

GURU KASHI UNIVERSITY



Diploma in Operation theatre Technology

Session: 2022-23

Department of Paramedical Sciences

Graduate attributes of the Programme

Graduates of this program demonstrate proficiency in performing complex surgeries, managing critical situations, and implementing innovative techniques. They possess strong problem-solving abilities, effective communication skills, and a keen eye for detail. Additionally, they exhibit professionalism, teamwork, and adaptability in dynamic healthcare environments. The Diploma of Operation Theatre program nurtures competent and confident professionals who contribute to the advancement of surgical care and patient outcomes

Program Learning Outcomes

- Demonstrate ability to prepare the patient for operative procedures.
- Demonstrate skills and knowledge to assist anesthetist in handling emergencies outside of OT room
- Demonstrate ability to prepare and maintain Operation Theatre.
- Demonstrate ability to maintain equipment support in an acute care environment.
- Identify and move to maintain a sterile field.
- Follow infection control policies and procedures.
- Manage and maintain theatre Equipment.

Program Structure

Semester -1st							
Sr.	Course Code	Course Name	Type of Course				No. of Credits
				L	T	P	
1	DOT101	English and communication skills	Core Course	3	0	0	3
2	DOT102	Anatomy & Physiology-I	Core Course	3	1	0	4
3	DOT103	Basic computers and information Science	Core Course	3	0	0	3
4	DOT104	Introduction to Quality and Patient safety	Core Course	3	0	0	3
5	DOT105	Principles of Management-I	Core Course	3	1	0	4
6	DOT106	Anatomy & Physiology-I Practical	Skill Based	0	0	4	2
7	DOT107	Basic computers and Information Science (Practical)	Skill Based	0	0	4	2
8	DOT108	Introduction to Quality and Patient safety (Practical)	Skill Based	0	0	4	2
9	DOT109	Principles of Management-I Practical	Skill Based	0	0	4	2
Total				15	2	16	26

Semester: 2nd							
Sr.	Course Code	Course Name	Type of Course				No. of Credits
				L	T	P	
1	DOT201	Anatomy & Physiology-II	Core Course	3	1	0	4
2	DOT202	Lab Sciences	Core Course	3	1	0	4
3	DOT203	Basic Anesthetic techniques	Core Course	3	0	0	3
4	DOT204	Principles of Management-II	Core	3	0	0	3
5	DOT205	Anatomy & Physiology-II Practical	Skill Based	0	0	4	2
6	DOT206	Lab Sciences Practical	Skill Based	0	0	4	2
7	DOT207	Basic Anesthetic techniques Practical	Skill Based	0	0	4	2
8	DOT208	Principles of Management-II(Practical)	Skill Based	0	0	4	2
Total				12	2	16	22

Semester: 3rd							
Sr.	Course Code	Course Name	Type of Course				No. of Credits
				L	T	P	
1	DOT301	Applied Anatomy & Physiology	Core Course	3	1	0	4
2	DOT302	Clinical Pharmacology	Core Course	3	1	0	4
3	DOT303	Regional Anesthetic techniques	Core Course	3	0	0	3
4	DOT304	CSSD Procedures	Core Course	2	0	0	2
5	DOT305	Principles of Anesthesia	Core Course	3	1	0	4
6	DOT306	Applied Anatomy & Physiology (Practical)	Skill Based	0	0	2	1
7	DOT307	Clinical Pharmacology(Practical)	Skill Based	0	0	4	2
8	DOT308	Regional Anesthetic techniques(Practical)	Skill Based	0	0	2	1
9	DOT309	CSSD Procedures(Practical)	Skill Based	0	0	2	1
10	DOT310	Principles of Anesthesia(Practical)	Skill Based	0	0	2	1
Total				14	3	12	23

Semester: 4th							
Sr.	Course Code	Course Name	Type of Course				No. of Credits
				L	T	P	
1	DOT401	Professional Training/Internship	Skill Based	NA	NA	NA	20
Total				0	0	0	20

Evaluation Criteria

Evaluation Criteria for Theory Subjects

A. Continuous Assessment: [25 Marks]

- i. CA1 [10 Marks]
- ii. CA2 [10 Marks]
- iii. CA3 [05 Marks]

For Each Continues Assessment will conduct the Surprise Test, Quiz, Term paper and assignment etc.

- A. Attendance [05 Marks]
- B. Mid Semester Test - 1: [30 Marks]
- C. Mid Semester Test - 2: [20Marks]
- D. End-Term Exam: [20 Marks]

Semester-I**Course Title: English & Communication Skills****Course Code: DOT101**

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. Analyze and restate the meaning of a text & practice listening effectively to communication in English.

Course Contents**UNIT I****10 Hours**

Basics of Grammar- Part I Vocabulary, Synonyms, Antonyms, Prefix and Suffix, Homonyms, Analogies and Portmanteau words. Basics of Grammar – Part II Active, Passive, Direct and Indirect speech, Prepositions, Conjunctions and Euphemisms

UNIT II**10 Hours**

Writing Skills Letter writing, E mail, and Essay, Articles, and Memos, one word substitutes, note making and Comprehension Writing and Reading Summary writing, Creative writing, newspaper reading Practical Exercise Formal speech, Phonetics, semantics and pronunciation

UNIT III**12 Hours**

Communication Introduction: Communication process, Elements of communication, Barriers of communication and how to overcome them, Nuances for communicating with patients and their attenders in hospitals 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.

UNIT IV**13 Hours**

Listening: Importance of listening, Self-assessment, Action plan execution, Barriers in listening, Good and persuasive listening. Reading: What is efficient and fast reading, Awareness of existing reading habits, tested techniques for improving speed, Improving concentration and comprehension 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, Presentation

Course References- www.wikipedia.co.in/www.information.net

Bovee, C. L., & Thill, J. V. (2020). Business communication essentials (8th ed.). Pearson.

O'Rourke, J. S. (2020). Management communication: A case-analysis approach (7th ed.). Pearson.

Hamilton, C., & Gouran, D. S. (2019). Communicating for results: A guide for business and the professions (11th ed.). Cengage Learning.

Beebe, S. A., Beebe, S. J., & Ivy, D. K. (2021). Communication: Principles for a lifetime (8th ed.). Pearson.

DeVito, J. A. (2020). The interpersonal communication book (15th ed.). Pearson

Adler, R. B., & Elmhorst, J. M. (2021). Communicating at work: Principles and practices for business and the professions (13th ed.). McGraw-Hill Education.

Course Title: Anatomy & Physiology-I**Course Code:** DOT102

L	T	P	Cr.
3	1	0	4

Total Hours: 60

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, and levels of organization in the body, organ systems, skeleton, and cavities of the body.
2. Evaluate Features of lymph vessels, lymphatic tissue &

- organs, lymphatic's, spleen, tonsil, thymus
3. Study Central nervous system, brain, cerebellum, spinal cord, cranial nerves, and autonomic nervous system.
 4. Differentiate skeletal muscle, cardiac muscle, smooth muscle.

Course Contents

UNIT I

15 Hours

Introduction to Anatomical terms of the human body - Basic anatomical terminology, anatomical position, anatomical planes, levels of organization in the body, organ systems, skeleton, and cavities of the body.

Organization of the human body at the cellular level - Structure of the cell comprising of cell membrane, cytoplasm, cell organelles, nucleus, cell extensions etc. Organization of the human body at the tissue level - Epithelial, Connective, Muscular & Nervous tissue.

Blood - Composition of blood, Features of red blood cells, white blood cells, platelets. Lymphatic system - Features of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, 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, appendicular skeleton. Musculoskeletal system - Joints of upper & lower limb.

UNIT II

15 Hours

Respiratory system - Nose & paranasal sinuses, pharynx, larynx, trachea, lungs. Cardiovascular system - Heart & blood vessels. Digestive system - Oral cavity, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas. Urinary system - Kidneys, juxtaglomerular apparatus, ureters, urinary bladder, urethra. Introduction to genetics - Features of chromosomes, DNA. Reproductive system in females - External & internal genital organs, breast. Reproductive system in males - Penis, scrotum, testes, prostate gland. Endocrine system - Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas. Special senses - Olfactory system, taste apparatus, external middle

& internal ear, eye. Skin - Features of skin, hair, sebaceous glands, sweat glands, nails.

UNIT III**15 Hours**

Introduction to physiology of the human body –Composition of body, Homeostasis, Introduction to chemistry of life. Organization of the human body at the cellular level – Function of lipids, carbohydrates, proteins & cell organelles. Organization of the human body at the tissue level – Function of Epithelial, Connective, Muscular & Nervous tissues. Blood – Haemopoiesis, haemostasis, coagulation of blood, blood transfusion. Lymphatic system – Function of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus. Resistance & immunity – Innate immunity, acquired immunity, humoral & cell mediated immunity.

UNIT IV**15 Hours**

Nervous system – Properties of nerve fibers, function of neuroglia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes. Muscular system – Properties of skeletal muscle, cardiac muscle, smooth muscle, muscles of the body. Skeletal system – Functions of bones, axial skeleton, and appendicular skeleton. Musculoskeletal system – Movement in the joints of upper & lower limb. 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, ureters, urinary bladder, urethra, physiology of urine formation, glomerular filtration, tubular reabsorption, water balance, micturition. Introduction to genetics - Features of chromosomes, DNA, protein synthesis, dominant inheritance, recessive inheritance, sex linked inheritance. Reproductive system– female: Physiology of female reproductive system. Reproductive system – male: Physiology of male reproductive system. Endocrine system - Mechanism of action of hormones, function of pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas. Special senses - Physiology of olfaction, taste, hearing, balance & vision. Skin – Function of skin, hair, sebaceous glands, sweat glands, nails, temperature regulation.

Transactional modes:

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

Text Books:

P.R Ashalatha & G Deepa 's Textbook of anatomy & physiology by B.D.Chaurasia's human anatomy

Reference books:

SampathMadhyastha's Manipal manual of anatomy for allied health sciences
 Krishna Garg & Madhu Joshi's Practical anatomy workbook
 Dixit's Atlas of Histology for Medical Students
 Basic Histology: A Color Atlas & Text
 Jana's Exam Oriented Practical Anatomy
 Krishan's Anatomy Mnemonics

Online references:

Coursera subscription for physiology topics

Course Title: Basic in Computer & Information Science

Course Code: DOT103

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 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,

Course Contents**UNIT I****10 Hours**

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).

Processor and memory: The Central Processing Unit (CPU), main memory.

UNIT II

10 Hours

Storage Devices: Sequential and direct access devices, magnetic tape, magnetic disk, optical disk, mass storage devices. Introduction of windows: History, features, desktop, taskbar, icons on the desktop, operation with folder, creating shortcuts, operation with windows (opening, closing, moving, resizing, minimizing and maximizing, etc.). Introduction to MSWord: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge.

UNIT III

10 Hours

Introduction to Excel: introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs. Introduction to powerpoint: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs. Introduction of Operating System: introduction, operating system concepts, types of operating system.

UNIT IV

15 Hours

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 (Email, File Transfer Protocol, telnet, the World Wide Web (WWW)), www browsers, use of the internet. Application of computers 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. FIIB Business 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 Sia, P.(2007) Computer Fundamentals, BPB Publications. Bangia, R. (2008). Computer Fundamentals and Information Technology. Firewall Media.

Course Title: Introduction to Quality and Patient Safety

Course Code: DOT104

L	T	P	Cr.
3	0	0	3

Course Contents

Total Hours: 45

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.

Course Contents

UNIT I.

12 Hours

Quality assurance and Management

Introduction, Quality improvement approaches, standards and norms, quality improvement tools, introduction to NABH guidelines.

UNIT II.

10 Hours

Basic of Emergency care and Life support skills Basic life support (BLS) following cardiac arrest, recognition of sudden cardiac arrest and activation of emergency response system, early cardiopulmonary resuscitation (CPR) and rapid defibrillation with an automated external defibrillator (AED)

UNIT III.**11 Hours**

Basic emergency care First aid, choking, rescue breathing methods, ventilation including use of bag valve master (BVMs) Biomedical Waste Management Definition, waste minimization, BMW-segregation, collection, transportation, treatment and disposal (Including color coding), Liquid BMW, Radioactive waste, metals/chemicals/drug waste, BMW management and methods of disinfection, use of Personal protective equipment (PPE).

UNIT IV**12 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

Course References

- Turgeon, Mary Louise. (2015). Clinical Laboratory Science, 7th ed. Maryland Heights, MO: Mosby. ISBN 9780323225458

Required Readings:

- Turgeon, Mary Louise. (2015). Clinical Laboratory Science, 7th ed. Maryland Heights, MO: Mosby. ISBN 9780323225458

Course Title: Principles of Management-I**Course Code:** DOT105

L	T	P	Cr.
3	1	0	4

Total Hours: 60**Course Contents**

1. To management Strategic Management Foundations of Planning.
2. Elaborate Innovation Understanding Groups and Teams.
3. Exudate Leadership Time Management.

4. Discuss Planning Tools and Techniques Decision Making

UNIT-I

15 Hours

Introduction to management Strategic Management Foundations of Planning 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

15 Hours

Planning Tools and Techniques Decision Making, conflict and stress management ordination and co-operation– Principles of co- ordination Techniques of co-ordination charts and records Standard procedure instructions

UNIT-III

15 Hours

Managing Change and Innovation Understanding Groups and Teams. Objective of Personnel Management – Role of Personnel Manager in an organization – Staffing and work distribution techniques – Job analysis and description – Recruitment and selection processes

UNIT-IV

15 Hours

Leadership Time Management Cost and efficiency. 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

Course Reference

Koontz, O’Donnell & Weihrich—Management Kootnz & Weihrich—Essentials of Management Hicks & Gullett—Management Stoner, Freeman & Gilbert Jr.—Management -Newman, Warren & McGill—The Process of Managemen-Robbins— Management : Concept & Practice -Banerjee, Shyamal—Principle & Practice of Management.

Course Title: Anatomy & physiology-I (Practical)

Course Code: DOT106

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

List of Experiments/ Practical's

Demonstration 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, lymphatics, spleen, tonsil, 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, 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, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas. Urinary system - Kidneys, juxtaglomerular apparatus, ureters, urinary bladder, urethra. Introduction to genetics - Features of chromosomes, DNA. Reproductive system in females - External & internal genital organs, breast. Reproductive system in males - Penis, scrotum, testes, prostate gland Endocrine system - Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

Physiology Practical

Blood test: Microscope . Haemocytometer Blood . RBC count . Hb. WBC count. Differential Count. 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 cysts Respiratory System: . Clinical examination of respiratory system . Spirometry M. Breath holding test Cardio Vascular System: . Measurement of blood pressure and pulse rate . Effect of exercise on blood pressure and pulse rate

**Course Title: Basic in Computer & Information Science
(Practical)**

Course Code: DOT107

L	T	P	Cr.
0	0	4	2

Total Hours: 30

Course Learning Outcomes: On successful completion of this 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.

Course contents

List of Experiments/ Practical's

Introduction to powerpoint: introduction, creating 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 of the internet. Application of Computers 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

Course Title: Introduction to Quality and Patient Safety (Practical)

Course Code: DOT108

L	T	P	Cr.
0	0	4	2

Total Hours: 30

Course Learning Outcomes: On successful completion of this 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 many lives in urgent cases Apply proper disposals of biomedical waste, reducing risk of infection to waste handling personnel
3. Control cross infection which can occur due to improper handling of infected waste polluting surroundings too.
4. Focus on the quality measures and proper handling of disposals providing quality facility to patients.

Course contents

List of Experiments/ Practical's

Sterilization, Disinfection, Effective hand hygiene, control of common health care associated infections, Guidelines(NABH) and JCI for hospital infection control Radioactive waste, metals/chemicals/drug waste, BMW

management and methods of disinfection, use of Personal protective equipment (PPE) Basic life support (BLS) following cardiac arrest, recognition of sudden cardiac arrest and activation of emergency response system First aid, choking, rescue breathing methods, ventilation including use of bag valve master (BVMs Fundamentals of emergency management

Transactional modes

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

Suggested Readings:

Schriefer, J., & Leonard, M. S. (2012). Patient safety and quality improvement: an overview of QI. *Pediatrics in review*, 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: Principles of Management - I (Practical)

Course Code: DOT109

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. Understand Management, Functions of Management.
2. Sensitize the 4. Principles and theories of leadership, Leadership Styles of education programme are realized.
3. Encourage research activities.
4. Encourage Co-ordination: Co-ordination and co-operation.

Course Contents

List of Experiments/ Practical's

Definitions of Management, Functions of Management: Planning , Organizing Directing , Controlling Planning: Types of planning , Short term and long plan Communication: Types of communication, Barriers of effective communication, Techniques for improved communication Principles and theories of leadership, Leadership Styles , Delegation of authority Co-ordination: Co-ordination and co-operation , Principles of co-ordination , Techniques of co-ordination charts and records.

Transactional modes

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

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.

Course Title: Anatomy & Physiology – II

Course Code: DOT201

L	T	P	Cr.
3	1	0	4

Total Hours: 60

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, and levels of organization in the body, organ systems, skeleton, and cavities of the body.
2. Evaluate Features of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, thymus
3. Study Central nervous system, brain, cerebellum, spinal cord, cranial nerves, and autonomic nervous system.
4. Differentiate skeletal muscle, cardiac muscle, smooth muscle.

Course Contents**UNIT I****15 Hours**

Classification of nervous system Nerve – structure, classification, microscopy with examples. Neurons, classification with examples. Simple reflex arc. Parts of a typical spinal nerve/Dermatome: Central nervous system – disposition, parts and functions Cerebrum, Cerebellum, Midbrain & brain stem Blood supply & anatomy of brain. Spinal cord-anatomy, blood supply, nerve pathways Pyramidal, extra pyramidal system, Thalamus, hypothalamus, Structure and features of meninges Ventricles of brain, CSF circulation Development of nervous system & defects.

UNIT II**15 Hours**

Cranial nerves – (course, distribution, functions and palsy) Sympathetic nervous system, its parts and components Parasympathetic nervous system Applied anatomy, Structure and function of Visual system, auditory system, gustatory

system, olfactory system, Somatic sensory system. Pelvic floor, innervations Kidney, Ureter, bladder, urethra. Reproductive system of male, Reproductive system of female.

UNIT III**15 Hours**

PHYSIOLOGY Physiology of kidney and urine formation Glomerular filtration rate, clearance, Tubular function, Ureter, bladder, urethra Physiology of the endocrine glands –, Hormones secreted by these glands, their classifications and functions. Adrenal, Gonads Thymus, Pancreas. Pituitary, Pineal Body, Thyroid, Parathyroid

UNIT IV**15 Hours**

Male -Functions of testes, pubertal changes in males, testosterone -action & regulations of secretion. Female -Functions of ovaries and uterus, pubertal changes, menstrual cycle, estrogens and progesterone -action and regulation.

Transactional modes

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

Course References**Text Books:**

PR Ashalatha & G Deepa 's Textbook of ANATOMY & PHYSIOLOGY by B.D.Chaurasia's HUMAN ANATOMY.

Reference books:

- Sampath Madhyastha's Manipal manual of anatomy for allied health sciences Krishna Garg & Madhu Joshi's Practical anatomy workbook Dixit's Atlas of Histology for Medical Students Basic Histology: A Color Atlas & Text Jana's Exam Oriented Practical Anatomy Krishan's Anatomy Mnemonics

Course Title: Lab Sciences**Course Code:** DOT202

L	T	P	Cr.
3	1	0	4

Total Hours: 60

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

1. Elaborate essential Vitamins & Minerals
2. Analysis Acids and bases like, pH, Henderson, Hassel Balch equation, Buffers, Indicators
3. Knowledge about cell injury and cell death.
4. Analysis Morphologic patterns of acute inflammation Summary of acute inflammation Chronic inflammation

UNIT-I

15 Hours

Lab Sciences - Bio-chemistry 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) Acids and bases: Definition, pH, Henderson, Hassel Balch equation, Buffers, Indicators, Normality, Molarity, Molality.

UNIT-II

15 Hours

Lab Sciences – Pathology Cellular adaptation, Cell injury & cell death. Introduction to pathology. Overview: Cellular response to stress and noxious stimuli. Cellular adaptations of growth and differentiation. Overview of cell injury and cell death. Causes of cell injury. Mechanisms of cell injury. Reversible and irreversible cell injury. Examples of cell injury and necrosis.

UNIT-III

15 Hours

Inflammation. General features of inflammation Historical highlights Acute inflammation Chemical mediators of inflammation Outcomes of acute inflammation Morphologic patterns of acute inflammation Summary of acute inflammation Chronic inflammation Immunity disorders and Infectious diseases. General features of the immune system Disorders of the immune system General principles of microbial pathogenesis viral infections. Bacterial Infections-Rheumatic heart disease. Fungal infections. Parasitic infections.

UNIT-IV

15 Hours

Neoplasia. Definitions Nomenclature. Biology of tumor growth benign and malignant neoplasms Epidemiology. Carcinogenic agents and their cellular interactions Clinical features of tumors. Environmental and nutritional disorders. Environmental and disease. Common environmental and occupational exposures Nutrition and disease. Coronary artery disease.

Transactional modes

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

Reference Books

Smith, J. D. (2019). Laboratory Techniques in Chemistry. ABC Publishing.
 Johnson, S. R. (2020). Molecular Biology: Principles and Practice. 2nd ed. XYZ Press.
 Brown, L. M. (Ed.). (2018). Clinical Laboratory Science: A Bottom Line Approach. QRS Publications.

Course Title: Basic Anesthetic Techniques

Course Code: DOT203

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. Principles of anesthesia Basics of general anesthesia depth, mechanism and intubation
2. Principles of oxygen administration along with the apparatus
3. Elaborate various intravenous and inhalational agents
4. Types of fluid and therapy Blood and blood components transfusion.

Course contents**UNIT-I****10 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**

Anaesthesia drugs and techniques: Principles of anaesthesia. Basics of general anaesthesia depth, mechanism and intubation. Techniques of general anaesthesia. Various intravenous and inhalational agents. Regional anaesthesia, spinal and epidural, posture and drugs.

UNIT-III**11 Hours**

Local Anaesthetic agents. Neuro muscular blocking agents. Principles of oxygen administration along with the apparatus. Care of patient in the recovery room.

UNIT-IV**12 Hours**

Post-operative pain: evaluation and management. Types of fluid and therapy. Blood and blood components transfusion. Preparation of anaesthesia machine, intubation kit, suction machine, anaesthesia 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

References Books

Basics of Anesthesia, 5th Edition Authors: Robert K. Stoelting & Ronald D. Miller ISBN 978-0-443-06801-0 *Birks RJS, ed. (Marc2007). RECOMMENDATIONS FOR STANDARDS OF MONITORING DURING ANAESTHESIA AND RECOVERY 4th Edition (PDF). Association of Anaesthetists of Great Britain and Ireland. Retrieved 21 February 2014. "Anaesthesia". Oxford English Dictionary (3rd ed.). Oxford University Press. September 2005. (Subscription or UK public library membership required.)*

Course Title: Principles of Management – II**Course Code: DOT204**

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. To management Strategic Management Foundations of Planning.
2. Elaborate Innovation Understanding Groups and Teams.
3. Exudate Leadership Time Management.
4. Discuss Planning Tools and Techniques Decision Making

Course Contents**UNIT-I****12 Hours**

Personnel management: Objective of Personnel Management, Role of Personnel Manager in an organization, Staffing and work distribution techniques, Job analysis.

Principles of management: a. Development of Management: Definitions of Management, Contributions of F.W. Taylor, Henry Fayol and others.

UNIT-II**10 Hourss**

Functions of Management: Planning, Organizing, Directing, Controlling
 Planning: Types of planning, Short term and long plans Corporate or Strategic
 Planning, Planning premises, Policies, Characteristics and sources, principles of
 policy making, Strategies as different from policies, Procedures and methods,
 Limitations of planning. c. Organizing: Importance of organization, Hierarchy,
 Scalar chain, Organization relationship, Line relationship, Staff relationship,
 Line staff relationship, Functional relationship, Committee organization,
 Management committees, Departmentation.

UNIT III**12 Hourss**

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. e. Communication: Types of communication, Barriers of effective
 communication, Techniques for improved communication. f. 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 , Super
 management, General managers, Middle managers and supervisors , Planning
 and controlling relationships , Management control process , Corrective
 measures, Strategic control points , Budgetary control ,

UNIT IV**11 Hourss**

Types of budget. Co-ordination: Co-ordination and co-operation , Principles of
 co-ordination , Techniques of co-ordination charts and records , Standard
 procedure instructions. and description , Recruitment and selection processes ,
 Orientation and training , Coaching and counselling , disciplining , Complaints
 and grievances , Termination of employees , Performance appraisal , Health and
 safety of employees , Consumer Protection Act as applicable to health care
 services. Financial management: 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

Course Reference-

-Koontz, O'Donnell & Weihrich—Management Kootnz & Weihrich—Essentials of Management Hicks & Gullett—Management Stoner, Freeman & Gilbert Jr.—Management Newman, Warren & McGill—The Process of Management Robbins—Management : Concept & Practice -Banerjee, Shyamal—Principle & Practice of Management.

Course Title: Anatomy & Physiology-II (Practical)

Course Code: DOT205

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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 the cardio-respiratory, renal, reproductive and metabolic systems.
3. Gain knowledge of Clinical examination of respiratory system and digestive system.
4. Measure blood pressure and pulse rate.

Course contents

List of Experiments/ Practical's

Physiology Practical Enumerate Physiology of kidney Explain Physiology of lower Urinary tract Label Physiology of the endocrine glands Enumerate Physiology of reproductive system.

Transactional modes

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

Identification and description of all anatomical structures. Demonstration of dissected parts Demonstration of skeleton-articulated and disarticulated. Surface anatomy: Surface land mark-bony, muscular and ligamentous. Surface anatomy of major nerves, arteries of the limbs.

Suggested Readings

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

Course Title: Lab Sciences (Practical)**Course Code: DOT206**

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. Elaborate essential Vitamins & Minerals
2. Analysis Acids and bases like, pH, Henderson, Hassel Balch equation, Buffers, Indicators
3. Knowledge about cell injury and cell death.
4. Analysis Morphologic patterns of acute inflammation Summary of acute inflammation Chronic inflammation

Course contents**List of Experiments/ Practical's**

Fat soluble vitamins (A, D, E, K), Water soluble vitamins, B-complex. Trace elements, Calorific value of foods, Basal metabolic rate (BMR), respiratory quotient (RQ). Chemical mediators of inflammation Outcomes of acute inflammation Morphologic Patterns of acute inflammation Summary of acute inflammation. Carcinogenic agents. And their cellular interactions Clinical features of tumors.

Transactional modes

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

Reference Books

Smith, J. D. (2019). Laboratory Techniques in Chemistry. ABC Publishing.
Johnson, S. R. (2020). Molecular Biology: Principles and Practice. 2nd ed. XYZ Press.
Brown, L. M. (Ed.). (2018). Clinical Laboratory Science: A Bottom Line Approach. QRS Publications.

Course Title: Basic Anesthetic Techniques (Practical)**Course Code: DOT207**

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. Elaborate essential Vitamins & Minerals
2. Analysis Acids and bases like, pH, Henderson, Hassel Balch equation, Buffers, Indicators
3. Knowledge about cell injury and cell death.
4. Analysis Morphologic patterns of acute inflammation Summary of acute inflammation Chronic inflammation

Course contents

List of Experiments/ Practical's

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

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

Reference Books

Smith, J. D. (2019). Laboratory Techniques in Chemistry. ABC Publishing.
Johnson, S. R. (2020). Molecular Biology: Principles and Practice. 2nd ed. XYZ Press.
Brown, L. M. (Ed.). (2018). Clinical Laboratory Science: A Bottom Line Approach. QRS Publications.

Course Title: Principles of Management –II (Practical)**Course Code: DOT208**

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. To management Strategic Management Foundations of Planning.
2. Elaborate Innovation Understanding Groups and Teams.
3. Exudate Leadership Time Management.
4. Discuss Planning Tools and Techniques Decision Making

Course contents

List of Experiments/ Practical's

Role of Personnel Manager in an organization , Staffing and work distribution techniques Development of Management: Definitions of Management, Contributions of F.W. Taylor, Henry Fayol and others Organizing: Importance of organization, Hierarchy, Scalar chain, Organization relationship, Line relationship, Staff relationship, Line staff relationship, Functional relationship, Committee organization , Management committees , Departmentation. Diagnostic signs of motivational problems, Motivational Techniques Financial Management in a hospital ,Third party payments on behalf of patients. Insurance, health schemes and policies Principles relating to Direction process , Principles and theories of leadership, Leadership Styles , Delegation of authority.

Course Title: Applied Anatomy & Physiology**Course Code: DOT301**

L	T	P	Cr.
3	1	0	4

Total Hours: 60

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, and levels of organization in the body, organ systems, skeleton, and cavities of the body.
2. Evaluate Features of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, thymus
3. Study Central nervous system, brain, cerebellum, spinal cord, cranial nerves, and autonomic nervous system.
4. Differentiate skeletal muscle, cardiac muscle, smooth muscle.

Course Contents

UNIT-I

15 Hours

Respiratory system Structure and function of the respiratory tract in relation to respiratory system. Nose - Role in humidification, Pharynx - Obstruction in airways. Larynx- Movement or vocal cords, Cord palsies. Trachea & Bronchial tree - vessels, nerve supply, respiratory tract, reflexes, and bronchospasm. Alveoli - Layers, Surfactants

UNIT-II

15 Hours

Respiratory Physiology. Control or breathing. Respiratory muscles - diaphragm, intercostal Lung volumes - dead space, vital capacity, FRC etc. Pleural cavity – intra-pleural pressure, pneumothorax. Work of breathing - airway resistance, compliance Respiratory movements under anaesthesia. Tracheal tug - signs, hiccup.

UNIT-III

15 Hours

Pulmonary Gas Exchange and Acid Base Status. Pulmonary circulation - Pulmonary edema, Pulmonary hypertension. Pulmonary function tests. Transfer of gases - oxygen & Carbon dioxide. Acid base status, definitions, acidosis types, Alkalosis types, buffers in the body. Oxygen: properties, storage, supply, hypoxia. Oxygen therapy Respiratory failure, type, clinical features, causes. Cardiovascular system Anatomy- Chambers of the heart, major vasculature. Coronary supply, innervation. Conduction system.

UNIT-IV

15 Hours

Cardiac output - determinants, heart rate, preload, after load. Coronary blood flow & myocardial oxygen supply. ECG- arrhythmias cardiovascular response to aesthetic & surgical procedures. Hypotension- causes, erects management. Cardio pulmonary resuscitation.

Myocardial infarction, hypertension. Fluids and electrolytes Body Fluids - Composition Water, sodium and potassium balance I.V. Fluids - composition & administration Intravenous, Central venous and arterial line insertion Blood transfusion Blood grouping, storage, administration.

Transactional modes

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

Course References

Text Books:

PR Ashalatha & G Deepa 's Textbook of ANATOMY & PHYSIOLOGY by B.D.Chaurasia's HUMAN ANATOMY.

Reference books:

•Sampath Madhyastha's Manipal manual of anatomy for allied health sciences
Krishna Garg & Madhu Joshi's Practical anatomy workbook Dixit's Atlas of Histology for Medical Students Basic Histology: A Color Atlas & TextJana's Exam Oriented Practical Anatomy Krishan's Anatomy Mnemonics.

Course Title: Clinical Pharmacology

Course Code: DOT302

L	T	P	Cr.
3	1	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.

Course Contents

UNIT-I

15 Hours

Antisialagogues: Atropine, Glycopyrrolate. Sedatives / Anxiolytics: Diazepam, Midazolam, Phenergan, Lorazepam, Chlorpromazine, and Triclofos.

Narcotics: Morphine, Pethidine, Fentanyl, Pentazocine, tramadol. Antiemetic's:

Metoclopramide, Ondansetron, Dexamethasone Induction Agent: Thiopentone, Diazepam, Midazolam, Ketamine, Propofol, Etomidate.

UNIT-II**15 Hours**

Muscle Relaxants: Depolarizing - Suxamethonium, Non depolarizing - Vecuronium, Atracurium, rocuranium Inhalational Gases: Gases-02, N2O, Air, Agents-Ether ,Halothane, Isoflurane, Saevoflurane, Desflurane Reversal Agents: Neostigmine, Glycopyrrolate, Atropine, Naloxone, Flumazenil (Diazepam). Local Anesthetics: Xylocaine, Bupivacaine - Topical, Prilocaine-jelly, Emla - Ointment, Etidocaine. Ropivacaine.

UNIT-III**15 Hours**

Emergency Drugs : Mode or administration, dilution, dosage and effects Adrenaline, Atropine MEphedrine, Mephentramine Bicarbonate, calcium, potassium. Inotropes: dopamine, dobutamine, amidarone

UNIT-IV**15 Hours**

Aminophylline, hydrocortisone, antihistaminic, Antihypertensive –Beta-blockers, Ca-channel blockers. Antiarrhythmic- xylocard MVasodilators-nitroglycerin & sodium nitroprusside M,Respiratory system- Bronchodilators Renal system- Diuretics, frusemide, mannitol .

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: Regional Anesthetic techniques**Course Code:** DOT303

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 About Techniques Of Regional Anesthesia.
2. Enlist the drugs acting for regional anesthesia.
3. Study pharmacology drugs acting on CNS system.
4. Clarify pharmacology of Anesthetic agents.

Course Contents

UNIT-I	10 Hours
Regional aesthetic techniques.	
UNIT-II	12 Hours
Local Aesthetic technique. Nerve blocks	
UNIT-III	11 Hours
Spinal Anaesthesia Epidural Anaesthesia	
UNIT-IV	12 Hours
Regional anesthesia drugs and routes	

Transactional modes

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

Course Reference

Serpell, M. G.; Fettes, P. D. W.; Wild smith, J. A. W. (1 November 2002). "Pencil point spinal needles and neurological damage". British Journal of Anesthesia. Rucklidge M, Hinton C. (2012). "Difficult and failed intubation in obstetrics". Continuing Education in Anesthesia Critical Care & Pain.

Course Title: CSSD Procedures**Course Code:** DOT304

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. Learn About Techniques Of sterilization.
2. Enlist the sterilization material

3. Study of various types of sterilization.
4. Clarify moist, dry and chemical sterilization.

Course Content

UNIT-I

8 Hours

Waste disposal collection of used items from user area, reception protective clothing and disinfections sage guards.

UNIT-II

7 Hours

Use of disinfections sorting and classification of equipment for cleaning purposes, sharps, blunt lighted etc. contaminated high risk baby care - delicate instruments or hot care instruments.

UNIT-III

9 Hours

Cleaning process - use of detergents. Mechanical cleaning apparatus, cleaning instruments, cleaning jars, receiver's bowls etc. trays, basins and similar hand ware utensils. Cleaning of catheters and tubing, cleaning glass ware, cleaning syringes and needles.

UNIT-IV

6 Hours

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

General observations principles of sterilization. Moist heat sterilization. Dry heat sterilization. EO gas sterilization, H2O2 gas plasma vapor sterilization.

Transactional modes

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

Course References

Sterilization basics". University of Rochester. Retrieved 16 June 2016

Reichert, Marimargaret; Young, Jack H. (1997). Sterilization Technology for the Health Care Facility. Jones & Bartlett Learning

Safety in the Operating Room Begins with Sterile Processing". Retrieved 2019-01-17.

Course Title: Principles of Anesthesia

Course Code: DOT305

L	T	P	Cr.
3	1	0	4

Total Hours: 60

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

1. Discuss about medical gasses
2. Analysis various types of medical gasses.
3. Elaborate use of anesthesia machine and components.
4. Different types of circuits use for aesthesia.

Course Content**UNIT-I****15 Hours**

Medical gas supply mCompressed gas cylinders, Color coding
Cylinder valves; pin index. Gas piping system Recommendations for piping
system, Alarms & safety devices. Scavenging of waste anesthetic gases

UNIT-II**15 Hours**

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

UNIT-III**15 Hours**

Breathing system General considerations: humidity & heat Common
components - connectors, adaptors, reservoir bags. Capnography nPulse
oximetry Methods of humidification. nClassification of breathing system
Mapleson system - a b c d e f Jackson Rees system, Bain circuit Non
rebreathing valves - Ambu valves The circle system nFace 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(SpO₂), 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) nPA Pressure, LA Pressure &
cardiac output nAnesthesia depth monitor nNeuromuscular transmission
monitor

Transactional modes

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

References Books

Basics of Anesthesia, 5th Edition Authors: Robert K. Stoelting & Ronald D. Miller ISBN 978-0-443-06801-0 Birks RJS, ed.(March2007). RECOMMENDATIONS FOR STANDARDS OF MONITORING DURING ANAESTHESIA AND RECOVERY 4th Edition (PDF). Association of Anaesthetists of Great Britain and Ireland. Retrieved 21 February 2014. "Anaesthesia". Oxford English Dictionary (3rd ed.). Oxford University Press. September 2005. (Subscription or UK public library membership required.)

Course Title: Applied Anatomy & Physiology (Practical)**Course Code:** DOT306

L	T	P	Cr.
0	0	2	1

Total Hours: 15

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, and levels of organization in the body, organ systems, skeleton, and cavities of the body.
2. Evaluate Features of lymph vessels, lymphatic tissue & organs, lymphatic's, spleen, tonsil, thymus
3. Study Central nervous system, brain, cerebellum, spinal cord, cranial nerves, and autonomic nervous system.
4. Differentiate skeletal muscle, cardiac muscle, smooth muscle.

Course contents**List of Experiments/ Practical's**

Respiratory system Nose - Role in humidification, Pharynx - Obstruction in airways. Larynx- Movement or vocal cords, Cord palsies. Trachea & Bronchial tree - vessels, nerve supply, respiratory tract, reflexes, and bronchospasm. Cardiovascular system Coronary supply, innervation. Conduction system. Cardiac output - determinants, heart rate, preload, after load.. Coronary blood flow& myocardial oxygen supply. ECG- arrhythmias cardiovascular response to anesthetic & surgical procedures. Hypotension- causes, erects management. Cardio pulmonary resuscitation.

Transactional modes

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

Course References**Text Books:**

PR Ashalatha & G Deepa 's Textbook of ANATOMY & PHYSIOLOGY by
B.D.Chaurasia's HUMAN ANATOMY.

Reference books:

•Sampath Madhyastha's Manipal manual of anatomy for allied health sciences
Krishna Garg & Madhu Joshi's Practical anatomy workbook Dixit's Atlas of
Histology for Medical Students Basic Histology: A Color Atlas & TextJana's
Exam Oriented Practical Anatomy Krishan's Anatomy Mnemonics.

Course Title: Clinical Pharmacology(Practical)

Course Code: DOT307

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

Course contents

List of Experiments/ Practical's

Antisialagogues: Atropine, Glycopyrrolate. Sedatives / Anxiolytics: Diazepam, Midazolam, Phenergan, Lorazepam, Chlorpromazine, and Triclofos. Narcotics: Morphine, Pethidine, Fentanyl, Pentazocine, tramadol. Antiemetic's: Metoclopramide, Ondansetron, Dexamethasone 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, Isoflurane, Saevoflurane, Desflurane . Reversal Agents: Neostigmine, Glycopyrrolate, Atropine, Naloxone, Flumazenil (Diazepam). 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. Inotropes: dopamine, dobutamine, amidarone Aminophylline, hydrocortisone, antihistaminic, Antihypertensive -Beta-blockers, Ca-channel blockers. Antiarrhythmic- xylocard Vasodilators- nitroglycerin & sodium nitroprusside Respiratory system- Bronchodilators

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.,

Course Title: Regional Anesthetic techniques(Practical)

Course Code: DOT308

L	T	P	Cr.
0	0	2	1

Course Contents

Total Hours: 15

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

1. Learn About Techniques Of Regional Anesthesia.
2. Enlist the drugs acting for regional anesthesia.
3. Study pharmacology drugs acting on CNS system.
4. Clarify pharmacology of Anesthetic agents.

Course contents**List of Experiments/ Practical's**

Local Aesthetic technique Nerve blocks Spinal Anaesthesia Epidural Anaesthesia , routs and drugs.

Transactional modes

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

Course Reference

Serpell, M. G.; Fettes, P. D. W.; Wild smith, J. A. W. (1 November 2002). "Pencil point spinal needles and neurological damage". British Journal of Anesthesia.

Rucklidge M, Hinton C. (2012). "Difficult and failed intubation in obstetrics". Continuing Education in Anesthesia Critical Care & Pain.

Course Title: CSSD Procedures(Practical)

Course Code: DOT309

L	T	P	Cr.
0	0	2	1

Course Contents**Total Hours: 15**

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

1. Learn about Techniques Of sterilization.
2. Enlist the sterilization material
3. Study of various types of sterilization.
4. Clarify moist, dry and chemical sterilization

Course contents**List of Experiments/ Practical's**

Waste disposal collection of used items from user area, reception protective clothing and disinfections sage guards. Use of disinfections sorting and classification of equipment for cleaning purposes, sharps, blunt lighted etc. contaminated high risk baby care - delicate instruments or hot care instruments. Cleaning process - use of detergents. Mechanical cleaning apparatus, cleaning instruments, cleaning jars, receivers bowls etc. trays, basins and similar hand ware utensils. Cleaning of catheters and tubing, cleaning glass ware, cleaning syringes and needles. Materials used for wrapping and packing assembling pack contents. Types of packs prepared. Inclusion of trays and gallipots in packs. Method of wrapping and making use of indications to show that a pack of container has been through a sterilization process date stamping. General observations principles of sterilization. Moist heat sterilization. Dry heat sterilization. EO gas sterilization, H2O2 gas plasma vapour sterilization.

Transactional modes

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

Course References

Sterilization basics". University of Rochester. Retrieved 16 June 2016
 Reichert, Marimargaret; Young, Jack H. (1997). Sterilization Technology for the Health Care Facility. Jones & Bartlett Learning
 Safety in the Operating Room Begins with Sterile Processing". Retrieved 2019-01-17.

Course Title: Principles of Anaesthesia(Practical)**Course Code: DOT310****Course Contents**

L	T	P	Cr.
0	0	2	1

Total Hours: 15

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

1. Discuss about medical gasses
2. Analysis various types of medical gasses.
3. Elaborate use of anesthesia machine and components.
4. Different types of circuits use for aesthesia.

Course contents

List of Experiments/ Practical's

Medical gas supply Color coding Gas piping system Recommendations for piping system Alarms & safety devices. Anesthesia machine Hanger and yoke system Pressure regulator Flow meter assembly Vaporizers - types, hazards, maintenance, filling and draining, etc. Breathing system General considerations: humidity & heat Common components - connectors, adaptors, reservoir bags. Pulse oximetry Methods of humidification. Non rebreathing valves - Ambu valves The circle system Face masks & Airway laryngoscopes Types, sizes Endotracheal tubes - Types, sizes. Fixing, removing and inflating cuff, checking tube position, complications. Anesthesia ventilator and working principles. Monitoring Electrocardiography (ECG) Pulse oximetry (SpO₂) Temperature- central and peripheral Non-invasive blood pressure (NIPB) and Invasive blood pressure

Transactional modes

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

References Books

Basics of Anesthesia, 5th Edition Authors: Robert K. Stoelting & Ronald D. Miller Isbn 978-0-443-06801-0 Birks Rjs, Ed.(March2007). Recommendations For Standards Of Monitoring During Anaesthesia And Recovery 4th Edition (Pdf). Association Of Anaesthetists of Great Britain and Ireland. Retrieved 21 February 2014. "Anesthesia". Oxford English Dictionary (3rd ed.). Oxford University Press. September 2005. (Subscription or UK public library membership required.)

Course Title: Professional Training/ Internship

Course Code: DOT401

L	T	P	Cr.
0	0	0	20

Course Contents

PROJECT REPORT

Students have to carry out a research project (on any topic related to Operation Theatre and Anesthesia) 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.