Syllabus for the post of

Tutor in General Anatomy Class-II (Dental) (Advt. No. 06/2021-22)

Marks – 200 Questions – 200 Medium - English

1. Gross Anatomy

Introduction to Anatomy, nomenclature, anatomical position, planes, tissues and movements.

Osteology

Names of the bones of the body and their position; classification of the bones with examples; general features of the bone and normal development; microscopic anatomy of bone; general pattern of blood supply; ossification of the bones of the limbs for age determination. X-rays of bones. Process of repair of bone.

Muscular System

Classification and identification of the muscles of the body: main attachments, nerve supply and action(s), microscopic anatomy of muscles and the nerve terminations. Details of attachments of the muscles; ultrastructural features of muscle; mechanism of the movement caused by the muscle/muscles and various forces exerted by them and their detailed action(s).

Arthrology

Definition and classification of joints, general features of different types of joints; detailed study of major joints of the limbs and movements performed at various joints in the body. Microscopic anatomy of articular cartilage; maintenance of articular cartilages; blood supply and nerve supply of the joints.

Cardio Vascular System

Normal position, external features and parts of the heart; internal features of the chambers of heart, names of the blood vessels and venous drainage of the organs, structures and body as a whole, conducting system of heart, fibroskeleton of heart. Variation(s), developmental anomalies of heart and blood vessels, valvular defects and their effects in pathogenesis ofthe anomalies.

Respiratory System

Position, parts, relations, blood supply of upper and lower respiratory tract. Pleura, its reflection, nerve supply, pleural recesses and their significance, bronchopulmonary segments, their importance. Mechanism of respiration

Digestive System

Position, extent, parts, relations, blood supply, nerve supply, lymphatic drainage and sphincters of the gastrointestinal system. Sphincteric action including functional implications.

Genito-Urinary System

Parts, position, relations, blood supply, nerve supply and lymphatic drainage of uterus, cervix, vagina, ovary, ovarian duct, testes, epididymis, seminal vesicle, ductus deferens, prostate, kidney, ureter, urinary bladder and urethra. Innervation of urinary bladder in detail

Endocrine System and Individual Endocrine Glands

Various endocrine glands, their location, relations, blood supply, nerve supply and lymphatic drainage. Clinical manifestations of common endocrine disorders.

Nervous System and its components

Parts of nervous system, neuron meninges, nerve terminals, neuroglia, myelination, degeneration and regeneration, ventricles, CSF, spinal cord and its blood supply. Motor and sensory pathways, cranial nerves, thalamus, cerebellum, limbic and autonomic pathways. Functional cortical areas, motor and sensory cortex and their blood supply.

Special Sensory Organs

Gross Anatomy of :(i) eye ball, extra ocular muscles their nerve supply and actions

(s) (ii) ear (iii) nose (iv) tongue, its musculature blood supply and lymphatic drainage.

Lymphatic System

Location of the major groups of the lymphnodes of the body and their drainage areas. Gross anatomy of the major lymphatics specially thoracic duct and its tributaries.

Surface Anatomy

Surface features of the body and projection of the outline of heart, its borders, surfaces and valves, lungs, their borders, fissures and hila, pleura, liver, kidneys and various abdominal and pelvic organs and important vessels and nerves

Cross Sectional Anatomy

Cross sections of thorax, abdomen and pelvis to understand the interrelationship of organs and structures.

2. Microanatomy

Microscope and basic principles of microscopy, commonly used stains, basophilic and acidophilic staining reactions and their significance. Commonly encountered artifacts. Brief principle of electron microscopy and interpretation of ultrastructuralfeatures.

General Histology

Cell. Four primary tissues. Histology of various organs/organ systems: Exocrine glands, Circulatory system, Respiratory system, Skin and nerve-end- organs, Immune system and lymphoid organs, Digestive system (GIT), Endocrine glands, Urinary system, Female reproductive system, Male reproductive system.

3. Embryology

A General Embryology: Definition of embryology; gestation period: definition of gamete sperm, Ovum; gametogenesis, migration of primordial germ cells into gonadal ridge; spermatogenesis; structure of sperm, oogenesis; structure of ovum; growth of ovarian follicles, ovarian and uterine cycles. Sperm in the male genital tract; sperm in the female genital tract, activation and capacitation of sperm in the female genital tract. First Week of Development. Second Week of Development. Third Week of Development.Fourth To Eighth week of Development (Embryonic period). Development from third month to birth (Fetal period). Placenta. Umbilical Cord. Amniotic Cavity. Teratology.

Systemic Embryology: Development of the individual organs of digestive system, genital system, urinary system, respiratory system, cardiovascular system. Nervous system, special sensory organs, endocrine glands and mammary gland. Developmental abnormalities of individual organs/systems, pathogenesis of the anomalies. Histogenesis of various organs. Development of skeletal system, muscular system and derivativesof coelomic cavaties. Development of face and the pharyngeal arches andthe associated congenital anomalies.

Human Genetics: Cell, cell division, mitosis and meiosis, nucleus, DNA, chromosomes, classification, karyotype, chromosomal aberrations (Klinefelter, Turner and Down's Syndrome) Prenatal diagnosis for congenital abnormalities, sex determination. Pedigree chart, pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, genetic counselling, inborn errors of metabolism.

4. Physiology:

General Physiology, Nerve-Muscle, Blood, Respiratory system, Cardiovascular system, Gastrointestinal System, Nutrition, Environmental Physiology, Reproduction, Kidney, Neurophysiology.

5. Medico Legal Aspects relevant to the Discipline.

6. Indian Medical Council (Professional Conduct Etiquette and Ethics) Regulations, 2002.

7. Current Trends and Recent Advancements in the field of Anatomy.