MDS PHYSIOLOGY SYLLABUS

Conservative Dentistry and Endodontics

Applied Physiology:

Mastication, deglutition, digestion and assimilation, fluid and electrolyte balance. Blood composition, volume, function, blood groups, haemostasis, coagulation, blood transfusion, circulation, heart, pulse, blood pressure, shock, respiration-control, anoxia, hypoxia, asphyxia, artificial respiration, and endocrinology – general principles of endocrine activity and disorders relating to pituitary, thyroid, parathyroid, adrenals including pregnancy and lactation. Physiology of saliva – composition, function, clinical significance. Clinical significance of vitamins, diet and nutrition – balanced diet. Physiology of pain, sympathetic and Para sympathetic nervous system, pain pathways, physiology of pulpal pain, Odontogenic and non-Odontogenic pain, pain disorders – typical and atypical. Biochemistry such as osmotic pressure, electrolytic dissociation, oxidation, reduction etc. Carbohydrates, proteins, lipids and their metabolism, nucleoproteins, nucleic acid and their metabolism. Enzymes, vitamins and minerals, metabolism of inorganic elements, detoxification in the body, anti-metabolites, chemistry of blood lymph and urine.

Orthodontics and Dentofacial Orthopaedics

Physiology:

Endocrinology and its disorders: Growth hormone, thyroid hormone, parathyroid hormone, ACTH. b. Calcium and its metabolism: c. Nutrition-metabolism and their disorders: Proteins, carbohydrates, fats, vitamins and minerals d. Muscle physiology: e. Craniofacial Biology: Adhesion molecules and mechanism of adhesion f. Bleeding disorders in orthodontics: Haemophilia

Periodontology

PHYSIOLOGY:

Blood 2. Respiratory system – knowledge of the respiratory diseases which are a cause of periodontal diseases (Periodontal Medicine) 3. Cardiovascular system a. Blood pressure b. Normal ECG c. Shock 4. Endocrinology – hormonal influences on Periodontium 5. Gastrointestinal system a. Salivary secretion – composition, function & regulation b. Hormones – Actions and regulations, role in periodontal disease 6. Nervous system a. Pain pathways b. Taste – Taste buds, primary taste sensation & pathways for sensation 7. Haemostasis

Prosthodontics and Crown & Bridge

APPLIED PHYSIOLOGY AND NUTRITION: Introduction, Mastication, deglutition, digestion and assimilation, Homeostasis, fluid and electrolyte balance,blood composition, volume, function, blood groups and hemorrhage, Blood transfusion, circulation, Heart,Pulse, Blood pressure, capillary and lymphatic circulation. Shock, respiration, control, anoxia, hypoxia,asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroidglands and sex hormones. Role of calcium and Vit D in growth and development of teeth, bone and jaws. Roleof Vit. A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatorysystem. Speech mechanism, mastication, swallowing and deglutition mechanism, salivary glands and Saliva. Endocrines – General principles of endocrine activity and disorders relating to pituitary, thyroid, pancreas,parathyroid, adrenals, gonads, including pregnancy and lactation. Physiology of saliva, urine formation, normaland abnormal constituents,

Physiology of pain, Sympathetic and parasympathetic nervous system,neuromuscular co-ordination of the stomatognathic system. Applied Nutrition – General principles, balanced diet, effect of dietary deficiencies and starvation, Diet,digestion, absorption, transportation and utilization & diet for elderly patients.

Pediatric and Preventive Dentistry

Applied Physiology: Introduction, Mastication, deglutition, digestion and assimilation, Homeostasis, fluid and electrolyte balance. Blood composition, volume, function, blood groups and hemorrhage, Blood transfusion, circulation, Heart, Pulse, Blood pressure, Normal ECG, capillary and lymphatic circulation, shock, respiration, control, anoxia, hypoxia, asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroid glands and sex hormones. Role of calcium and Vit D in growth and development of teeth, bone and jaws.Role of Vit.A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatory system. Speech mechanism, swallowing and deglutition mechanism, salivary glands and Saliva