equipment (PPE)], Prevention & control of common healthcare associated infections, Components of an effective infection controlprogram, and Guidelines (NABH

and JCI) for Hospital Infection Control

Suggested Readings:

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

Course Title: Introduction to National Health Care System
Course Code: BOT107

L	T	P	Cr.
4	0	0	4

Total Hours: 60

Course Learning Outcomes: On successful completion ofthis course, the students will be able to

1. Teach the measures of the health services and high-quality health care
2. Understand 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.
5. Basic insight into the main features of Indian health care delivery systemand how it compares with the other systems ofthe world.

Course Contents

UNIT-I **18 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; National Health Mission; National Health Policy; Issues in Health Care Delivery System in India

UNIT-II **18 Hours**

National Health Programme- Background objectives, action plan, targets, operations, achievements and constraints in various National Heath Programme. Introduction to AYUSH system of medicine - Introduction to Ayurveda; Yoga and Naturopathy; Unani; Siddha; Homeopathy; Need for integration of various system of medicine

UNIT-III **24 Hours**

Health Scenario of India- past, present and future Demography & Vital Statistics- Demography – its concept; Census & itsimpact on health policy Epidemiology - Principles of Epidemiology; Natural History of disease; Methods of Epidemiological studies; Epidemiology ofcommunicable & non communicable diseases, disease, 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 Relatedto Health: J. Kishore (Author)
A Dictionary of Public Health Paperback by J Kishor
Health System in India: Crisis & Alternatives , National Coordination Committee, Jan Swasthya Abhiyan
In search In Search of the Perfect Health System
Central Bureau of Health Intelligence (1998). Health Information ofIndia, Ministry of Health and Family Welfare, New Delhi. Goyal R. C. (1993). Handbook of Hospital Personal Management, Prentice Hall of India,

New

Course Title: Basic Computer(practical)
Course Code: BOT108

L	T	P	Cr.
2	0	0	2

Total Hours: 60

Course Learning Outcomes: On successful completion ofthis course, the students will be able to

1. Understand the concepts of computer system, Windows operating system, Internet, various storage devices and computer Networks, e-waste
2. Analyze various components and Input output devices used in a computer system.
3. Utilize various applications and software's used
4. Creating and manipulating presentation, views, Formatting and enhancing text, and slide with graphs
5. Investigate various applications used in Clinical Setting.

Course Contents

List of Experiments/ Practicals

Introduction to Computer: Introduction, characteristics of computer, block diagram of computer, generations of computer, computer languages Input Output Devices:Input devices(keyboard, point and draw devices, data scanning devices, digitizer, electronic card reader, voice recognition devices, vision- input devices), output devices(monitors, pointers, plotters, screen image projector, voice response systems).Introduction of Windows: History, features, desktop, taskbar, icons onthe desktop, operation with folder, creating shortcuts, operation with windows (opening, closing, moving, resize minimizingand maximizing, etc.). Introduction to MS- Word:introduction, components of a word window, creating, openingand inserting files, editing a document file, page setting and

formatting thetext, saving the document, spell checking, printing the document file, creating and editing of table, mail merge. Introduction to Excel: introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs. Introduction to power- pointintroduction, crating and manipulating presentation, views, formatting and enhancing text, slide with graphs. Introduction of Operating System: introduction, operating system concepts, types of operating system. Computer Networks: introduction, types of network (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network.
Internet and its Applications: definition, brief history, basic services (E- Mail, File Transfer Protocol, telnet, the World Wide Web (WWW)), www browsers, use ofthe internet.
Application of Computer in clinical settings.

Transactional modes

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

Suggested Readings:

Rajaraman, V., &Radhakrishnan, T. (2006). *Digital Logic and Computer Organization*. PHI Learning Pvt. Ltd..
Mehdi, M. M. (2015). Information Technology for Management by. *FIIBBusiness Review*, *4*(1), 46-47.
Ram, B. (2000). *Computer fundamentals: architecture and organization*. New Age International.
Basandara, S. K. (2017).Computers Today,,Galgotia publication PvtLtd. Daryaganj, New Delhi.
Sadagopan, S. (1998).Internet for everyone by Alexis Leon and Matthews Leon, Vikas Publishing House, 1997, Rs. 128.00.
Saxena, S. (2009). *A first course in computers: Based on Windows Xp& Office*. Vikas Publishing House Pvt Ltd. Sinha P.K. and Sinha, P. (2007) Computer Fundamentals,BPB Publications. Bangia, R. (2008). *Computer Fundamentals and Information*

Technology. Firewall Media.

Course Title: Introduction to Operation Theatre
Course Code: BOT201

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. Complete steps in operation of autoclave, its maintenance protocol
2. Documents to be maintained in CSSD
3. Various physical, chemical methods of sterilization
4. Cleaning and sterilization of OT
5. 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 **12 Hours**

Sterilization of Equipment - Arthroscope, Gastro scope, Imago Lamp, Apparatus, suction Apparatus Anaesthetic equipment including endotracheal tubes - OT Sterilization including Laminar Air flow (All Anaesthetic Instrument

UNIT-III **18 Hours**

Sterilization of OT Handling of sterelized articles Layout 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 adultcardiacsurgery*.John Wiley & Sons. Kamal, R., & Weiss, A. P. C. (Eds.).(2016). *Comprehensive Board Review inOrthopaedic Surgery*.Thieme. 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.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 Title: Introduction to Anesthesia
Course Code: BOT202

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. know the history of Anaesthesia

2. get an understanding of Positioning of Patient

3. Suggesting a simple anaesthetic plan commonly used anaesthesia non- invasive

4. Monitoring in the Operation Theatre

5. Methods to decrease infections in OT

Course Contents

UNIT-I **15 Hours**

History of Anaesthesia:First successful clinical demonstration:Pre historic (ether) era, Regional anaesthetics era, Intravenousanaesthetic era, Modem anaesthetic era,Minimum standard of anaesthesia, who should give anaesthesia General Anaesthesia Techniques: General Anaesthesia., Regional Anaesthesia - Including Epidural, Spinal and Nerve Block Anesthesia., Combined General and Epidural Anesthesia, Monitored Anesthesia Carewith 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: Patient-Informed consent. NBM guidelines/ nil per orally Premedication - advantages, drugs used Special instructions - if any Machine Checking the machine 02,N20,suctionapparatus Laryngoscopes, ET tubes, 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,pptx

Suggested Readings:

DiLorenzo, A. N., & Schell, R. M. (2014).Morgan & Mikhail's clinical anesthesiology. *Anesthesia& Analgesia*. Miller, R. D., &Pardo, M. (2011). *Basics of anesthesia e-book*.Elsevier Health Sciences. 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). *Comprehensive Board Review in Orthopaedic Surgery*.Thieme. Easley, M. E., & Wiesel, S. W. (Eds.).(2011). *Operative techniques in foot and ankle surgery*.Lippincott Williams & Wilkins.

Course Title: Principles of management
Course Code: BOT203

L	T	P	Cr.
3	0	0	3

Total Hours: 45

Course learning Outcomes: On successful completion of this course, the students 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.
5. Apply the concepts of Groups and Teams to work collaborator during surgeries.

UNIT-I **15 Hours**

Development of Management of Definitions 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 chainOrganization relationship – Line relationship – Staff relationship Line staff relationship – Functional relationship - Committee organization – Management committees – Departmentation. 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. Co-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-III **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.

Course Title: English and Communication Skills
Course Code: BOT204

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Express the viewpoints with confidence in English, discuss and socialize effectively in English
2. Demonstrate the skill to write in English without grammatical error, compose articles and compositions in English
3. Develop the ability to speak English language with the right way of pronunciation.
4. Analyse and restate the meaning of a text & practice listening effectively to communication in English.
5. Express values and skills gained through effective communication to other disciplines

Course Contents

UNIT-I **15 Hours**

Basics of Grammar-

Vocabulary, Synonyms, Antonyms, Prefix and Suffix, Homonyms, Analogies and Portmanteau words.
Active, Passive, Direct and Indirect speech, Prepositions, Conjunctions and Euphemisms Writing Skills Letter writing, E mail, and Essay, Articles, and Memos, one word substitutes,

note making and Comprehension

UNIT-II **10 Hours**

Writing and Reading Summary writing, Creative writing, newspaper reading Practical Exercise Formal speech, Phonetics, semantics and pronunciation Communication: Introduction:Communication process, Elements of communication, Barriers of communication and howto overcome them, Nuances for communicating with patients and their attendants in hospitals.

UNIT-III **10 Hours**

Speaking: Importance of speaking efficiently; Voice culture. Preparation of speech. Secrets of good delivery. Audience psychology, handling, Presentation skills, Individual feedback for each student, Conference/Interview technique. Listening: Importance of listening, Self-assessment, Action plan execution, Barriers in listening, Good and persuasive listening.

UNIT-IV **10 Hours**

Reading: What is efficient and fast reading, Awarenessof existingreading habits, tested techniques for Improving speed, Improving concentration andcomprehension through systematic study. Non Verbal Communication: Basics of non-verbal communication, Rapport building skills using Neuro- linguistic programming (NLP)

Transactional modes

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

Suggested Readings:

Jaidka, K.(2009). English and Communication Skills, , Prescribed by NITTTR, Chandigarh Published By Abhishek Publication,Pal and Roruallling (2006). The Essence of Effective Communication, Ludlow and Pantheon; Prentice Hall of India Kohli, A. L. (2004). New Design English Grammar,
Reading and Writing Skills.Kohli publisher.
Sasikumar, V. and P.V. Dhamija. (2006) A Practical English Taylor; Tata McGraw Hill
Datta, R. and Dhir, K.K. Communication Skills. Vishal Publication, Jalandh

Course Title: Biochemistry
Course Code: BOT205

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Learn 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. Understand the Nomenclature, Classification, Factors affecting enzyme activity
5. Acknowledge 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, Isoenzymes 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 s.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,pptx

Suggested Readings:

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

Course Title: Professionalism & values
Course Code: BOT206

L	T	P	Cr.
3	0	0	3

Total Hours: 45

Course Learning Outcomes: On successful completion ofthis course, the students will be able to

1. Demonstrate the clinical responsibilities and role of a doctorand assistant
2. Maintain confidentiality and respect regarding patients'dignity andprivacy.
3. Manage their time and prioritise effectively
4. Understand attitude and behavior- professional behavior, treatingpeople
5. Manage Code of conduct, professional accountabilityandresponsibility, misconduct.

Course Contents

UNIT-I **10 Hours**

Professional values- Integrity, Objectivity, Professional competence anddue care, Confidentiality Personal values- ethical or moral values

UNIT-II **10 Hours**

Attitude and behavior- professional behavior, treating peopleequally Code of conduct, professional accountability and responsibility, misconduct

UNIT-III **10 Hours**

Differences between professions and importance of teamefforts Cultural issues in the healthcare environment

Transactional modes

Video based teaching, Collaborative teaching, Case

based teaching, Question,pptx

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 Michigan Press.

Kerruish, A. (1995). Basic human values: The ethos for methodology. *Journal of community & applied social psychology*, *5*(2), 121-143.

Course Title: Research Methodology& Biostatistics
Course Code: BOT207

L	T	P	Cr.
3	0	0	3

Total Hours: 45

Course Learning Outcomes: On successful completion ofthis course, the students will be able to

1. Prioritize the needs of research in the clinical field of Radiology.
2. Choose the appropriateresearch design and develop appropriate research hypothesis for a research project.
3. Describe the appropriate statistical methods required for aparticular research design
4. Develop an appropriate framework for research studies.
5. Develop the ability to apply the methods while working on aresearch project work

Course Contents

UNIT-I **12 Hours**

Need For Research in the Field of Cardiology. Introduction to research methods, conducting a literature review, Research design, Sampling methods, Data collection and data collection tools, Data analysis: Quantitative and Qualitatively, Public health research, Issues in Research of research problems and writing research questions, Hypothesis, Null and Research Hypothesis, Type I and Type II errors in hypothesis testing

UNIT-II **11 Hours**

Introduction of Epidemiology:- Descriptive epidemiology, Experimental and non-experimental research designs, Screening, Sampling methods, Biological variability, normal distribution.Bias and Confounding, Association and causation, Odds ratio and relative risk, sensitivity and specificity Data collection methods- Observation method, Interview method, Questionnaires and schedules Construction,

UNIT-III **11 Hours**

Critical analysis of research papers, conducting a literature review, Writing Research proposals, Development of conceptual framework in research Introduction to BiostatisticsIntroduction to Statistics, Classification of data, Source of data, Method of scalin g - nominal, ordinal, ratio and interval scale, measuring reliability and validity of scales, Measures of Central tendency,

UNIT-IV **11 Hours**

Measures of Dispersion, Skewness and kurtosis, Sampling, Sample size determination, Introduction and method of collecting and presenting statistical data. Calculation and interpretation of various measures like mean, median, standard deviations, Skewness and Kurtosis, Probability distribution, Correlation and regression Significance tests and confidence intervals

Transactional modes

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

Suggested Readings

Kothari, Chakravanti Rajagopalachari. *Research methodology: Methods and techniques*. New Age International, 2004.
Mahajan, B. K., &Lal, S. (1999). Methods in biostatistics for medical students and research workers.*Indian Journal of Community Medicine*, *24*(3), 140.

Spiegel, M. R., Schiller, J. J., &Srinivasan, R. A. (2013).*Schaum's outline ofprobability and statistics*. McGraw-Hill Education

Course Title: Introduction to Operation Theatre(practical
Course Code: BOT208

L	T	P	Cr.
0	0	6	3

Total Hours: 60

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

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

Course Contents

List of Experiments/ Practicals

Prepaation of OT for various surgeries Familiarization with special instruments used for various sub specialties Carbolization of OT Preparation of trolleys for various types of sub specialties of surgeries Cleaning, disinfection and storage of various instruments Complete steps in operation of autoclave, its maintenance protocol Documents to be maintained in CSSD Various physical, chemical methods of sterilization Cleaning and sterilization of OT Methods to decrease infections in OT

Suggested Readings:

Anesthesia manual.
A.A.Ahanatha Pillai Lee
Synopsis (Hand book of Anesthesia)

Course Title: Introduction to Anesthesia (practical)
Course Code: BOT209

L	T	P	Cr.
0	0	6	3

Total Hours: 45

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

1. know the history of Anaesthesia
2. get an understanding of Positioning of Patient
3. Suggesting a simple anaesthetic plan commonly used anaesthesia non- invasive
4. Monitoring in the Operation Theatre
5. Methods to decrease infections in OT

Course Contents

List of Experiments/ Practicals

Setting of trolley for GA and Regional Anaesthesia Rapid sequence intubation, Sellick's maneuver (Cricoid pressure) Monitoring of patient in PACU, setting of alarms Post op management of pain, nausea, vomiting, bladder distension

Suggested Readings:

Anesthesia manual. A.A.Ahanatha Pillai Lee Synopsis (Hand book of Anesthesia)

Text book of Anesthesia (Ajay Yadav) edition 6TH

Course Title: Clinical Pharmacology
Course Code: BOT301

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. 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. Clarify pharmacology of chemotherapeutic agents .
5. Learn pharmacology 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, Etomidate. 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, Etidocaine. 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: Anethnopharmacological, 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. *Chin. J. Exp. Traditional Med. Form*

Course Title: Clinical Microbiology
Course Code: BOT302

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. Get detailed information about the host, parasite, their life cycle andvarious diseases caused by them
2. Learn the procedures of sample collection and transportation for microbiology tests.
3. Capable to prepare various culture medias, Care &

handlingoflaboratory animals and get their extracts for culture preparations

4. Classify microbes with special reference to prokaryotes &eukaryotes, Bacterial anatomy
5. Care and handling of glassware, their use and cleaningtechniques, sterilization processes.

Course Contents

UNIT-I **12 Hours**

Morphology

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

UNIT-II **18 Hours**

Growth and nutritionNutrition, 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 inspissator, 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, 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 cholerae, Pseudomonas & Spirochetes.Parasitology Morphology, life cycle,laboratory diagnosis of following

parasites: Ehistolytica, Plasmodium, tape worms, Intestinal nematodes. Mycology Morphology, diseases caused and lab diagnosis of following fungi.Candida, Cryptococcus, Dermatophytoses, opportunistic fung VirologyGeneral properties of viruses, diseases caused lab diagnosis and preventionof following viruses, Herpes, Hepatitis, HIV, Rabies and Poliomyelitis.

Transactional modes

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

Suggested Readings:

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

Course Title: Basic Intensive care
Course Code: BOT303

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. Evaluate and integrates the use of analytical enquiry and critical reflection.
2. Demonstrate knowledge of the patho physiological 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. Demonstrate 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 **18 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 **12 Hours**

ICU Laboratory; Detection of blood gases of the patient, Principles of ABG machines. Management of asepsis. Management of tetanus patient. sychological aspects of the patient, relative and staff. Hemofiltration and hemodialysis.

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 oscillotonometer. Principles and working of aneroid manometer type B.P. instrument. 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,ppt.

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 Title: Basic Techniques of Anesthesia
Course Code: BOT304

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Display current and emerging standards of care as an anesthesia technologist professional along with devoting themselves to lifelong learning.
2. Attend to the various needs of diverse multicultural and complex clientpopulations in the delivery of culturally competent care.
3. Collaborate with the anesthesia multi-disciplinary care team in the development of an anesthesia plan of care for patients in areas to which they are assigned.
4. Assist the anesthesia provider in a variety of current anesthesia techniques and use of equipment for providing anesthesia.
5. Function as anesthesia technologists within appropriate professional standards, ethical and legal requirements, and accept responsibility and accountability while assisting with the delivery of

patient care.

Course Contents

UNIT-I **11 Hours**

Resuscitation techniques: Basic life support (Airway, breathing, circulation) and the equipment used for it. Drugs used in CPR. AED and Defibrillators.

UNIT-II **12 Hours**

Anesthesia drugs and techniques:Principles of anesthesia. Basics of general anesthesia depth, mechanism and intubation. Techniques of general anesthesia. Various intravenous and inhalational agents. Regional anesthesia, spinal and epidural, posture and drugs. Local Anesthetic agents.

UNIT-III **11 Hours**

Neuro muscular blocking agents.Principles of oxygen administration along with the apparatus. Care of patient in the recovery room.Post-operative pain: evaluation and management. Types of fluid and therapy.

UNIT-IV **11 Hours**

Blood and blood components transfusion. Preparation of anesthesia machine, intubation kit, suction machine, anesthesia drugs. Patient identification, marking, shifting to OT before surgery and out of OT to recovery room after surgery, complete takeover and handover of the patient with vital signs recording before and after surgical procedure to the nursing staff.

Transactional modes

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

Suggested Readings:

DiLorenzo, A. N., & Schell, R. M. (2014).Morgan & Mikhail's clinical anesthesiology. *Anesthesia& Analgesia*. Miller, R. D.,

&Pardo, M. (2011). *Basics of anesthesia e-book*.Elsevier Health Sciences. Ke, J. X. C. (2018). Basics of Anesthesia.

Course Title: Basic of Surgical Procedures
Course Code: BOT305

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Generate patient assessments and devise differential diagnoses for common surgical disorder.
2. Apply operative and non-operative treatments for surgical patients.
3. Demonstrate basic technical skills such as suturing and knot tying.
4. Perform surgical practice in both inpatient and ambulatory settings.
5. Interpret the path physiology and resuscitation of critically ill patients, with the emphasis on sepsis, shock and organ failure.

Course Content-

UNIT-I **11 Hours**

Blood Transfusion History of discovery of blood groups and genetics of blood groups. Types of blood groups and Rh factor.Coombs test. Collection of blood, its preservation and standardization.

UNIT-II **12 Hours**

Various types of blood and blood products (Packed cells, PRP, FFP) Pre-transfusion checks.Transfusion reactions.

Fluids and electrolytes Body fluid compartments and the effect of fluid administration on them. Types of fluids (crystallo ids and colloids) and their chemical composition. Indications of specific fluids and their complications.

UNIT-III **11 Hours**

General surgical procedure and para-surgical equipment Operating tables: structure, material used, maintenance, control, Hydraulicsystem and Electrical system. Different types of diathermy machine. Monopole, Bipolar, Ligasure, Harmonic Scalpel, CUSA- Principle, hazards prevention, functioning andmaintenance. Types of operation lights and light sources: Features, Care, cleaning, sterilization and maintenance.

UNIT-IV **11 Hours**

Operation Theatre sterilization- Different recent advances. LAR/APR--Positioning of patient, care- Prevention of hazards. Total thyroidectomy—with emphasis on proper positioning. Transthoracic esophagectomy—Different approaches. Venesection and Tracheotomy.Laparoscopic Cholecystectomy Pneumoperitonium - Creationand removing, principles. Nephrectomy. . Breast surgery. Positioning of patient for different operations: Problems and hazards

Transactional modes

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

Suggested Readings:

Bojar, R. M. (2020). *Manual of perioperative care in adult cardiacsurgery*.John Wiley & Sons.

Kamal, R., & Weiss, A. P. C. (Eds.).(2016). *Comprehensive Board Review in Orthopaedic Surgery*.Thieme.

Easley, M. E., & Wiesel, S. W. (Eds.).(2011). *Operative techniques in foot andankle surgery*.Lippincott Williams & Wilkins.

Course Title: Social Pharmacy
Course Code: BOT306

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Discuss 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
5General roles and responsibilities of pharmacists in public health

Course Contents

UNIT -I **12 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 healthindicators. 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 **11 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 **12 Hours**

Nutrition and Health Basics of nutrition – Macronutrients and Micronutrients, Importance of water and fibres in diet Balanced diet, Malnutrition, nutrition deficiency diseases, ill effects of junk foods, calorific and nutritive values of various foods, fortification offood , 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 therole of pharmacists.

Transactional modes

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

Suggested Reading:

Text book of Pharmacognosy by C. K. Kokate, S. B. Gokhale, A.P. Purohit, Nirali Prakashan Text book of Pharmacognosy by C.S. Shah and J. S. Qadry, CBS Publishers & Distributors Pvt. Ltd.Text Book of Pharmacognosy by T. E. Wallis. CBS Publishers & Distributors Pvt. 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

Course Title: Medical Diseases Influencing Choice of Anesthesia
Course Code: BOT307

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Learn the application of anaesthetic 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.
5. Analysis Cranial separation & Head injury

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 Anesthesia for Hypertension. Hypertensive Crises. Complications

UNIT- II **15 Hours**

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

UNIT-III **10 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, Anaesthesia for renal failure patients (Acute and Chronic), Urinary Tract Infection

UNIT-IV **10 Hours**

Endocrine Disease :Diabetes Mellitus, Thyroid Dysfunction – Thyrotoxicosis, Hypothyroidism, Adrenal Gland Dysfunction, Diabetes Insipidus. Obesity, Anaemia, Iron Deficiency Anaemia Head Injury: Classification, Mechanisim of Head Injury, SDH, EDH, SAH

Transactional modes

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

Suggested Readings:

George Mathews:- Handbook
Medicine Lee Synosis:
Anaethesia Handbook

Course Title: Clinical Pharmacology(practical)

Course Code: BOT308

L	T	P	Cr.
0	0	6	3

Total Hours: 45

Course learning Outcomes: On successful completion of this course, the students 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.
5. Illustrate mechanism of absorption and distribution of different drugs in body.

Course Contents

List of Experiments/ practical's

Emergency Drugs: Mode or administration, dilution, dosage and effects Adrenaline, Atropine Ephedrine, Mephentramine Bicarbonate, calcium, potassium. 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, mannitol

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:A

ethnopharmacological,phytochemicaland pharmacological review. *Journal of ethnopharmacology*,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 Title: Clinical Microbiology(practical)

Course Code: BOT309

L	T	P	Cr.
0	0	6	3

Total Hours: 45

Course learning Outcomes: On successful completion of this course, the students 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
5. Preparation of culture media and culturing techniques for the identification of bacteria.

Course Contents

List of Experiments/ Practicals

Mycology Virology Morphology Vidal VDRL ASLO CRP RF & ELISA

Suggested readings:

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

Course Title: Basic Intensive care(practical)

Course Code: BOT310

L	T	P	Cr.
0	0	6	3

Total Hours: 45

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

1. Knowledge about all ICU and Operation theatre machines.

2. Understand the uses of instruments which are used in OT, ICU, CCU.
3. Care and maintenance of all devices in OT.
4. Learn care, maintenance and operational capabilities of beds, lights and other apparatus.
5. Apply Physiotherapy techniques, feeding, Ryle's tube insertion and hyper alimentation.

Course Contents

List of Experiments/ Practicals

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 oscillotonometer. Principles and working of aneroid manometer type B.P. instrument.Laryngeal sprays; Types, material, principle and mechanism. Monitoring techniques and equipment; Cardiac monitors, Respiratory monitors,

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). COVID-19: is it just a lung disease? A
case-based review. *SN Comprehensive Clinical Medicine*,77.
Education and Curriculum Development, 3, JMECD-S203

Course Title: Medical Ethics &legal Aspects

Course Code: BOT311

L	T	P	Cr.
2	0	0	2

Total Hours: 30

Course learning Outcomes: On successful completion of this course, the students 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.
5. Employs body systems-oriented, word-analysis approach to learning medical terminology.

Course Contents

UNIT-I **10 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 body systems-oriented, word-analysis approach to learning medical terminology.

UNIT-III **10 Hours**

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.

Transactional modes

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

Suggested Readings:

Pozgar, G. D. (2012). *Legal aspects of health care administration.* Sudbury, Mass: Jones & Bartlett Learning Morrison, E. E., & Furlong, E. (2014). *Health care ethics: Critical issues forthe 21st century.* Burlington, MA: Jones & Bartlett Learning. Kliegman, R., Stanton, B., St. Geme, J. W., Schor, N. F., & Behrman, R. E. (2016). *Nelson textbook of pediatrics* (Edition 20.). Phialdelphia, PA: Elsevier.

Course Title: Surgical Instrument & Procedures

Course Code: BOT401

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. Understand the general principles and preventive maintenance for normal delivery and cesarian 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. Understand the general principles and preventive maintenance for Medical termination of pregnancy
5. Describe the Clinical methods in gynecological examination

Course Contents

UNIT-I **12 Hours**

Neck Surgery Thyroidectomy Parathyroidectomy Thyroglossal Cystectom breast Procedures Beast Biopsy Mastectomy

UNIT-II **14 Hours**

Abdominal Extraintestinal Surgery Abdominal laprotomy Abdominal Hernlography Cholecystectomy Drainage of Pancreatic Cyst (Pseudocyst) Pancreaticoduodectomy (Whipples procedure) Pancreatectomy Dranage of Abscess (es) in the region of liver • Hepatic Resection Spleenectomy.

UNIT-III **18 Hours**

Gastriubtestinal Surgery Esopghagoscopy Gastroscopy Colonoscopy Sigmoidoscopym Vagotomy and Pyloroplasty Gastrostomy Gastrectomy Small Bowel Resection Cutaneous illeostomy Appendectomy Colostomy Closure of colostomy

UNIT-IV **16 Hours**

Major procedures tray Basic /Minor procedures tray Limited procedures tray Thyroid trayLong instruments tray Biliary tract procedures tray Choledochoscopy tray Basic rigid sigmoidoscopy trayGastrointestinal procedures tray Rectal procedures tray Gynaecologic and Obstetric Trays Dilatation of the Cervix and Curettagge of the Uterus (D&C) Tray Cervical Cone Tray aparoscopy Abdominal Hystrectomy Caesarian 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 Title: Principle of Anesthesia

Course Code: BOT402

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. Learn the techniques "No Sensation , No Pain" to the patient who goes under the surgical procedure.
2. Apply anaesthesia to patients in different way: General, Local and Regional anaesthesia.
3. Use drugs and their action, duration time, anaesthesia trolley and patient position.
4. Learn vaporizers - types, hazards, maintenance, filling and draining, etc
5. Operate common components - connectors, adaptors, reservoir bags.

Course Contents-

UNIT-I **18 Hours**

Medical gas supply Compressed gas cylinders Color coding Cylinder valves; pin index. Gas piping system Recommendations for piping system Alarms & safety devices. Scavenging of waste anesthetic gases Anesthesia machine Hanger and yoke system Cylinder pressure gauge Pressure regulator Flowmeter assembly Vaporizers - types, hazards, maintenance, filling and draining, etc.

UNIT-II **15 Hours**

Breathing system General considerations: humidity & heat

Common components - connectors, adaptors, reservoir bags. Capnography Pulse oximetry Methods of humidification. Classification of breathing system Mapleson system - a b c d e f Jackson Rees system, Bain circuit Non rebreathing valves - Ambu valves The circle system

UNIT-III **12 Hours**

Face masks & Airway laryngoscopes Types, sizes
Endotracheal tubes Types, sizes. Cuff system
Fixing, removing and inflating cuff, checking tube position, complications.

UNIT-IV **15 Hours**

Anesthesia ventilator and working principles. Monitoring Electrocardiography (ECG) Pulse oximetry (Sp02) Temperature-central and peripheral End tidal carbon dioxide (EtCO2) Anesthesia gas monitoring Non-invasive blood pressure (NIPB) and Invasive blood pressure (IBP) Central venous pressure (CVP) PA Pressure, LA Pressure & cardiac output Anesthesia depth monitor neuromuscular transmission monitor

Transactional modes

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

Suggested Readings:

Chestnut, D. H., Wong, C. A., Tsen, L. C., Kee, W. D. N., Beilin, Y., &Mhyre, J. (2014). *Chestnut's obstetric anesthesia: principles and practice 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 Hemming s, H. C., & Egan, T. D. (2012). *Pharmacology and Physiology for Anesthesia E-*

Course Name: Electronics and Technology in Surgery and Anesthesia
Course Code: BOT403

L	T	P	Cr
3	0	0	3

Total Hours: 45

Course learning Outcomes: On successful this course completion of the students 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, all record of patients
4. Find out Engineering aspects of operation theatre equipment, power supplies, CVT, servo-stabilizers, and ups etc
5. Co-ordination with all working personal in operation Theatre.

Course Contents

UNIT-I **12 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. 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-II **11 Hours**

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-III **11 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 anesthesia records: comparison with voluntary reporting. *The Journal of the American Society of Anesthesiologists* Baddour, L. M., Epstein, A. E., Erickson, C. C., Knight, B. P., Levison, M. E., Lockhart, P. B., ... & Interdisciplinary Council on Quality of Care and Outcomes Research. (2010). Book keeping and Stockmaintenance. Moral aspects and

Course Title: Environmental Studies

Course Code: BOT404

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Understand Natural Resources and associated problems, use and overexploitation.
2. Classify causes, effects and control measures of air pollution, waterpollution, soil pollution, marine pollution, noise pollution
3. Categorise the concept of ecosystem, structure, interrelationship ofproducers, consumers and decomposers.
4. Inspect sustainable development, urban problems related to energy, Water conservation, rain water harvesting
5. Illustrate the issues involved in enforcement of environmental legislation Public awareness.

Course Contents

UNIT-I **11 Hours**

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

UNIT-II **12 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 **11 Hours**

Social blemishes and the Environment From Unsustainable to Sustainable development, urban problems related to energy, Water conservation, rain water harvesting, water shed management Resettlement and rehabilitation of people; its pros and concerns. Case studies, Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies, Wasteland reclamation, Consumerism and waste products. 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 **11 Hours**

Understanding the Hospital Environment Understanding the environment in the following clinical laboratoriesMicrobiology, Biochemistry, Histopathology, HematologyClinical 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, Tata McGraw Hill, New Delhi.Jadhav, H&Bhosale,V.M.,1995.Environmental ProtectionandLaws.HimalayaPub.House, New Delhi.
Gadi R., Rattan, S., 2006. Environmental Studies, KATSONBooks, New Delhi.
McKinney, M.L. & School, R.M., 1996. Environmental Science Systems & Solutions, Web enhanced edition.
Wanger K.D., 1998. Environmental Management.W.B.SaundersCo. Philadelphia, USA

Course Title: Hospital Operation Management

Course Code: BOT405

L	T	P	Cr.
3	0	0	3

Total Hours: 45

Course learning Outcomes: On successful completion of thiscourse, the students will be able to

1. Provide a satisfactory environment to the patient and also tothe doctorsfor clinical research.
2. Understand and apply resource management concepts (personnel, finance, and material resources) and the processesand strategies needed in specific hospital sectors
3. Communicate effectively and develop their leadership andteambuilding abilities
4. Apply modern change management and innovation managementconcepts to optimize structures
5. Analyze existing hospital service policies and enhance theiralignment within the local and national context

Course Contents

UNIT-I **11 Hours**

MEDICO-LEGAL CASES: Introduction, Laws associated with Medico-Legal Cases, Three Core Contents in Medico-legal cases w.r.t Doctors, Patient & Profession, CONSIDERATIONS OF ETHICS: Consent, Confidentiality, Mental Health, End of life and Organ Transportation, Research & ClinicalTrials

UNIT-II **10 Hours**

HOSPITAL INFORMATION SYSTEM(HIS): Hospital Information System Management, software applications in registration, billing, investigations, reporting, medical records management, Security and ethical challenges

UNIT-III **12 Hours**

EQUIPMENT OPERATIONS MANAGEMENT: Hospital equipment repair and maintenance, types of maintenance, job orders, equipment maintenance log books, AMCS

UNIT-IV **12 Hours**

ROLE OF MEDICAL RECORDS IN HEALTH CARE MANAGEMENT: Computers for Medical records, Developments of computerized medical record information processing system(EMR's), Computer stored (Vs) Manual hand written record, Advantages of EMR (Vs) Manual

Transactional modes

Video based teaching, Collaborative teaching, Casebased teaching, Question

Suggested Readings:

Hospital Emergency Management. A Bible for Hospital Emergency Managers Handbook of Research on Emerging Perspectives on Healthcare Information Systems and InformaticsHospital B Administration and Management A Comprehensive Guide

Course Title: Organizational Behavior

Course Code: BOT406

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Understand the initial insights into underlying principles and fundamental theories of organizational behavior.

2. Develop a sense of what falls under the domain of organizational behavior.

3. Develop an understanding of academic views on the behavior and motivations of people in organizations and the purposes of organizations.

4. Clearly takes an academic and scientific lens with the aim of understanding human behavior in organizations.

5. Describe and apply motivation theories to team and organizational scenarios in order achieve a team's or an organization's goals and objectives.

Course Contents

UNIT-I **15 Hours**

Organizational Behavior -Definition - Importance - Historical Background - Fundamental concepts of OB - 21st Century corporate - Different models of OB i.e. autocratic, custodial, supportive Organization Structure and Design - Authority and Responsibility Relationships - Delegation of Authority and Decentralization - Interdepartmental Coordination - Emerging Trends in Corporate Structure, Strategy and Culture - Impact of Technology on Organizational design –

UNIT-II **10 Hours**

Mechanistic vs Adoptive Structures – Formal and Informal

Organization Perception Process - Nature & Importance - Perceptual Selectivity - Perceptual Organization - Social Perception - Impression Management Learning - Process of Learning - Principles of Learning - Organizational Reward Systems - Behavioral Management

UNIT-III **10 Hours**

Motivation - Motives - Characteristics - Classification of motives - Primary Motives - Secondary motives - Morale - Definition and relationship with productivity - Morale Indicators Leadership - Definition - Importance - Leadership Styles - Models and Theories of Leadership Styles

UNIT-IV **10 Hours**

Conflict Management - Traditional vis-a-vis Modern view of conflict - Constructive and Destructive conflict - Conflict Process - Strategies for encouraging constructive conflict Strategies for resolving destructive conflict

Transactional modes

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

Suggested Readings:

Organizational Behavior, 9th Ed. - Stephen Robbins Human Behavior at work - Davis and Newstorm Organizational Behavior - Uma Sekaran Organizational Behavior - Fred Luthans Organizational Behavior - K.Aswathappa Human Behavior at Work - Keith Davis Organizational Behavior - Jit S.Chandran Human Relations & Organizational Behaviour - R.S.Dwivedi Organizational Behavior - McShane

Course Title: Fundamentals of Nursing

Course Code: BOT407

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

1. Understand basic introduction to Nursing.
2. Learn the meaning ethical aspects of nursing.
3. Knowledge of ICN Code of ethics for nurses in Nursing.
4. Analyze the identification ,evaluation and model of nursing care plan.
5. Demonstrate responsibility for own behavior and growth as an adult learner and a professional.

Course Contents

UNIT-I **10 Hours**

Introduction to Nursing, Nursing Care of the patient, Meeting the needs of a patient, Assessment of patient, Infection control, Therapeutic Nursing Care, Introduction to Clinical Pharmacology, First Aid Need for First Aid, Minor injuries and ailments, Fractures, Life threatening conditions, Community emergencies & community resources

UNIT-II **05 Hours**

An Introduction to Nursing. Definition of Nursing - a profession: qualities of a nurse Professional etiquette s for Nurses. Ethical Aspects of Nursing. ICN code of Ethics for Nurses role in safeguarding the clients rights

UNIT-III **05 Hours**

Terminology, spiritually in Nursing, factors which effect spiritualhealth Goals of spiritual care Nursing process :(assessment, nursing diagnosis, planning, intervention, evaluation)

UNIT-IV **10 Hours**

Nursing process. Description of nursing process-definitions Characteristics of nursing process-phases of nursing process-assessment- nursing diagnosis,- outcome.

Transactional modes

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

Suggested Readings:

Bessesen, D. H. (2008).*Update on obesity. J* ClinEndocrinolMetab.93(6), 2027-2034.
Butryn, M.L., Phelan, S., &Hill, J. O.(2007). Consistent self- monitoring of weight: a key component of successful weight loss maintenance. *Obesity(Silver Spring)*. 15(12), 3091-3096. Chu, S.Y. & Kim, L. J. (2007). *Maternal obesity and risk of stillbirth: ametaanalysis*. Am JObstetGynecol, 197(3), 223-228. DeMaria, E. J. (2007). *Bariatric surgery for morbid obesity*. N Engl J Med,356(21), 2176-2183.

Course Title: Surgical Instruments & Procedures(Practical)
Course Code: BOT408

L	T	P	Cr.
0	0	6	3

Total Hours: 45

Course learning Outcomes: On successful completion of thiscourse, the students will be able to

1. Understand the general principles and preventive maintenance fornormal 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 inhospital and complete the documentation.
4. Understand the general principles and preventive maintenance for Medical termination of pregnancy
5. Describe the Clinical methods in gynaecological examination

Course Content

List of Experiments/ Practicals

Scrubbing, gowning, gloving techniques Instruments, suture materials Application of tourniquets, Types of incisions, Bandaging of wounds, drainage of abscess

Suggested Readings:

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

Course Title: Principle of Anesthesia (Practical)
Course Code: BOT409

L	T	P	Cr.
0	0	6	3

Total Hours: 45

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

1. Learn the techniques “No Sensation, No Pain” to the patient

who goes under the surgical procedure.

2. Apply anaesthesia to patients in different way: General, Local and Regional anaesthesia.
3. Use drugs and their action, duration time, anaesthesia trolley and patient position.
4. Learn vaporizers - types, hazards, maintenance, filling and draining, etc
5. Operate common components - connectors, adaptors, reservoir bags.

Course Contents

List of Experiments/ Practicals

List of Experiment /Practical's, Supply of compressed gases**:**

Types of gases and their chemical and physical properties. Types of containers. Their checking and maintenance. Types of compressors. Structure and mechanism of various type of gauges, liquid oxygen storage and supply system. Structure of reducing valves- Mechanism of pressure reducing valves. Their maintenance and safety checks Structure and mechanism of flow meters, maintenance and safety checks Volatile anesthetic agents.Selection of material to be used for containers of the volatile anesthetic agents. Structure of different types of vaporizers. Principles of various vaporizers, their maintenance and safety precautions. Types of circuits: Open, Semi closed and closed circuits. Non-rebreathing valves. T-piece circuit and its modifications. To and fro system and circle absorber. Types of valves used in the different circuits. Structure and working of Heidbrink's valve, Rubin valve nu-man valve etc.

Suggested Readings:

Chestnut, D. H., Wong, C. A., Tsen, L. C., Kee, W. D. N., Beilin, Y., &Mhyre, J. (2014). *Chestnut's obstetric anesthesia: principles and practice e-book*. Elsevier Health Sciences 70Miller, 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

Hemmings, H. C., & Egan, T. D. (2012). *Pharmacology and Physiology for Anesthesia E-Book: Foundations and Clinical Application*. Elsevier Health Sciences

Course Title: CSSD Procedures

Course Code: BOT501

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. Enables the students to understand the central sterile department.
2. Maintain an accurate record of the effectiveness of the cleaning, disinfecting and sterilizing processes.
3. Manage adequate inventory of supplies and equipment.
4. Apply sterilization by radiation (Gamma rays, ultraviolet rays)
5. Learn decontamination, Assembly and processing, sterilizing, sterile storage and distribution.

Course Contents

UNIT-I **15 Hours**

Principles of sterilization and disinfection. Methods of sterilization Dry Sterilization. Wet sterilization.

UNIT-II **15 Hours**

Gaseous sterilization. Chemical sterilization. Sterilization by radiation (Gamma rays, ultraviolet rays) Techniques of sterilization of rubber articles. (LMA, FOB, ETT, Laryngoscopes ,Anesthesia machines and circuits.)

UNIT-III **15 Hours**

Technique of sterilization of carbonized articles. Methods of disinfection. Boiling. Chemical disinfection.

UNIT-IV **15 Hours**

Hazards of sterilization.Prevention of hazards of sterilization. Precautions to be taken during sterilization. Recent advances in the methods of sterilization

Transactional modes

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

Suggested Readings:

Karpinski, C., &Rosenbloom, C.A. (2017). *Sports nutrition: a handbook for professionals*. Academy of Nutrition and DieteticsKusuda, K., Yamashita, K.Ohnishi, A, Tanaka, K., Komino, M.,Honda, H. &Oh- ta, Y. (2016). Management of surgical instruments with radio frequency identification tags: A 27-month in hospital trial. *International journal of health care quality assurance*Ayliffe, G. A. J. (1987). Hospital hygiene: By Isobel M. Maurer. 1985, 3rdedn. Edward A rnold (Publisher) Ltd, London. Pp. vii nd 152.£ 6.95. *Journal of Medical Microbiology*

Course Title: Specialized Surgery and Instruments

Course Code: BOT502

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. Learn the knowledge of advance techniques regarding anaesthesia.
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)
5. Understand Principles of oxygen administration and methods used todeliver oxygen

Course Contents

UNIT- I **18 Hours**

Genitourinary Surgery Hypospadias repair Epispadias repairPenile Implant Marshall-Marchetti-Krantz Procedure Hydrocolectomy Vasectomy Vasovasostomy Cutaneous Vasostomy Spermatocolectomy Orchectomy Gystoscopy Cystosdopy Transurethral Resetion of the Prostate (TURP) and /or Lesions of the Bladder or Bladder Nech (TURB) Open Prostatectomy Nephrectomy Upper Tract Urolithotomy(Ureterolithotomy, Pheloothotomy, Nephrolithotomy) cutaneous vresterstomyLlegal conduit Extracproeal shock wave Lithotrpsy (ESWL) Ultrasonic Lithortripsy Electrohydraulic Lithotripsy

UNIT – I **15 Hours**

Thoracic Procedures Bronchosopy Mediastioscopy Segmental Resection of the Lung Wedge Resection of the Lung Pulmonarty Lobectomy Pneumonectomy Decortication of the Lung Insertion of Transvenous Endocardial Pacemaker Correction of Pectus Excavatum Thymectomy Cardiovascular Surgery Carotid Endarterectomy Abdominal Aortic Procedures(Abdominal Aortic Abneurysmectomy, AbdominalAortic Endaertectomy)with Astroilliac Graft Femoropopliteal pass Greater Saphenous vein Ligation and Stripping Portasystemic Shunt Artheriovenous ShuntArteriovenous Fistula Cardiac procedures BY pass Surgery(Different Procedures) Neurological Surgery Craniotomy Cranioplasty Transphenoidal Hypophysectomy Ventricular

Shunts Laminectomy Excision of a Cervical Intervetebral Disc with fusion, Antorior Approach.

UNIT – III **15 Hours**

Plastic Surgery ,Cleft Lip repair Cleft Palate repair Reduction of Nasal Fracture Reduction of Mandibular Fracture Reduction of a Zygomatic Fracture Open reduction of an Orbital Floor Fracture Rhinoplasty Mentoplasty Augmentation Blepgharoplasty Rhytidectomy Dermabrasion Otoplasty Repair of Syndactyly Digital Flexor Tendon repair Peripheral Nerve repair Palmar Fascoectomy Reduction Mammoplasty Abdominoplasty /Abdominal Liposuction Liposuction Otorhinolarynogologic (ENT) Surgery Myringotomy Mastoidectomy Tympanoplasty Stapedectomy Submucous Resection of the Nasal Septum(SMR) / Septoplasty Intranasal Antrosstomy / Intranasal Fenestration of the Nasoantal Wall. Caldwell-Luo procedure(Radial Drainage of the antrum of the Maxillary Sinuses) Nasal Polypectomy Drainage of the Frontal Sinus Tonsillectomy and Adenoidectomy (T and A) Laryngoscopy Traheostomy Excision of the Submaxillary (Submandibular Gland) Parotidectomy Laryngectomy

UNIT-IV **12 Hours**

Genitourinary Trays Vasectomy tray Open Prostatectomy Kidney tray Thoracic Trays : Mediastinoscopy tray Thoractomy Tray Pacemaker tray Cardiovascular Trays Vascular Shunt Tray Cardiac procedures tray Neurologic Procedures Tray : Craniotomy tray Laminectomy Tray Kerrison Rongeurs and Pituitary Coreps tray Otorhinolaryngologic (ENT) Trays :- Ear procedures tray Nasal procedures tray Myringotomy tray Tonsiliectomy and Adenoidectomy tray Tracheostomy tray Antral Puncture tray

Transactional modes

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

Suggested Readings:

Malamed, S. F. (2014). *Handbook of local anesthesia-e-book.*

ElsevieHealth 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 SciencesAlam, 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

Course Title: Advanced Anesthetic c Techniques

Course Code: BOT503

L	T	P	Cr.
3	0	0	4

Total Hours: 45

Course learning Outcomes: On successful completion of this course, the students 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)
5. Understand Principles of oxygen administration and methods used to deliver oxygen

Course Contents

UNIT – I **11 Hours**

Heart as a pump. Cardiac cycle. Cardiac contractility and stroke volume. Cardiac output and its measurement. Various ECG Leads, their placement and Normal ECG. Cardiac Arrhythmias (atrial fibrillation, ventricular tachycardia, extra systoles)

Circulatory shock and its physiology.

UNIT – II **10 Hours**

Cardiac failure. Physics of blood flow and pressure. Measurement of blood flow. Electromagnetic flow meter, ultrasonic flow meter, plethysmography. Regulation of arterial pressure and hypertension (Drugs used for treatment of hypertension) Arterial circulation including cardiopulmonary bypass.

UNIT - III **12 Hours**

Artificial ventilation and related equipment: Physiology of IPPV (Intermittent positive pressure ventilation) Principles of mechanical ventilation. Various modes of IPPV. Automatic pressure and time cycled ventilators. Operating room ventilators. Other types of ventilators (HFJV, NIV)

UNIT – IV **12 Hours**

Complications in patients on ventilators. General care of a patient on ventilator. Disinfection and sterilization of ventilators. Humidification Principles of oxygen administration and methods used to deliver oxygen. Acid base balance. Electrolyte imbalance and its relevance to anesthesia.

Transactional modes

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

Suggested Reading

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. 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

Course Title: Pre - operative Anesthetic Care & Preparation
Course Code: BOT504

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Learn the knowledge of advance techniques regarding anaesthesia.
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)
5. Understand Principles of oxygen administration and methods used to deliver oxygen

Course Content

UNIT – I **12 Hours**

Anaesthesia Techniques Phases of GABalanced anaesthesia, TIVA Regional Anaesthesia Techniques IVRA, CNB, Plexus Block, Topical Sedation / MAC Complication of GA / RA

UNIT – II **11 Hours**

Pre anaesthetic assessmentHistory – past history - disease / Surgery / and personal history – Smoking / alcohol / drugs / medicationGeneral physical assessment, systemic examination – CVS, RS, CNS Investigations – Haematological, 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 **12 Hours**

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

I.V. Cannula, I.V. fluids

UNIT – IV **10 Hours**

Drugs – Anaesthesia related and Emergency Special preparation – As per specifi patient need Difficult intubation tray:Contents PACU, Discharge Criteria Modified Aldrete 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.

Course Name: Medicine
Course Code: BOT505

L	T	P	Cr
3	0	0	3

Total Hours: 45

Course learning Outcomes: On successful this course completion ofthe students 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. Understand Common urinary symptoms- dysuria, pyuria, anuria, oliguria, polyuria
5. Approach to infectious diseases – diagnostic and therapeutic principles.

UNIT-I **12 Hours**

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

UNIT-II **12 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 **11 Hours**

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

UNIT-IV **10 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- Majormanifestations

of renal and urinary tract disease Liver and biliary tract disease - Viral hepatitis, alcoholism. Endocrinology and metabolism -Dibetes 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

Suggested Readings:

Hill Education Frey, D. (2002). Harrison's principles of internal medicine Jameson, J. L. (2018). *Harrison's principles of internal medicine*. McGraw-Jameson, J. L., & De Groot, L. J. (2010). *Endocrinology-E-Book: Adult and Pediatric*. Elsevier Health Science Gross man, A. B., Jameson, J. L., & De Groot, L. J. (2013). *Endocrinology adult and pediatric: the adrenal gland e-book*. Elsevier Health Sciences

Course Title: Drug Abuse, Problem, Management & Prevention
Course Code: BOT506

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

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

Course Contents

UNIT-I **15 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, Seconal, Phenobarbital Benzodiazepines Diazepam, Alprazolam, Flunitrazepam Narcotics: Opium, morphine, heroin Hallucinogens: Cannabis & derivatives (marijuana, hashish, hash oil), Steroids and inhalants.

UNIT-II **10 Hours**

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

UNIT-III **10 Hours**

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

UNIT-IV **10 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, Clinical Epidemiological Unit, All India Institute of Medical Sciences, 2004. World Drug Report , United Nations Office of Drug and Crime, 2011 6. World Drug Report, United nations Office of Drug and Crime, 2010.

Course Title: Human Rights & profession Values

Course Code: BOT507

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

1. Understand 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.
5. Making the learners acquire conceptual clarity and develop respect for norms and values of freedom, equality, fraternity and justice.

Contents

UNIT - I **10 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 **5 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 **5 Hours**

Personal values- ethical or moral values, Attitude and behavior- 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 Human sRights New

Trendsand Innovations Deep & Deep Publications Pvt. Ltd. New Delhi2009 Ram Ahuja: Violence Against Women Rawat Publications Jewahar Nager Jaipur. 1998.
Sivagami Parmasivam Human Rights Salem 2008
Hingorani R.C.: Human Rights in India: Oxford and IBA New Delhi.

Course Title: CSSD Procedures(practical)

Course Code: BOT508

L	T	P	Cr.
0	0	6	3

Total Hours: 45

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

1. Enables the students to understand the central sterile department.
2. Maintain an accurate record of the effectiveness of the cleaning, disinfecting and sterilizing processes.
3. Manage adequate inventory of supplies and equipment.
4. Apply sterilization by radiation (Gamma rays, ultraviolet rays)
5. Learn decontamination, Assembly and processing, sterilizing, sterile storage and distribution.

Course Contents

List of Experiment / Practical's;

Technique of sterilization of carbonized articles. Methods of disinfection. Physical and chemical methods

Suggested Reading;

Karpinski, C., &Rosenbloom, C.A. (2017). *Sports nutrition: a handbook for professionals*. Academy of Nutrition and Dietetics Kusuda, K., Yamashita, K.Ohnishi, A., Tanaka, K., Komino, M.,Honda, H. &Ohta,

Y. (2016). Management of surgical instruments with radio frequency identification tags: A 27-month in hospital trial. *International journal of health care quality assurance* Ayliffe, G. A. J. (1987). Hospital hygiene: By Isobel M. Maurer. 1985, 3rdedn. Edward Arnold (Publshers) Ltd, London. Pp. viind 152.£ 6.95. *Journal of Medical Microbiology*

Course Title: Specialized Surgery and Anesthesia(practical)
Course Code: BOT509

L	T	P	Cr.
0	0	6	3

Total Hours: 45

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

1. Learn the knowledge of advance techniques regarding anaesthesia.
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)
5. Understand Principles of oxygen administration and methods used to deliver oxygen

Course contents

List of Experiments/Practical's

Surgical management of endoscopies, laryngectomy with RND and cochlearimplant. Management of PPV and perforating eye injury. Care and maintenance of Para-surgical equipment (Cautery, OT Lights, OT Table

Suggested Readings:

Kaplan, J. A. (2018). *Essentials of Cardiac Anesthesia for Noncardiac Surgery E-Book: A Companion to Kaplan's Cardiac Anesthesia*. Elsevier Health SciencesPillai, S. A. (2013). *Surgeons &Anesthesia*. JP Medical Ltd Hessel II, E. A., & Egan, T. D. (2020). Michael K. Cahalan: In Celebration of His Life and Contributions to Cardiac Anesthesiology. *Journal of cardiothoracic and vascular anesthesia* Kaplan, J. A. (2016). *Kaplan's Cardiac Anesthesia E-Book: In*

Cardiac and Noncardiac Surgery. Elsevier Health Sciences.

Course Title: Training/Internship Report
Course Code BOT601

L	T	P	Cr
0	0	0	20

Course learning Outcomes: On successful this course completion ofthe students 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.
5. Provide intra-operative equipment and technical support outside of OT Room.

Course Contents

Students have to carry out a research project (on any topic related to operation theatre technology) under the supervision of a faculty. The project 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.