



**ФАКУЛТЕТ ПО ДЕНТАЛНА МЕДИЦИНА**  
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## SYLLABUS

### PEDIATRIC DENTISTRY - PART I

1. Ontogenetic development of the maxillofacial region. Origin of the primary intestine. Development of the oral pit – stomodeum; pharyngeal apparatus.
2. Ontogenetic development of the jaws, oral cavity floor and tongue. Formation of lips and palate. Jaws ratios. Factors influencing the development.
3. Ontogenetic development of the tooth germ – elements, stages of development, origin and characteristics of tooth germ elements. Periods of the tooth germ development. Morphological and biological characteristics.
4. Histogenesis of tooth enamel. Characteristics of the ameloblasts. Stages of amelogenesis. Enamel matrix. Initial mineralization, mineralization and maturation. Chemical composition of enamel.
5. Mineralization of the enamel matrix. Mechanisms of enamel mineralization. Theories of mineralization. Physiology of tooth enamel. Crystalline structure. Ionic exchange in enamel.
6. Morphology of the tooth enamel. Morphological units of mature enamel. Characteristics of the enamel of primary and permanent teeth in childhood.
7. Histogenesis of tooth dentin. Origin and composition. Formation of dentinal matrix and dentin mineralization.
8. Morphology of tooth dentin. Classification and layers in dentin. Dentin physiology – metabolism, sensitivity and functions. Characteristics of the dentin in primary and permanent teeth in childhood.
9. Histogenesis of dental pulp – origin and development. Development of the dental papilla – cells, blood vessels and nerves. Anatomy of dental pulp.
10. Histomorphology of dental pulp. Pulp layers, physiology and functions of pulp. Characteristics of the pulp in primary and permanent teeth in childhood.
11. Histogenesis, morphology and physiology of dental cementum. Anatomy and chemical composition. Characteristics of dental cementum in childhood.
12. Histogenesis, morphology and physiology of periodontium. Anatomy and chemical composition. Blood supply, lymphatic network and innervation. Characteristics of periodontium in childhood.
13. Histogenesis, morphology, physiology of oral mucosa. Anatomy – main characteristics and morphology of oral mucosa. Types of oral mucosa. Cell composition, blood supply and innervation. Oral mucosa of lips and tongue. Characteristics of oral mucosa according to age.
14. Histogenesis, morphology and physiology of periodontium. Composition of periodontium – elements. Morphological characteristics in childhood. Functions.
15. Dynamics and development of primary dentition. Development periods and stages. Factors influencing tooth eruption. Mechanism, signs and sequency of eruption. Resorption organ. Pathology of tooth eruption.

16. Dynamics and development of permanent dentition. Development periods and stages. Development and formation of the roots. Factors influencing tooth eruption. Mechanism and sequency of eruption. Pathology of tooth eruption.
17. Anatomical and physiological characteristics of primary and permanent teeth - main characteristics of both types of dentitions. Anatomical features of dental crown.
18. Anatomical and physiological features of primary and permanent teeth - morphological characteristics of temporary and permanent teeth. Differences between primary and permanent teeth.
19. Abnormalities in the development of teeth. Abnormalities in the number of teeth – etiology, types. Abnormalities in the size of teeth – etiology, types.
20. Abnormalities in the development of teeth. Abnormalities in the form of teeth – etiology, types. Abnormalities in the position of teeth – etiology, types. Localized abnormalities in tooth eruption.
21. Abnormalities in the structure of the teeth. Types of structural anomalies. Risk factors for the occurance of structural abnormalities. Pathogenetic mechanisms.
22. Abnormalities in the structure of teeth. Classification of dental dysplasia. Inherited dental dysplasia.
23. Abnormalities in the structure of the teeth. Congenital dental dysplasia – etiology, types. Acquired dental dysplasia – etiology, types.
24. Liquid oral environment – definition. Saliva, salivary glands – macroscopic and microscopic sructure, formation and secretion of saliva, regulation of salivary secretion.
25. Composition of saliva. Stimulated and unstimulated salivary flow. Factors influencing salivary flow and composition.
26. Physiology of saliva. Gingival sulcus fluid – origin, composition and functions.
27. Oral ecology. Oral microflora. Types of microorganisms. Microbial interactions. Oral eco-niches. Characteristics of oral microflora according to age.
28. Oral ecology. Factors influencing the oral microbial homeostasis. Protective mechanisms of the oral ecosystem.
29. Immunity - definition. Nonspecific and specific immunity. Types of immunopathological reactions. Characteristics of immunity in childhood.
30. Oral immunity. Protective mechanisms of oral mucosa, oral lymphoid tissue, saliva and gingival fluid. Immune reactions and protective mechanisms in the main oral diseases.

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