OPJS UNIVERSITY, CHURU (RAJASTHAN)

Syllabus

For

Diploma in Operation Theatre Technology (DOTT)

Duration of Course: 1 year

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<tr>
<th>S.No.</th>
<th>Paper code</th>
<th>Name of Papers</th>
<th>M.M.(T-S-P)</th>
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<tr>
<td>1.</td>
<td>DOT-101</td>
<td>Anatomy and Physiology &amp; Introductory Biology</td>
<td>50+30+20=100</td>
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<tr>
<td>2.</td>
<td>DOT-102</td>
<td>Surgical Equipments &amp; Techniques</td>
<td>50+30+20=100</td>
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<td>3.</td>
<td>DOT-103</td>
<td>Anesthesia Equipment, Drugs &amp; Techniques</td>
<td>50+30+20=100</td>
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<td>4.</td>
<td>DOT-104</td>
<td>Pathology &amp; Microbiology</td>
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Details of Syllabus

DOT-101- Anatomy and Physiology & Introductory Biology

Anatomy:-
1. Introduction to Anatomy & Histology, Structure of cell, epithelial tissue, Muscular tissue, nervous tissue.
2. Skeletal system- Structure of Bones, Types of bones, Bones of cranium, face, vertebral column, Upper & lower limbs, fracture of bones, movements of joints.
4. Circulatory system- Structure of heart, names and position of main blood vessels.
5. Digestive system- Parts of gastrointestinal tract and associated glands.
6. Respiratory system- Parts of respiratory system.
7. Urinary system- Parts of urinary system.
8. Skin & sense organs- Eye, Ear, Nose, Tongue (taste buds)
9. Nervous system- Parts of Brain, spinal cord. Cranial nerve, spinal cord, Peripheral nerves, Blood supply of Brain and spinal cord.
10. Reproductive system- male & female reproductive organs.
11. Endocrine Glands- Thyroid, Parathyroid, Adrenal, pituitary, pancreas and sex glands.

Physiology :-
13. Cardiovascular System- Circulation of blood, function of heart and blood vessels, control of heart rate, pulse, regulation of blood pressure.
15. Digestive systems- Digestion and absorption of food.
18. Reproductive system- physiology and Female reproductive organs.
19. Endocrine Glands- functions of endocrine glands and hormones secreted by them.

**Introductory Biology :-**
20. Living World- Biology & its branches, characters of living organisms.
22. Cell organelles & their functions-
23. Genetics- Continuity of life - heredity, variation; Chromosomes - sex linked inheritance; mutation
DNA as a genetic material - its structure and replication; structure of RNA and its role in protein synthesis; Gene expression - transcription and translation in prokaryotes and eukaryotes.

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**DOT-102- Surgical Equipments & Techniques**

**UNIT-1-** Sterilization & disinfections, Principles of autoclaving. Fumigation of O.T.

**UNIT-2-** General surgical principles & instruments. The surgical patient, operation room techniques Instruments used for preparing surgical instruments trolley- cheatles forceps, rampely’s sponge holding forceps, mayo’s towel clip, esmach’s bandage, simple tourniquet, pneumatic tourniquet.

**UNIT-3-** Incision making method & Instruments-bard parker knife handle, major abdominal incision, artery forceps & their types, kocher’s forceps, electric cautery. Retractions- single hook retractors, czerny’s retractor, nerve hook retractor, morris retractors, deavers retractors.

**UNIT-4-** Wound management- Scissors & its types, sucking material & techniques, disinfectants, dressing procedure, different types of bandages, surgical needle & needle holders, types of suture materials.

**UNIT-5-** Surgical instruments used for neuro Surgery, Positioning of patient for neurosurgery , Common surgical procedures in neurosurgery.

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DOT-103- Anesthesia Equipment, Drugs & Techniques.

Anesthesia Equipment (PART-A)

1. Boyle’s Machine & It’s functioning
2. Magill’s breathing circuit, Bains breathing circuit, pediatrics anaesthesia circuit
3. Gas cylinders & flow materers
5. Suction apparatus foot operated, electrically operated
6. Ambu bag & laryngoscope, endo tracheal tubes
7. catheters, face masks, ventimasks

Drugs (PART-B)

8. General Principles- Pharmacological classification of Drugs, Route of drug administration, precautions in administration, principles of drug toxicity, prevention & treatment of poisoning adverse drug reaction.
9. Sedatives & hypnotics, barbiturates, morphine & others.
10. Important groups of drugs- antimicrobial agents anti allergy drugs, anti-diuretics, NSAIDS.
11. Pre-anesthetic medication
12. Local-Aneasthetic agents
13. Spinal anaesthetic agents

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DOT-104- Pathology & Microbiology

PATHOLOGY (PART-A)

CHAPTER 1:

CHAPTER 2:
ACUTE AND CHRONIC INFLAMATION Acute vascular changes. phagocytes
Chemical mediators of inflammation. Definition and causes of chronic
inflammation. Granulomatous inflammation, system manifestations of
inflammation,
CHAPTER 3:
DISORDERS OF VASCULAR FLOW AND SHOCK: Oedema, hyperemia or congestion,
thrombosis, embolism. Infarction shock, Ischemia, Over hydration, dehydration.
CHAPTER 4:
THE RESPONSE TO INFECTION Categories of infectious agents, host barriers to
infection, how disease is caused, inflammatory response to infectious agents
CHAPTER 5:
THE HAEMATOPOHTIC AND LYMPHOID SYSTEM: Haemorrhage. various type of
Anaemia, leucopenia, leucocytosis, bleeding disorders coagulation mechanism
MICROBIOLOGY (PART-B)
CHAPTER 1: INTRODUCTION TO MICROBIOLOGY: Discovery of micro organisms.
Classification and general characteristics of microorganisms, nutritional
requirements of Micro-organisms.
CHAPTER 2: PRINCIPLES OF MICROBIAL CONTROL: Sterilization, importance of
sterilization in OT techniques various methods-physical UV radiation, alcohols and
heavy metals, Autoclave structure functioning control and indicators
CHAPTER 3: Biomedical waste management.
CHAPTER 4: Hospital acquired infections.

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DOT-105- Communication & Soft Skills.

UNIT -I.
Essentials of Grammar:
• Parts of Speech • Punctuation • Vocabulary Building • Phonetics
UNIT- II.
Office Management:
• Types of Correspondence • Receipt and Dispatch of Mail • Filing Systems
• Classification of Mail. • Role & Function of Correspondence • MIS • Managing
Computer
UNIT- III.
Group Discussion & Presentation:
• Definition • Process • Guidelines • Helpful Expressions • Evaluation
(Note: Every student shall be given 15 minutes of presentation time & 45 minutes of discussion on his/her presentation.)

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DOT-106- Practical

1. Anatomy- Identification of bones & other organs of the body & viva voice as theory syllabus
2. Physiology- venepuncture, finger pricking techniques, HB estimation, blood groups, HIV, BT, CT & viva voice
4. Surgical instruments & machinery, identification & demonstration of working of the equipments & viva voice as theory syllabus
5. Anaesthesia equipment & drugs – Identification & demonstration of the working of equipments & viva voice
6. Study of parts of compound microscope

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