GURU KASHI UNIVERSITY
PUNJAB - INDIA

Program Syllabus Booklet

Diploma in Operation Theatre Technology (Code-808)

Session: 2021-22

GURU KASHI UNIVERSITY

University College of Paramedical Sciences (Code:8)

Diploma in Operation Theatre Technology

(Code: 808)

Semester: 1st

Sr.	Subject Code	Subject Name	Type of Subject T/P	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	120104	English and communication skills	T	3	0	0	3	50	50	100
2	A808101	Anatomy & Physiology-I	T	3	1	0	4	50	50	100
3	A808102	Basic computers and information Science	T	3	0	0	3	50	50	100
4	A808103	Introduction to Quality and Patient safety	T	3	0	0	3	50	50	100
5	A808104	Principles of Management-I	T	3	1	0	4	50	50	100
6	A808105	Anatomy & Physiology-I Practical	P	0	0	4	2	50	50	100
7	A808106	Basic computers and Information Science (Practical)	P	0	0	4	2	50	50	100
8	A808107	Introduction to Quality and Patient safety (Practical)	P	0	0	4	2	50	50	100
9	A808108	Principles of Management-I Practical	P	0	0	4	2	50	50	100
Total No. of Credits							25			

Semester: 2nd

Sr.	Subject Code	Subject Name	Type of Subject	(Hours Per			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	A808201	Anatomy & Physiology-II	T	3	**1**	**0**	**4**	50	50	100
2	A808202	Lab Sciences	T	3	1	0	4	50	50	100
3	A808203	Basic Anesthetic techniques	T	3	0	0	3	50	50	100
4	A808204	Principles of Management-II	T	3	0	0	3	50	50	100
5	A808205	Anatomy & Physiology-II Practical	P	0	0	4	2	50	50	100
6	A808206	Lab Sciences Practical	P	0	0	4	2	50	50	100
7	A808207	Basic Anesthetic techniques Practical	P	0	0	4	2	50	50	100
8	A808208	Principles of Management-II(Practical)	P	0	0	4	2	50	50	100
Total No. of Credits							22			

Semester: 3rd

Sr.	Subject Code	Subject Name	Type of Subject	(Hours Per			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	A808301	Applied Anatomy & Physiology	T	**3**	**1**	**0**	**4**	50	50	100
2	A808302	Clinical Pharmacology	T	3	1	0	4	50	50	100
3	A808303	Regional Anesthetic techniques	T	3	0	0	3	50	50	100
4	A808304	CSSD Procedures	T	2	0	0	2	50	50	100
5	A808305	Principles of Anesthesia	T	3	1	0	4	50	50	100
6	A808306	Applied Anatomy & Physiology (Practical)	P	0	0	2	1	50	50	100
7	A808307	Clinical Pharmacology(Practical)	P	0	0	4	2	50	50	100
8	A808308	Regional Anesthetic techniques(Practical)	P	0	0	2	1	50	50	100
9	A808309	CSSD Procedures(Practical)	P	0	0	2	1	50	50	100
10	A808310	Principles of Anesthesia(Practical)	P	0	0	2	1	50	50	100
Total No. of Credits							23	50	50	100

Semester: 4th

Sr.	Subject Code	Subject Name	Type of Subject	(Hours Per			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	A808401	Professional Training/Internship	NA	NA	NA	NA	20	500	500	1000
Total No. of Credits							20			

	University College of Paramedical Sciences **DOTT**		
Course Title: Anatomy & Physiology-I			
Semester: I	**Course code: A808101**	**Credits: 04**	**Core**
No of sessions Lectures / Tutorial: 3/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course Introduction

Allied and healthcare professionals (AHPs) includes individuals involved with the delivery of health or healthcare related services, with qualification and competence in therapeutic, diagnostic, curative, preventive and/or rehabilitative interventions.

They work in multidisciplinary health teams in varied healthcare settings including doctors, nurses and public health officials to promote, protect, treat and manage a person ‘s physical, mental, social, emotional, environmental health and holistic well-being. The study of anatomy helps them in putting into perspective the knowledge that they gain for better good of humanity.

Course Objectives

This course is designed to provide the students the basic knowledge in anatomy. At the end of the course, the student should be able to:

1. Comprehend the normal disposition, inter-relationships, gross, functional and applied anatomy of various structures in the human body.
2. Identify the microscopic structures of various tissues, and organs in the human body & correlate the structure with the functions.
3. Comprehend the basic structure and connections between the various parts of the central nervous system so as to analyse the integrative and regulative functions on the organs and systems.

Course Learning Outcomes

Upon successful completion of the course, the students should be able to:

CLO1: Understand the various organ structures with a backdrop of general anatomy (Remember & Understand)

CLO2: Compare the differences between the similar structures in the body and their relevance (Analyze)

CLO3: Learn to apply the knowledge of various structures to clinical aspect of diseases (Apply &Analyze)

CLO4: Augment their learning by making models, charts and learning on simulators (Synthesize, evaluate & create)

Course Pedagogy

The course pedagogy includes a comprehensive study including the study of general structures and the specialized organs in a manner aimed at being student friendly. Various clinical aspects are discussed in relevance to the topic taught so as to relieve the monotony of the subject. Regular doubt clearing sessions, written assignments, quiz, chart and poster making and model making are some of the measures for learning. Periodic and surprise tests are taken to apprise and evaluate the students. They are taught on simulators for a live feeling. The practical includes the study of structures through mannequins which helps in holding the interest of the students.

Course Contents

Module 1

1. **Introduction to Anatomical terms of the human body** - Basic anatomical terminology, anatomical position, anatomical planes, levels of organization in the body, organ systems, skeleton, cavities of the body.
2. **Organization of the human body at the cellular level** - Structure of the cell comprising of cell membrane, cytoplasm, cell organelles, nucleus, cell extensions etc.
3. **Organization of the human body at the tissue level** - Epithelial, Connective, Muscular& Nervous tissue.

Module 2

1. **Blood** - Composition of blood, Features of red blood cells, white blood cells, platelets.
2. **Lymphatic system** - Features of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus.
3. **Nervous system** - Central nervous system, brain, cerebellum, spinal cord, cranial nerves, autonomic nervous system.
4. **Muscular system** - Skeletal muscle, cardiac muscle, smooth muscle, muscles of the body.
5. **Skeletal system** - Features of bones, axial skeleton, appendicular skeleton.
6. **Musculoskeletal system** - Joints of upper & lower limb.

Module 3

1. **Respiratory system** - Nose & paranasal sinuses, pharynx, larynx, trachea, lungs.

2. **Cardiovascular system -** Heart & blood vessels.

3. **Digestive system -** Oral cavity, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas.

4. **Urinary system -** Kidneys, juxtaglomerular apparatus, ureters, urinary bladder, urethra.

Module 4

1. **Introduction to genetics -** Features of chromosomes, DNA.

2. **Reproductive system in females -** External & internal genital organs, breast.

3. **Reproductive system in males -** Penis, scrotum, testes, prostate gland.

4. **Endocrine system -** Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

5. **Special senses -** Olfactory system, taste apparatus, external middle & internal ear, eye.

6. **Skin -** Features of skin, hair, sebaceous glands, sweat glands, nails.

Module 5 (Physiology)

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

Module 6

1. **Blood** – Haemopoesis, haemostasis, coagulation of blood, blood transfusion.
2. **Lymphatic system** – Function of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus.
3. **Resistance & immunity** – Innate immunity, acquired immunity, humoral & cell mediated immunity.

Module 7

1. **Nervous system** – Properties of nerve fibres, function of neuroglia, synapse, CNS, CSF, brain, cranialnerves, demonstration of reflexes.
2. **Muscular system** – Properties of skeletal muscle, cardiac muscle, smooth muscle, muscles of the body.
3. **Skeletal system** – Functions of bones, axial skeleton, appendicular skeleton.
4. **Musculoskeletal system** – Movement in the joints of upper & lower limb**.**

Module 8

1. **Respiratory system** – Physiology of respiration, pulmonary function tests, gas exchange in lungs, transport of gases between lungs & tissues, regulation of respiration.
2. **Cardiovascular system** - Heart & blood vessels: Systemic circulation, pulmonary circulation, ECG, cardiac output, blood pressure.
3. **Digestive system** – Process of digestion, function of oral cavity, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas.
4. **Urinary system** – Function of kidneys, juxtaglomerular apparatus, ureters, urinary bladder, urethra, physiology of urine formation, glomerular filtration, tubular reabsorption, water balance, micturition.
5. **Introduction to genetics** - Features of chromosomes, DNA, protein synthesis, dominant inheritance, recessive inheritance, sex linked inheritance.
6. **Reproductive system– female**: Physiology of female reproductive system.
7. **Reproductive system – male**: Physiology of male reproductive system.
8. **Endocrine system** - Mechanism of action of hormones, function of pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.
9. **Special senses** - Physiology of olfaction, taste, hearing, balance & vision.
10. **Skin –** Function of skin, hair, sebaceous glands, sweat glands, nails, temperature regulation.

Text Books:

1. P.R Ashalatha& G Deepa ‘s Textbook of anatomy & physiology by
2. B.D.Chaurasia’s human anatomy

Reference books:

1. SampathMadhyastha’sManipal manual of anatomy for allied health sciences
2. Krishna Garg &Madhu Joshi’s Practical anatomy workbook
3. Dixit’s Atlas of Histology for Medical Students
4. Basic Histology: A Color Atlas & Text
5. Jana’s Exam Oriented Practical Anatomy
6. Krishan’s Anatomy Mnemonics

Online references:

Coursera subscription for physiology topics

	University College of Paramedical Sciences **DOTT**		
Course Title: Basic in Computer & Information Science			
Semester: I	**Course code: A808102**	**Credits: 03**	**Core**
No of sessions Lectures / Tutorial: 2/1		**No of practical hours:**	
Course Pre-requisites:		**Number of sessions:**	

Course Introduction:

As the Indian government aims for Universal Health Coverage, the lack of skilled human resource may prove to be the biggest impediment in its path to achieve targeted goals. The benefits of having AHPs in the healthcare system are still unexplored in India. An enormous amount of evidence suggests that the benefits of AHPs range from improving access to healthcare services to significant reduction in the cost of care. The teaching of computer and information science aims to integrate their learning in sync with the understanding of the basic functions of the various setups of the computers and its software; this knowledge will help them gained confidence and give them an edge in their field.

Course Objectives:

- The course has focus on computer organization, computer operating system and software, and MS windows, Word processing, Excel data worksheet and PowerPoint presentation.
- The students will be able to appreciate the role of computer technology and some extent able to gain hand-on experience in using computers.

Course Learning Outcomes:

Upon successful completion of the course, the students should be able to:

CLO1: Understand the various hardware and software of the computer system,

CLO2: Compare the differences between the various functions of the same (Analyze)

CLO3: Learn to apply the knowledge of various fields of the course (Apply & Analyze)

CLO4: Augment their learning by making various presentations and graphics (Synthesize, evaluate & create

Course Pedagogy

The course pedagogy includes a comprehensive study including the various software and hardware of the computer system in order to make the students more competent and skilled in its use and storage. Various aspects about the use for same in health care setups are discussed in relevance to the topic taught so as to relieve the monotony of the subject. Regular doubt clearing sessions, written assignments, quiz, presentations are some of the measures for learning. Periodic and surprise tests are taken to apprise and evaluate the students.

Module 1

1. Introduction to computer: Introduction, characteristics of computer, block diagram of computer, generations of computer, computer languages.
2. 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).
3. Processor and memory: The Central Processing Unit (CPU), main memory.
4. Storage Devices: Sequential and direct access devices, magnetic tape, magnetic disk, optical disk, mass storage devices.

Module 2

1. 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.).
2. Introduction to MS-Word: 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.
3. Introduction to Excel: introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs.

Module 3

1. Introduction to power-point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.
2. Introduction of Operating System: introduction, operating system concepts, types of operating system.
3. Computer networks: introduction, types of network (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network.
4. 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.
5. Application of Computers in clinical settings.

	University College of Paramedical Sciences **DOTT**		
Course Title: Introduction to Quality and Patient Safety			
Semester: I	**Course code: A808103**	**Credits: 03**	**Core**
No of sessions Lectures / Tutorial: 2/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

1. Course Introduction

As antibiotic resistant strains of bacteria are growing rapidly, making it difficult to cure such patients, the importance of sterilization and proper disposals is only way to prevent it. Well known sayings, prevention is better than cure, the main objective of this course is to focus mainly on the preventive measures and quality assurance to the patients. This course emphasizes more on risk management principles and safe handling of disposals, basic emergency care and basic life support skills which can prove remedy in emergency cases.

2. Course Objectives: The main objective of this course is to teach students quality measures to provide patients with effective methods of treatment with more focus on proper handling of infected specimens and proper treatment with best sterilized and disinfected means to reduce the cross-infection scenario and nosocomial infections, which occurs due to poor handling of infected specimens and improper disposal means polluting environment too. Students are made to learn basic concepts of quality in health care and develop skills to implement sustainable quality assurance program. Introducing students to basic emergency care, infection prevention& control with knowledge of biomedical waste management and antibiotic resistance.

3. Course Learning Outcomes

Upon successful completion of the course, the students should be able to:

CL01: Understood quality improvement approaches, NABH, NABL, JCI guidelines which purely focuses on the quality measures and proper handling of disposals providing quality facility to patients. (Understanding Based)

CL02: Understood basic life support skills which can save many lives in urgent cases. (Applying Based)

CL03: Understood proper disposals of biomedical waste, reducing risk of infection to waste handling personnel and cross infection which can occur due to improper handling of infected waste polluting surroundings too. (Applying Based)

CL04: Understood effective hand hygiene, prevention and control of common health care associated infections. (Remembering Based)

CL05: Understood fundamentals of emergency management, disaster preparedness. (Remembering Based)

4. Course Pedagogy

This course will use mixed technique of interactive lectures, digital learning methodologies, regular assignments and power point presentations. Students will be made to prepare project reports by interacting directly with laboratory personnel and visits to hospital to engage the students in strengthening their conceptual foundation and applying the knowledge gained to different day to day real world applications. This course will focus mainly on applying based methodologies, students will not be made limited to theory only, but hands on practices and analyzing every aspect of the module by themselves.

Course Contents

Module 1. Quality assurance and Management

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

Module 2. 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)

Module 3. Basic emergency care

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

Module 4. 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)

Module 5. 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.

Module 6. Disaster preparedness and management

Fundamentals of emergency management

Course References

Texts, Materials, and Supplies:

• 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

Recommended Readings:

• Medical Dictionary

Others

1.disaster management set up in india - opcw.org
www.opcw.org/sites/default/files/documents/event_photos/2010/tabletop_exercise_poland_nov201..

2.natural disasters: hospital management | 2015-10-22 | ahc ...
www.reliasmedia.com/articles/136571-natural-disasters-hospital-management

1. Biomedical waste management in India: Critical appraisal - NCBI - NIH
   www.ncbi.nlm.nih.gov/pmc/articles/PMC5784295

2. Vital signs: Understanding what the body is telling us
   https://www.coursera.org/learn/vital-signs/
3. Patient Safety and Quality Improvement
   https://www.coursera.org/learn/patient-safety

	University College of Paramedical Sciences **DOTT**

Course Title: Principles of Management-I			
Semester: I	**Course code: A808104**	**Credits:04**	**Core**
No of sessions Lectures / Tutorial: 4/0		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course contents

MODULE-I

Introduction to management
Strategic Management
Foundations of Planning

MODULE-II

Planning Tools and Techniques
Decision Making, conflict and stress management

MODULE-III

Managing Change and Innovation
Understanding Groups and Teams

MODULE-IV

Leadership
Time Management
Cost and efficiency

Course Reference-

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

	University College of Paramedical Sciences **DOTT**		
Course Title: English & Communication Skills			
Semester: I	**Course code: 120104**	**Credits: 03**	**Core**
No of sessions Lectures / Tutorial: 3/0		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course Introduction:

As the Indian government aims for Universal Health Coverage, the lack of skilled human resource may prove to be the biggest impediment in its path to achieve targeted goals. The benefits of having AHPs in the healthcare system are still unexplored in India. An enormous amount of evidence suggests that the benefits of AHPs range from improving access to healthcare services to significant reduction in the cost of care. The teaching of English and communication skills aims to integrate their learning in sync with the understanding of the basics of spoken English and communication techniques.

Course Objectives:

1. This course trains the students in oral presentations, expository writing, logical organization and structural support.
2. By acquiring skills in the use of communication techniques the students will be able to express better, grow personally and professionally, develop poise and confidence and achieve success.

Course Learning Outcomes

Upon successful completion of the course, the students should be able to:

CLO1: Understood the role of radiographer in personal and professional ethics.

CLO2: Understood the handling of patient with good language.

CLO3: Understood the importance of good communication with patient as a health care professional.

Course Pedagogy

The course pedagogy includes a comprehensive study including the various communication skills in order to make the students more competent and skilled in its use and storage. Various

aspects about the use for same in health care setups are discussed in relevance to the topic taught so as to relieve the monotony of the subject. Regular doubt clearing sessions, written assignments, quiz, presentations are some of the measures for learning. Periodic and surprise tests are taken to apprise and evaluate the students.

Module 1: Basics of Grammar- Part I

Vocabulary, Synonyms, Antonyms, Prefix and Suffix, Homonyms, Analogies and Portmanteau words.

Module 2: Basics of Grammar – Part II

Active, Passive, Direct and Indirect speech, Prepositions, Conjunctions and Euphemisms

Module 3: Writing Skills

Letter writing, E mail, and Essay, Articles, and Memos, one word substitutes, note making and Comprehension

Module 4: Writing and Reading

Summary writing, Creative writing, newspaper reading

Module 5: Practical Exercise

Formal speech, Phonetics, semantics and pronunciation

Communication:

Module 6: Introduction: Communication process, Elements of communication, Barriers of communication and how to overcome them, Nuances for communicating with patients and their attenders in hospitals.

Module 7: 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.

Module 8; Listening: Importance of listening, Self-assessment, Action plan execution, Barriers in listening, Good and persuasive listening.

Module 9: Reading: What is efficient and fast reading, Awareness of existing reading habits, tested techniques for improving speed, Improving concentration and comprehension through systematic study.

Module 10; Non Verbal Communication: Basics of non-verbal communication, Rapport building skills using neuro- linguistic programming (NLP).

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Anatomy & physiology-I (Practical)			
Semester: I	**Course code: A808105**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

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:

1. Microscope
2. Haemocytometer
3. Blood
4. RBC count
5. Hb
6. WBC count
7. Differential Count
8. Hematocrit demonstration
9. ESR
10. Blood group & Rh. Type
11. Bleeding time and clotting time.

Digestion

Test salivary digestions

Excretion

1. Examination of Urine
2. Specific gravity
3. Albumin
4. Sugar
5. Microscopic examination for cells and cysts

Respiratory System:

1. Clinical examination of respiratory system
2. Spirometry
3. Breath holding test

Cardio Vascular System:

1. Measurement of blood pressure and pulse rate
2. Effect of exercise on blood pressure and pulse rate

	University College of Paramedical Sciences **DOTT**

Course Title: Basic in Computer & Information Science (Practical)			
Semester: I	**Course code: A808106**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

PRACTICAL

1. Introduction to power-point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.
2. Introduction of Operating System: introduction, operating system concepts, types of operating system.
3. Computer networks: introduction, types of network (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network.
4. 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.
5. Application of Computers in clinical settings.

	University College of Paramedical Sciences **DOTT**		
Course Title: Introduction to Quality and Patient Safety (Practical)			
Semester: I	**Course code: A808107**	**Credits:02**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

PRACTICAL

1. Sterilization, Disinfection, Effective hand hygiene,control of common health care associated infections, Guidelines(NABH) and JCI for hospital infection control
2. Radioactive waste, metals/chemicals/drug waste, BMW management and methods of disinfection, use of Personal protective equipment (PPE)
3. Basic life support (BLS) following cardiac arrest, recognition of sudden cardiac arrest and activation of emergency response system
4. First aid, choking, rescue breathing methods, ventilation including use of bag valve master (BVMs)
5. Fundamentals of emergency management

	University College of Paramedical Sciences **DOTT**		
Course Title: Principles of Management - I (Practical)			
Semester: I	**Course code: A808108**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

PRACTICAL

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Anatomy & Physiology – II			
Semester: II	**Course code: A808201**	**Credits: 04**	**Core**
No of sessions Lectures / Tutorial: 3/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course Introduction

Allied and healthcare professionals (AHPs) includes individuals involved with the delivery of health or healthcare related services, with qualification and competence in therapeutic, diagnostic, curative, preventive and/or rehabilitative interventions.

They work in multidisciplinary health teams in varied healthcare settings including doctors , nurses and public health officials to promote, protect, treat and manage a person‘s physical, mental, social, emotional, environmental health and holistic well-being.The study of anatomy helps them in putting into perspective the knowledge that they gain for better good of humanity.

Course learning Outcomes-

CLO- 1 Enumeratethe function of brain, Nervous system, motor system, blood supply of brain, anatomy of brain, cranial nerves, CSF formation and about spinal cord.

CLO-2 Enumerateauditory system.Demonstrateanatomy of urinary system, location of kidney.

CLO-3 Enumerateblood vessels of reproductive system. Enumeratehormone secretion of glands and blood supply.

COURSE CONTENT

MODULE -1 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 ofmeninges Ventricles of brain, CSF circulation Development of nervous system & defects.

MODULE-2 Cranial nerves – (course, distribution, functions and palsy) Sympathetic nervous system, its parts and components

Parasympathetic nervous system Applied anatomy

MODULE-3 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

PHYSIOLOGY-

MODULE-4 Physiology of kidney and urine formation Glomerular filtration rate, clearance, Tubular function, Ureter, bladder, urethra

MODULE 5-Physiology of the endocrine glands – , Hormones secreted by these glands, their classifications and functions.
Adrenal, Gonads Thymus, Pancreas. Pituitary, Pineal Body, Thyroid, Parathyroid

MODULE 6-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 progestron -action and regulation.

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Lab Sciences			
Semester: II	**Course code: A808202**	**Credits: 04**	**Core**
No of sessions Lectures / Tutorial: 3/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Lab Sciences - Bio-chemistry

MODULE-I

1.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)

MODULE-II

2. Acids and bases: Definition, pH, Henderson,Hassel Balch equation, Buffers, Indicators, Normality, Molarity, Molality.

Lab Sciences – Pathology

MODULE-III

Cellular adaptation, Cell injury & cell death.

a. Introduction to pathology.
b. Overview: Cellular response to stress and noxious stimuli. Cellular adaptations of growth and differentiation.
c. Overview of cell injury and cell death.
d. Causes of cell injury. Mechanisms of cell injury.
e. Reversible and irreversible cell injury.
f. Examples of cell injury and necrosis.

MODULE-IV

2. Inflammation.

a. General features of inflammation Historical highlights
b. Acute inflammation

c. Chemical mediators of inflammation Outcomes of acute inflammation Morphologic patterns of acute inflammation Summary of acute inflammation
d. Chronic inflammation

MODULE-V
3.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.

MODULE-VI
Neoplasia.
a. Definitions Nomenclature.
b. Biology of tumour growth benign and malignant neoplasms Epidemiology.
c. Carcinogenic agents and their cellular interactions Clinical features of tumours.

MODULE-VII
Environmental and nutritional disorders.
a. Environmental and disease.
b. Common environmental and occupational exposures Nutrition and disease.
c. Coronary artery disease.

Reference Books

Durham University Guide on Lab Books

NIH training guide for Keeping a Lab Notebook

Hans Friedrich Ebel, Claus Bliefert, William E. Russey,"The art of scientific writing: from student reports to professional publications in chemistry and related fields", 2nd edition, Wiley, 2004, pp.15-20. (Google books)

	University College of Paramedical Sciences **DOTT**		
Course Title: Basic Anesthetic Techniques			
Semester: II	**Course code: A808203**	**Credits: 03**	**Core**
No of sessions Lectures / Tutorial: 3/0		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course contents

MODULE-I

Resuscitation techniques:

a. Basic life support (Airway, breathing, circulation) and the equipment used for it.

b. Drugs used in CPR.

c. AED and Defibrillators.

MODULE-II

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.

MODULE-III

Local Anaesthetic agents.

Neuro muscular blocking agents.

Principles of oxygen administration along with the apparatus.

Care of patient in the recovery room.

MODULE-IV

Post-operative pain: evaluation and management.

Types of fluid and therapy.

Blood and blood components transfusion.

Preparation of anesthesia machine, intubation kit, suction machine, anesthesia drugs.

MODULE-V

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.

Refferences Books

1. **Basics of Anesthesia, 5th Edition Authors: Robert K. Stoelting & Ronald D. Miller ISBN 978-0-443-06801-0**

2. ***Birks RJS, ed. (March 2007). RECOMMENDATIONS FOR STANDARDS OF MONITORING DURING ANAESTHESIA AND RECOVERY 4th Edition (PDF). Association of Anaesthetists of Great Britain and Ireland. Retrieved 21 February 2014.***

3. ***"Anaesthesia". Oxford English Dictionary (3rd ed.). Oxford University Press. September 2005.* (Subscription or UK public library membership required.)**

	University College of Paramedical Sciences **DOTT**		
Course Title: Principles of Management – II			
Semester: II	**Course code: A808204**	**Credits: 3**	**Core**
No of sessions Lectures / Tutorial: 3		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

MODULE-1

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

MODULE-2

Principles of management: a. Development of Management: Definitions of Management, Contributions of F.W. Taylor, Henry Fayol and others. b. 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. c. Organizing: Importance of organization, Hierarchy, Scalar chain, Organization relationship, Line relationship, Staff relationship, Line staff relationship, Functional relationship , Committee organization , Management committees , Depart mentation.

MODULE 3

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.

MODULE 4

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 budget. h. 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.

MODULE 5

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.

Course Reference-

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Anatomy & Physiology-II (Practical)			
Semester: II	**Course code: A808205**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial: 0/0		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

ANATOMY PRACTICAL

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

Physiology Practical

1. Enumerate Physiology of kidney
2. Explain Physiology of lower Urinary tract
3. Label Physiology of the endocrine glands
4. Enumerate Physiology of reproductive system

	University College of Paramedical Sciences **DOTT**		
Course Title: Lab Sciences (Practical)			
Semester: II	**Course code: A808206**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

Practical

1. Fat soluble vitamins(A,D,E,K) , Water soluble vitamins , B-complex.

2. Trace elements, Calorific value of foods, Basal metabolic rate(BMR), respiratory quotient(RQ).
3. Chemical mediators of inflammation Outcomes of acute inflammation Morphologic
4. patterns of acute inflammation Summary of acute inflammation.
5. Carcinogenic agents. and their cellular interactions Clinical features of tumours.

	University College of Paramedical Sciences **DOTT**		
Course Title: Basic Anesthetic Techniques (Practical)			
Semester: II	**Course code: A808207**	**Credits: 2**	**Core**
No of sessions Lectures / Tutorial: 0/0		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

PRACTICAL

1. Basic life support (Airway, breathing, circulation) and the equipment used for it.
2. Drugs used in CPR.
3. AED and Defibrillators.
4. Basics of general anesthesia depth, mechanism and intubation.
5. Techniques of general anesthesia.
6. Various intravenous and inhalational agents.
7. Regional anesthesia, spinal and epidural, posture and drugs.
8. Local Anaesthetic agents.
9. Principles of oxygen administration along with the apparatus.
10. Care of patient in the recovery room.
11. Post-operative pain: evaluation and management.
12. Types of fluid and therapy.
13. Preparation of anesthesia machine, intubation kit, suction machine, anesthesia drugs.
14. 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.

	University College of Paramedical Sciences **DOTT**

Course Title: Principles of Management –II (Practical)			
Semester: II	**Course code: A808208**	**Credits: 2**	**Core**
No of sessions Lectures / Tutorial: 0/0		**No of practical hours: 04**	
Course Pre-requisites:		Number of sessions:	

PRACTICAL

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Applied Anatomy & Physiology			
Semester: III	**Course code: A808301**	**Credits: 04**	**Core**
No of sessions Lectures / Tutorial: 3/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course contents

MODULE-I

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

MODULE-II

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 anesthesia.
Tracheal tug - signs, hiccup.

MODULE-III

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**.**

MODULE-IV

Cardiovascular system

Anatomy- Chambers of the heart, major vasculature.

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.

Myocardial infarction, hypertension.

MODULE-V

Fluids and electrolytes

a. Body Fluids - Composition

b. Water, sodium and potassium balance

c. I.V. Fluids - composition & administration

d. Intravenous, Central venous and arterial line insertion

MODULE-IV

Blood transfusion

Blood grouping, storage, administration

	University College of Paramedical Sciences **DOTT**

Course Title: Clinical Pharmacology			
Semester: III	**Course code: A808302**	**Credits: 4**	**Core**
No of sessions Lectures / Tutorial: 3/1		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course Content

MODULE-I

Antisialagogues: Atropine, Glycopyrrolate.

Sedatives *I* Anxiolytics: Diazepam, Midazolam, Phenergan, Lorazepam, Chlorpromazine, and Triclofos.

Narcotics: Morphine, Pethidine, Fentanyl, Pentazozine, tramadol.

Antiemetic's: Metoclopramide, Ondanseteron, Dexamethasone

Induction Agent: Thiopentone, Diazepam, Midazolam, Ketamine, Propofol, Etomidate.

MODULE-II

Muscle Relaxants: Depolarizing - Suxamethonium, Non depolarizing - Vecuronium, Atracurium, rocuranium

Inhalational Gases: Gases-02, N20, Air, Agents-Ether ,Halothane, Isofllurane, Saevoflurane, Desflurane

Reversal Agents: Neostigmi*ne*, Glycopyrrolate, Atropine, Naloxone, Flumazenil (Diazepam).

Local Anesthetics: Xylocaine, Bupivacaine - Topical, Prilocaine-jelly, Emla - Ointment, Etidocaine. Ropivacaine.

MODULE-III

Emergency Drugs : Mode or administration, dilution, dosage and effects

a. Adrenaline, Atropine

b. Ephedrine, Mephentramine

c. Bicarbonate, calcium, potassium.

d. Inotropes: dopamine, dobutamine, amidarone

e. Aminophylline, hydrocortisone, antihistaminic,

f. Antihypertensive –Beta-blockers, Ca-channel blockers.

g. Antiarrhythmic- xylocard

h. Vasodilators- nitroglycerin & sodium nitroprusside

i. Respiratory system- Bronchodilators

j. Renal system- Diuretics, frusemide, mannitol

	University College of Paramedical Sciences **DOTT**		
Course Title: Regional Anesthetic techniques			
Semester: III	**Course code: A808303**	**Credits: 03**	**Core**
No of sessions Lectures / Tutorial: 3/0		No of practical hours:	
Course Pre-requisites:		Number of sessions:	

Course Content

Regional anesthetic techniques.

1. Local Anesthetic technique

2. Nerve blocks

3. Spinal Anesthesia

4. Epidural Anesthesia

Course Refference

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

	University College of Paramedical Sciences **DOTT**		
Course Title: CSSD Procedures			
Semester: III	**Course code: A808304**	**Credits: 02**	**Core**
No of sessions Lectures / Tutorial: 2		**No of practical hours:**	
Course Pre-requisites:		**Number of sessions:**	

Course Content

MODULE-I

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

MODULE-II

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.

MODULE-III

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.

MODULE-IV

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.

MODULE-V

General observations principles of sterilization. Moist heat sterilization. Dry heat sterilization. EO gas sterilization, H202 gas plasma vapor sterilization.

Course Refferences

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

	University College of Paramedical Sciences **DOTT**		
Course Title: Principles of Anesthesia			
Semester: III	**Course code: A808305**	**Credits:4**	**Core**
No of sessions Lectures / Tutorial: 4/0		**No of practical hours:**	
Course Pre-requisites:		**Number of sessions:**	

Course Content

MODULE-I

Medical gas supply

a. Compressed gas cylinders
b. Color coding
c. Cylinder valves; pin index.
d. Gas piping system
e. Recommendations for piping system
f. Alarms & safety devices.
g. Scavenging of waste anesthetic gases

MODULE-II

Anesthesia machine

a. Hanger and yoke system
b. Cylinder pressure gauge
c. Pressure regulator
d. Flow meter assembly
e. Vaporizers - types, hazards, maintenance, filling and draining, etc.

MODULE-III

Breathing system

a. General considerations: humidity & heat
b. Common components - connectors, adaptors, reservoir bags.
c. Capnography
d. Pulse oximetry
e. Methods of humidification.
f. Classification of breathing system
g. Mapleson system - a b c d e f
h. Jackson Rees system, Bain circuit
i. Non rebreathing valves - Ambu valves
j. The circle system

MODULE-IV

Face masks & Airway laryngoscopes

a. Types, sizes
b. Endotracheal tubes - Types, sizes.
c. Cuff system
d. Fixing, removing and inflating cuff, checking tube position, complications.

MODULE-V

Anesthesia ventilator and working principles.

MODULE-VI

Monitoring

a. Electrocardiography(ECG)
b. Pulse oximetry(Sp02)
c. Temperature- central and peripheral
d. End tidal carbon dioxide(EtCO2)
e. Anesthesia gas monitoring
f. Non-invasive blood pressure (NIPB) and Invasive blood pressure(IBP)
g. Central venous pressure(CVP)
h. PA Pressure, LA Pressure & cardiac output
i. Anesthesia depth monitor
j. Neuromuscular transmission monitor

Refferences Books

1. **Basics of Anesthesia, 5th Edition Authors: Robert K. Stoelting & Ronald D. Miller ISBN 978-0-443-06801-0**

2. ***Birks RJS, ed. (March 2007). RECOMMENDATIONS FOR STANDARDS OF MONITORING DURING ANAESTHESIA AND RECOVERY 4th Edition (PDF). Association of Anaesthetists of Great Britain and Ireland. Retrieved 21 February 2014.***

3. ***"Anaesthesia". Oxford English Dictionary (3rd ed.). Oxford University Press. September 2005.*** **(Subscription or UK public library membership required.)**

	University College of Paramedical Sciences **DOTT**		
Course Title: Applied Anatomy & Physiology (Practical)			
Semester: III	**Course code: A808306**	**Credits:01**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 2**	
Course Pre-requisites:		**Number of sessions:**	

PRACTICALS

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.
b. Cardiac output - determinants, heart rate, preload, after load.
c. Coronary blood flow& myocardial oxygen supply.
d. ECG- arrhythmias cardiovascular response to anesthetic & surgical procedures.
e. Hypotension- causes, erects management.
f. Cardio pulmonary resuscitation.
g. Myocardial infarction, hypertension.

Emergency Drugs :
a. Adrenaline, Atropine
b. Ephedrine, Mephentramine
c. Bicarbonate, calcium, potassium.
d. Inotropes: dopamine, dobutamine, amidarone
e. Aminophylline, hydrocortisone, antihistaminic,
f. Antihypertensive –Beta-blockers, Ca-channel blockers.
g. Antiarrhythmic- xylocard
h. Vasodilators- nitroglycerin & sodium nitroprusside
i. Respiratory system- Bronchodilators
j. Renal system- Diuretics, frusemide, mannitol

	University College of Paramedical Sciences **DOTT**		
Course Title: Clinical Pharmacology(Practical)			
Semester: III	**Course code: A808307**	**Credits: 2**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 4**	
Course Pre-requisites:		**Number of sessions:**	

PRACTICAL

1. Antisialagogues: Atropine, Glycopyrrolate.
2. Sedatives *I* Anxiolytics: Diazepam, Midazolam, Phenergan, Lorazepam, Chlorpromazine, and Triclofos.
3. Narcotics: Morphine, Pethidine, Fentanyl, Pentazozine, tramadol.
4. Antiemetic's: Metoclopramide, Ondanseteron, Dexamethasone
5. Induction Agent: Thiopentone, Diazepam, Midazolam, Ketamine, Propofol, Etomidate.
6. Muscle Relaxants: Depolarizing - Suxamethonium, Non depolarizing - Vecuronium, Atracurium, rocuranium
7. Inhalational Gases: Gases-02, N20, Air, Agents-Ether ,Halothane, Isofllurane, Saevoflurane, Desflurane
8. Reversal Agents: Neostigmi*ne*, Glycopyrrolate, Atropine, Naloxone, Flumazenil (Diazepam).
9. Local Anesthetics: Xylocaine, Bupivacaine - Topical, Prilocaine-jelly, Emla - Ointment, Etidocaine. Ropivacaine.
10. Emergency Drugs : Mode or administration, dilution, dosage and effects

a. Adrenaline, Atropine
b. Ephedrine, Mephentramine
c. Bicarbonate, calcium, potassium.
d. Inotropes: dopamine, dobutamine, amidarone
e. Aminophylline, hydrocortisone, antihistaminic,
f. Antihypertensive –Beta-blockers, Ca-channel blockers.
g. Antiarrhythmic- xylocard
h. Vasodilators- nitroglycerin & sodium nitroprusside
i. Respiratory system- Bronchodilators

	University College of Paramedical Sciences **DOTT**		
Course Title: Regional Anesthetic techniques(Practical)			
Semester: III	**Course code: A808308**	**Credits: 01**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 2**	
Course Pre-requisites:		**Number of sessions:**	

PRACTICAL

1. Local Anesthetic technique
2. Nerve blocks
3. Spinal Anesthesia
4. Epidural Anesthesia

	University College of Paramedical Sciences **DOTT**		
Course Title: CSSD Procedures(Practical)			
Semester: III	**Course code: A808309**	**Credits: 01**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours: 4**	
Course Pre-requisites:		**Number of sessions:**	

PRACTICAL

Ist

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

IInd

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.

IIIrd

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.

IVth

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.

Vth

General observations principles of sterilization. Moist heat sterilization. Dry heat sterilization. EO gas sterilization, H202 gas plasma vapor sterilization.

	University College of Paramedical Sciences **DOTT**		
Course Title: Principles of Anesthesia(Practical)			
Semester: III	**Course code: A808310**	**Credits:1**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours:**	
Course Pre-requisites:		**Number of sessions:**	

PRACTICALS

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(Sp02)
Temperature- central and peripheral
Non-invasive blood pressure (NIPB) and Invasive blood pressure

	University College of Paramedical Sciences **DOTT**		
Course Title: Professional Training/ Internship			
Semester: IV	**Course code: A808401**	**Credits:20**	**Core**
No of sessions Lectures / Tutorial:		**No of practical hours:**	
Course Pre-requisites:		**Number of sessions:**	

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.