SYLLABUS OF BDS 1ST YEAR
DENTAL ANATOMY, EMBRIOLOGY AND ORAL HISTOLOGY

I. TOOTH MORPHOLOGY:

1. Introduction to tooth morphology:
   - Human dentition, type of teeth, function, palmers & binomial notation system, tooth surface, their junction-line angles & point angles, definition of term used in dental morphology, geometric concept in tooth morphology, contact areas & embrasures clinical significance.

2. Morphology of permanent teeth:
   - Description of individual deciduous teeth including their chronology of development, endodontic anatomy, differences between similar class of teeth & identification of individual teeth.
   - Variations & Anomalies commonly seen in individual teeth.

3. Morphology of deciduous teeth:
   - Generalized differences between Deciduous & Permanent teeth.
   - Description of individual deciduous teeth including their chronology of development, endodontic anatomy, differences between similar class of teeth & identification of individual teeth.

4. Occlusion:
   - Definition, factor, influencing occlusion, basal bone arch, individual teeth, external & internal forces, sequence of eruption.
   - Inclination of individual teeth & compensatory curves.
   - Centric relation & centric occlusion, protrusive & lateral occlusion.
   - Clinical significance of normal occlusion.
   - Introduction to & classification of malocclusion.

II. ORAL HISTOLOGY:

1. Detailed microscopic study of enamel, dentine, cementum, & pulp tissue age changes & applied aspect (clinical & forensic significance) of histological consideration, fluoride application, transparent dentine, dentine hypersensitivity reaction of pulp tissue to varying insults to exposed dentine, pulp calcification & hypercementosis.

2. Detailed microscopic study of periodontal ligament & alveolar bone, age changes, histological changes in periodontal ligament & bone in normal & orthodontics, orthodontic tooth movement, applied aspect of alveolar bone resorption.

3. Detailed microscopic study of oral mucosa variation in structure in relation to functional requirement mechanism of keratinization, clinical part of gingiva, Dentogingival & Mucocutaneous junction & lingual papillae, age changes & clinical consideration.

4. Salivary Glands:
   - Detailed microscopic study of acini & ductal system.
   - Age changes & clinical consideration.

5. TM Joint:
   - Review of basic anatomical aspect & microscopic study & clinical consideration.

6. Maxillary sinus:
   - Microscopic study anatomical variations, functions, & clinical relevance of maxillary sinus in dental practice.

   - Ground section, decalcified section & routine staining procedure.

8. Basic histochemical staining patterns of oral tissue.
1. Brief review of development of face, jaw, lip, plate & tongue, with applied aspect.
2. Development of teeth:
   • Epithelial mesenchymal interaction, detailed study of different stages of development of crown, root & supporting tissues of tooth & detailed study of formation of calcified tissues.
   • Applied aspects of disorders in development of teeth.
3. Eruption of deciduous & permanent teeth:
   • Mechanisms in tooth eruption, different theories & histology of eruption formation of dent gingival junction, role of gingival area in eruption of permanent teeth.
   • Clinical or applied aspect of disorders of eruption.
4. Shedding of teeth:
   • Factors & mechanism of shedding of deciduous teeth.
   • Complication of shedding.

IV: ORAL PHYSIOLOGY
1. Saliva:
   • Composition of saliva — variation formation of saliva & mechanism of secretion, salivary reflexes, brief review of secretomotor pathway, function of saliva in dental caries & applied aspects of hyper & hypo salivation.
2. Mastication
   • Mastication force & its measurement — need for mastication, peculiarities of masticatory muscle masticatory cycle, Masticatory reflexes & neural control of mastication.
3. Deglutition:
   • Review of the steps in deglutition, swallowing function & neural control of deglutition & dysphagia.
4. Calcium phosphorus & fluoride metabolism:
   • Source requirement absorption distribution function & excretion clinical consideration, hypo & hypercalcemia & hyper & hypo phosphatemia & fluorosis.
5. Theories of mineralization:
   • Definition, mechanism, theories & their drawbacks.
   • Applied aspect of physiology of mineralization pathological consideration — calculus formation.
6. Physiology of Taste:
   • Innervation of taste buds & taste pathway physiology basis of taste sensation age changes & applied aspects
7. Physiology speech:
   • Review of basic anatomy of larynx & vocal cords.
   • Voice production, resonation, production of vowels & different consonants — Role of palate teeth & tongue.
   • Effect of dental prosthesis & appliances on speech & basic speech disorder.

RECOMMENDED TEXT BOOKS:
2. Developmental Histology—James & Avery.
5. Applied Physiology of the mouth—Levellie.
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