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Paramedical council of India

DIPLOMA IN OPERATION THEATRE TECHNOLOGY

Eligibility

* Interested candidate must have passed 10+2 with physics chemistry biology or math with 40% marks by state board or any recognized board/ university.

First year 1st Paper

ANATOMY & PHYSIOLOGY

Anatomy-Grass Anatomy of the following:

1. Human body & anatomical terms & cell structure.
2. .**Muscular**-skeleton systems, skull, vertebral column, pelvic bones, extremities, rib cage.
3. **Respiratory systems**- nose, larynx, trachea, lungs and thoracic cavity.
4. **Cardio-vascular system**-Heart, major arteries & veins, renal & portal system.
5. **Alimentary system**- mouth, pharynx, esophagus, stomach, small intestine & large intestine, spleen, liver, gall bladder, pancreas.
6. Brain, spinal cord, menigeal coverings.
7. **Sensory organs**- skin, eyes, ears, tongue, nose.
8. **Urinary system**-kidney, urethra, urinary bladder-urethra.
9. Reproductive system- male & female.

Physiology- Grass physiology of the following system:

1. G.I.T system
2. **Urinary system**- kidney, formation of urine and role in electrolyte balance.
3. **Muscular system**- structure & function of cardiac muscles, skeletal muscle, involuntary muscles.
4. **Cardio Vascular system**-cardiac output, circulatory system, BP.
5. **Respiratory system**- Pulmonary system, exchange of gases, airway resistance.
6. **Central nervous system**- conduction of nerve impulse, peripheral, peripheral and automatic nervous system.
7. **Endocrine glands**- broad idea about metabolic processes, fluid and electrolyte balance, pituitary, thyroid, parathyroid and adrenal gland.
8. Maternal and neonatal physiology.
9. **Organs of special senses**-skin, ear, eye, tongue & nose.
10. Pressure loss due to abrupt change in bore of tube, principal of flow meters and its

types Bernoulli Principle & its application.

BASIC SCIENCE

1. Applied physics+ Chemistry + Basic Computer

Applied physics: Energy, Potential Energy, Kinetic energy, Mechanical Efficiency

1. Basic principles of mechanics like Concept of Force, pressure, mass weight, and properties of solid, liquids & gases.
2. Basic principle of Electricity as applied in the field of Operation Theatre, ICU, and CSSD.
3. Concept of static Electricity, concept of charge, potential current, power, resistance.
4. Basic principles of heat, concept of temperature, it measurement, ways of dispersion of heat.
5. Effect of heat, rise or fall in temperature. it effect on human bodies, methods of prevention of heat loss, rise or fall in temperature, it effect on bodies, methods of prevention of heat loss, thermometry, thermostat, thermo-couple.
6. Concept of volume, specific gravity, density, concentration of solutes.
7. Gas law & their practical implication in the field
8. Compressed gases &filling ratio, principle of pressure regulators, flow of gases, fluids viscosity, law of laminar, flow rate, turbulent floor, critical Reynolds's member, Resistance to laminar & Turbulent flow
9. Pressure loss due to abrupt change in bore of tube. Principle of flow meters and its types

Applied Chemistry:

Organic chemistry: Nomenclature of compounds containing, Halogens, alcohols, and Phenols, Ethane, propane, either, aldehydes and ketenes, carboxylic acid, cyanides isocyanides, Nitrogen compounds and amines.Haemogenous and Heterogeneous amino acids, peptides proteins and enzymes, carbohydrates and metabolism.

Computer Science:-

Introduction to programming

Representation or Information-Basic logic, Design and Memory, devices and data communication

Computer Oriented numerical and statistical methods- arithmetic, interactive method, solution of simultaneous linear equation, interpolation, approximation, numerical differentiations and integration, statistics methods, for casting tech., relevant BD, information extraction

PATHOLOGY

1. **Hb-** synthesis & degradation. Abnormal hemoglobin, Oxygen Carrying.
2. IV fluids.
3. Blood groups & blood transfusions, B.T., C. T.
4. Co-angulations & bleeding disorders , blood transfusion reactions
5. Sample collection, labeling & sending it to lab.
6. W.B.C., TLC and DLC, ESR and PCV

EMERGENCY MANAGEMENT

First aid
Road side accident
Shock, cardiac arrest, CPR
Disaster management
Shifting of critical patients
I C U (Intensive Care Unit):
Setup, services rendered rules, procedures, discipline, and management of asepses.
Types of patients, care & physiotherapy of unconscious patients
Equipments used in ICU, their function, operation and maintenance.
Suction catheters and tubes, CVP lines, Respiratory Ventilator, methods of suctioning
Humidifier, cardiac monitor, ABG, Spiro meter, central gas pipeline, intra arterial conflation
Duties of Assistant in ICU
Types of beds, ventilation of patient in crises mouth to mouth, mouth to tube AMBU bag
ICU lab
Management of tetanus patients
Psychological aspect of patient, relatives
Haemofilteration
ECG, EMG, EEG