DR. D Y. PATIL DENTAL COLLEGE & HOSPITAL

DEPARTMENT OF ORTHODONTICS {IV B.D.S. Course- Odd/Regular}

TOPIC NAME	
MUST KNOW	***DESIRED TO KNOW***
1. **Introduction** Definition, Historical Background, aims and Objectives of Orthodontics and Need for Orthodontics care	
2. **Growth and Development** In General a. Definition b. Growth spurts and Differential growth c. Factors influencing growth and Development d. Methods of measuring growth e. Growth theories (Genetic, Sicher's, Scott's, Moss's, Petrovics, Multifactorial) f. Genetic and epigenetic factors in growth g. Cephalocaudal gradient in growth	
3. **Morphologic Development of Craniofacial structures** a. Methods of bone growth b. Prenatal growth of craniofacial structures c. Postnatal growth and development of : cranial base, maxilla, mandible, dental arches and occlusion.	Role of Genetic Control In Growth And Development
4. **Functional Development of Dental Arches and Occlusion** a. Factors influencing functional development of dental arches and occlusion b. Forces of Occlusion c. Wolf's law of transformation of bone d. Trajectories of forces	Late Adult Growth Mandibular Rotation
5. Clinical Application of Growth and development	
6. **Malocclusion** - In General a. Concept of normal occlusion b. Definition of malocclusion c. Description of different types of dental, skeletal and functional malocclusion.	
7. **Classification of Malocclusion**	

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Principle, description, advantages and disadvantages of classification of malocclusion by Angle's simon's, Licher's and Ackerman and Proffitt's **8. Normal and Abnormal Function of Stomatognathic system**	
9. **Etiology of Malocclusion** a. Definition, importance, classification, local and general etiological factors. b. Etiology of following different types of malocclusion: 1) Midline diastema 2) Spacing 3) Crowding 4) Cross - Bite: Anterior / Posterior 5) Class III Malocclusion 6) Class II Malocclusion 7)Deep Bite 8) Open Bite 9) Habits	
10. **Diagnosis And Diagnostic Aids** a. Definition, Importance and classification of diagnostic aids b. Importance of case history and clinical examination in orthodontics c. Study Models: - Importance and uses - Preparation and preservation of study models d. Importance of intraoral X-rays in orthodontics e. Panoramic radiographs:- Principles, Advantages, disadvantages and uses f. Cephalometrics: Its advantages, disadvantages 1. Definition 2. Description and use of cephalostat 3. Description and uses of anatomical landmarks lines and angels used in cephalometric analysis 4. Analysis - Steiner's, Down's, Tweed's, Ricket's- E- line g. Electromyography and its uses in orthodontics h. Wrist X-rays and its importance in orthodontics	Ricket's Electromyography Hand Wrist X-Rays
11. **General Principles in Orthodontic Treatment Planning Of Dental And Skeletal Malocclusions**	

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12. **Anchorage In Orthodontics** – Definition, Classification, Types and Stability Of Anchorage	Anchorage Preparation and in Various Treatment Modality
13. **Biomechanical Principles In Orthodontics** **Tooth movement** a. Different types of tooth movements b. Tissue response to orthodontic force application c. Age factor in orthodontic tooth movement d. Theories of Tooth Movement	Age Factors In Tooth Movement Moment to Force Ratio For Various Movements
14. **Preventive Orthodontics** a. Definition b. Different procedures undertaken in preventive orthodontics and their limitations.	
15. **Interceptive Orthodontics** a. Definition b. Different procedures undertaken in interceptive orthodontics c. Serial extractions: Definition, indications, contra-indication, technique, advantages and disadvantages. d. Role of muscle exercises as an interceptive procedure	
16. **Corrective Orthodontics** a. Definition, factors to be considered during treatment planning. b. Model analysis: Pont's, Ashley Howe's, Bolton, Careys, Moyer's Mixed Dentition Analysis c. Methods of gaining space in the arch:- Indications, relative merits and demerits of proximal stripping, arch expansion and extractions d. Extractions in Orthodontics - indications and selection of teeth for extraction.	Distalisation Of Molars Distal Driving of Entire Arches
17. **Orthodontic Appliances**: General a. Requisites for orthodontics appliances	

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b. Classification, indications of Removable and Functional Appliances c. Methods of force application d. Materials used in construction of various orthodontic appliances - uses of stainless steel, technical considerations in curing of acrylic, Principles of welding and soldering, fluxes and antifluxes. e. Preliminary knowledge of acid etching and direct bonding, 18. **Ethics**	Elastomeric Impression Ethics
19. ORTHODONTIC APPLIANCES **REMOVABLE ORTHODONTIC APPLIANCES** 1) Components of removable appliances 2) Different types of clasps and their uses 3) Different types of labial bows and their uses 4) Different types of springs and their uses 5) Expansion appliances in orthodontics i) Principles ii) Indications for arch expansion iii) Description of expansion appliances and different types of expansion devices and their uses. iv) Myofuctional Appliances v) Rapid maxillary expansion **FIXED ORTHODONTIC APPLIANCES** 1. Definition, Indications & Contraindications 2. Component parts and their uses 3. Basic principles of different techniques: Edgewise, Begg's, straight wire. **EXTRAORAL APPLIANCES** 1. Headgears 2. chincup 3. reverse pull headgears **MYOFUNCTIONAL APPLIANCES** 1. Definition and principles 2. Muscle exercise and their uses in orthodontics 3. Functional appliances: i) Activator, Oral screens, Frankels function regulator, bionatar twin blocks, lip bumper	Types and Principles Of PEA Fixed Functional Appliances

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ii) Inclined planes - upper and lower 18. Orthodontic Management of Cleft Lip And Palate	Surgical Management Of Cleft Lip and Palate
20. **Principles of Surgical orthodontics** Brief Knowledge of correction of : a. Mandibular Prognathism and Retrognathism b. Maxillary Prognathism and Retrognathism c. Anterior open bite and deep bite d. Cross bite	Surgical Procedure for Orthognathic Surgery
21. **Principle, Differential diagnosis and methods of Treatment** of : 1. Midline diastema 2. Cross bite 3. Open bite 4. Deep bite 5. Spacing 6. Crowding 7. Class II -Division 1, Division 2 8. Class III Malocclusion - True and Psuedo Class III	True Class III
22. **Retention And Relapse** Definition, Need for retention, causes of relapse, Methods of retention, Different types of retention devices, Duration of retention, Theorem of retention.	Fabrication of Retainers Reapair of LBR