GROUP-46

Dental Hygienist (Level of Exam- Matric+ Diploma in Dental Hygienist)

1) General awareness, Reasoning, Mathematics, Science, History including Haryana related history, current affairs, literature, Geography, Civics, Environment, Culture etc. -

(Weightage 20%)

2) Computer terminology, Fundamentals, word software, excel software, Power point, internet, web browsing, Communication, emails, downloading and uploading data on websites etc**. -**

(Weightage 10%)

3) Subject related syllabus- **(Weightage 70%)**

ANATOMY GENERAL & DENTAL

a) Human Skeleton General feature of: - i) Skull ii) Humerus iii) Radius & Ulna iv) Femur v) Tibia & Fibula vi) Different Vertebra vii) Scapula viii) Ribs ix) Pelvic Bone (Hip Bone). b) Details study of the following organs in relation to position, parts & surfaces: - i) Areas of Abdomen, ii) GIT, ii a) Liver, iii) Stomach iv) Gall Bladder v) Spleen vi) Intestine vii) Appendix viii) Inguinal Canal ix) Kidney x) Urinary Bladder xi) Uterus xii) Lungs xiii) Heart xiv) Eye xv) Ear xvi) Spinal Cord xvi) Nose.

b) Introduction: Parts of a Tooth and Types of Dentitions, Functions of Teeth. 2) Gross Morphology of Teeth in functional groups: I. The Permanent Incisors II. The Permanent Canines III. The Premolars IV. The Permanent Molars V. The Deciduous Dentition 3) Blood supply and Nerve supply of the Teeth and Associated structures. 4) Temporomandibular Joint (T.M. Joint) 5) Tooth form in Relation to Function and Protection of Periodontium: Contact Point, Diastema ; Mesiodens; Dentino-Enamel Junction; Cemento-Enamel Junction, Apex; Apical foramen; Cusp; Mammelon; Occlusion; Point angle; Line angle.

PHYSIOLOGY & HISTOLOGY, GENERAL & DENTAL

Acquisition of knowledge about general physiology and physiology of the following systems: - Nervous, circulatory, urological, endocrine, with an emphasis on aspects relevant to dentistry, such as: conduction of pain and coagulation of blood. Movement across membranes: simple diffusion, diffusion across the cell membrane, principles of osmosis, osmotic pressure, osmotic characteristics of cells. Movement of water into and out of the cell. Expedited transport, active transport.

Structure and function of the cell membrane: - Ionic channels, diffusion forces. Excitable biopotentials: action potential (ionic mechanism). Potentials in the nerve and the muscle.

Intercellular communication: - structure and function of the synapse. Activity of the nervous system: central, peripheral, autonomic nervous system.

General Histology of the Course: -

Tissue components: types of cells, extracellular substances, in the bodily systems. Structure of the cell. Division and differentiation. Epithelium: - Various types of epithelia, location and structure. Connective tissue: - The structure and function of the components of connective tissue. Muscle: - Histological structure and the various muscle fibres. Blood cells: - the various types of blood cells - structure and function. Cartilage: - Structure, development and function. Bone: - The structure of bone tissue and its various forms. Development of changes in the structure of bone tissue, “calcium balance”, pressure and stress. The nervous system - development and structure. Skin: structure and function. The immune system.

PHARMACOLOGY GENERAL & DENTAL

Acquisition of knowledge about the effect of drugs on bodily systems, with a special emphasis on drug treatment in dentistry. Introduction to pharmacology and pharmacokinetics. Pharmacokinetics. Routes of administration and presentation of drugs. Familiarity with the autonomic nervous system, cholinergic agonists and antagonist. Adrenergic agonists and antagonist. Drugs for diabetes. Antihistamines. Drugs for allergies and asthma. Local anaesthetics. Opiate analgesics. NSAID analgesics. Tranquillizers. Antidepressants. Cardiologic drugs. Drugs for hypertension and angina pectoris. Treatment of heart failure. Treatment of arrhythmias. Antibacterial drugs. Anticoagulants. Vitamins. Names of drugs. Analgesic drugs. Antibiotic drugs. Anaesthetics. Reading labels. Sedation - Emphasis on inhalation sedation. Gas. Steroids.

PATHOLOGY & MICROBIOLOGY

A. General Pathology: Inflammation, Degeneration, Necrosis, Gangrene, Thrombosis, Tumour, Oedema B. Bacteriology: Different Types of Bacteria, e.g., Staphylococcus, Streptococcus, Pneumococcus, Mycobacterium Tuberculosis, Corynae Bacterium Diphtheria, Salmonella Typhi, Shigella, E. coli. C. Virology: Virus – Different Types and some Diseases produced by them. D. Mycology: Fungus – Different Types and the Diseases produced by them. E. Parasitology: i) Protozoology – Entamoeba Histolytica, Plasmodium Group, Giardia Intestinalis ii) Helminthology - Ascaris, Lumbricoides Ankylostoma Duodenal Lumbricoides, Ankylostoma Duodenal.

Prokaryotes: - bacteria, viruses, fungi, structure and function. Physiology and metabolism. Interactions between bacteria, viruses and fungi and the human body. Biochemistry and genetics of the bacterial cell. Biotechnology - bacteria at the service of man, from the food industry to genetic engineering. Introduction to virology. Incorporation into the genes of the host cell.

Viral diseases: - influenza, polio, rubella, measles, herpes, hepatitis, H.I.V. Introduction to mycology. Sepsis, bacteraemia. Gum disease and caries - microbial aspects. Immunizations to protect against viruses and bacteria.

DENTAL RADIOLOGY

Radiological interpretation, reading an x-ray. Diagnosis interpretation. Introduction: - What are x-rays? Concepts in physics. The x-ray machine: Structure of the apparatus. Generation of x-rays. Factors influencing the quality and quantity of photons.

Types of radiographs: - Periapical. Bite. Occlusal. Methods of imaging: Paralleling. Bisecting angle. X-ray film: Structure. Various sizes. Developing and fixation. Obtaining the radiograph. Dangers of radiation.

Interpretation of radiographs: - Anatomy and morphology. Diagnosis of caries. Diagnosis of defects of the alveolar bone.

FOOD AND NUTRITION

Role nutrition plays in periodontal health and diseases , Common sign and symptoms of xerostomia and glossitis ,Different factors contributing to xerostomia and glossitis ,Determination of appropriate dietary recommendations for a patient with xerostomia and removable appliances, Dietary guidelines to be given to a new denture patient both pre and post insertion , Nutritional deficiencies and their impact of tooth and oral development , List various nutrients that are usually supplemented during pregnancy and lactation .

Energy, carbohydrates and dietary fibre: - Vitamins, minerals and water: Nutrition and dental health: on the connection between nutrition and dental disease. Recommended nutrition for a healthy person: food groups, the food pyramid, guidelines for good nutrition. Nutrition during the lifecycle: nutrition for infants, children, pregnant and breastfeeding women, nutrition during menopause. Dietary requirements for anorexia, bulimia, diabetes, hypertension, hyperlipidaemia, obesity. The digestive system and absorption of nutrition. Nutritional labelling.

DENTAL HYGIENE AND ORAL PROPHYLAXIS

Oral Hygiene: - Initial steps in preventive planning, modes of prevention, materials and accessories, indices, educational principles. Toothbrushes. Solutions for demonstrating. Various methods of brushing. Additional ways and accessories for completing toothbrushing properly. Indices: PI, PDI, CPI, CPINT. Toothpastes. Mouth washes. Electric devices and accessories. Implants and their maintenance. Maintenance after surgery in the oral cavity.

Water Purification, Waste Management, Food Hygiene, Sanitation of public places, Health. Hazards, Sanitary Latrines, Basic Measures in Controlling Rodents, Medical Importance and Measures of Controlling Common Vectors and Insects.

DENTAL ETHICS AND JURISPRUDENCE, ORIENTATION IN DENTISTRY

Dental jurisprudence: - Anaphylactic Shock, Syncope, Seizures, Bleeding exodontias. Explain indications, contraindications of extraction procedure ,Take brief history of patient ,Preparation for carrying out extraction, Complications of tooth extraction & its management ,Post extraction care ,Referral procedure of extraction ,Define local anaesthesia, classify, study composition, uses& complications in detail, Explain

the debridement or irrigation of socket, Atraumatic Restorative Treatment (ART) ,List instrument & material used in ART,ART technique ,Advantages and limitations of ART ,infection control ,Definition of Immunity ,List the factors affecting disease ,Enumerate the Transmissible Infections in Dentistry ,List the categories of Task in relation to risk ,Personal barrier technique for infection control ,Disposal of clinical waste Indices ,List and discuss the indices used in Oral Hygiene Assessment, Gingival Diseases, Periodontal Disease, Dental Caries and Treatment Needs, DMFT ,Introduction of Fluoride ,Sources of Fluoride for adults and children ,Metabolism of Fluoride ,Mechanism of Action of Fluorides in Caries Reduction ,List the Fluoride delivery methods, List the Topical fluorides used in Preventive Dentistry ,List the Fluoride vehicles ,Modes of Action of Fluoride ,Briefly discuss Toxicity of fluoride ,Briefly discuss Community water fluoridation and school water fluoridation.

DENTAL MATERIALS

1) Impression Materials: Elastic and Non-Elastic; Hydrocolloids; Impression compound; ZnCO2; Plaster of Paris.2) Waxes: Definition; Properties of Dental waxes; Types of Waxes (Sticky Waxes, Inlay Waxes); Composition.3) Dental Cement: a) Zinc Phosphate Cement; b) Zinc Oxide eugenol Cement; c) Calcium Hydroxide Cement; d) Silicate Cement; e) Glass Incomer Cement; 4) Feeling Materials: a) Silver Amalgam b) Copper Amalgam;5) Self-curing Resins and cold-curing Resins: Definition;Manipulation; Difference between Hot-cuing and cold-curing.6) Short Note: a) Impression; b) Cast; c) Plaster of Paris; d) Strain; e) Compressive Strength.

Important Note: The Weightage as mentioned against the syllabus is tentative & may vary.