OPJS UNIVERSITY, CHURU (RAJASTHAN)

Syllabus

For

Certificate in Neuro O.T. Technology (CNOTT)

Duration of Course : 1 year

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<tr>
<th>S.No.</th>
<th>Paper code</th>
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<tr>
<td>1.</td>
<td>CNOT-101</td>
<td>Anatomy and Physiology &amp; Introductory Biology</td>
<td>50+30+20=100</td>
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<td>2.</td>
<td>CNOT-102</td>
<td>Surgical Equipments &amp; Techniques</td>
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<td>3.</td>
<td>CNOT-103</td>
<td>Anesthesia Equipment, Drugs &amp; Techniques</td>
<td>50+30+20=100</td>
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<td>CNOT-104</td>
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Details of Syllabus

CNOT-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 :-
2. Cardiovascular System- Circulation of blood, function of heart and blood vessels, control of heart rate, pulse, regulation of blood pressure.
3. Respiratory System- Functions of lungs, mechanism of breathing & exchange of gases in the lungs, regulation of respiration, respiration disorder like anoxia, Hypoxia, dyspnea, lung function test.
4. Digestive systems- Digestion and absorption of food.
5. Excretory system- Structure and function of kidney and urinary bladder, mechanism of urine formation, Disorder of Kidney, ureter, urinary bladder.
7. Reproductive system- physiology and Female reproductive organs.
8. Endocrine Glands- functions of endocrine glands and hormones secreted by them.

**Introductory Biology :-**
1. Living World- Biology & its branches, characters of living organisms.
2. Cell & cell division:- cell as a basic unit of life, unicellular and multi cellular organisms, compound microscope, electron microscope.
3. Cell organelles & their functions-
4. 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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**CNOT-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 trolly- 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. *(6hrs/8marks)*
**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. *(6hrs/8marks)*
**UNIT-5-** Surgical instruments used for neuro Surgery, Positioning of patient for neurosurgery, Common surgical procedures in neurosurgery.

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**CNOT-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 meters
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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**CNOT-104- 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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CNOT-105- Practical

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

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