

BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)
Model Paper

No. of SEQs 15
Time Allowed 2 hours 15 minutes

Total Marks 45
03 Marks of each SEQ

Q.1 What do you mean by Growth Site and Growth Centre? Give examples for each. (1.5, 1.5)

Topic Specification: Growth & Development.

Key of Q.1:

Growth Site: (1.5)
Location or site of active growth occurrence e.g; Condylar Cartilage, Sutures.

Growth Centre: (1.5)
Special areas that independently control overall growth (Genetically Determined) e.g; Nasal Septum, Synchronosis, Epiphseal plates of long bones.

Reference:

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BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)
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Q.2 Give different types of crowding and only enlist different methods of space creation. (1.5, 1.5)

Topic Specification: Class I Crowding.

Key of Q.2:

Minimum Crowding: ALD < 4mm. (0.5)

Moderate Crowding: ALD 4-9mm. (0.5)

Severe Crowding: ALD > 10mm. (0.5)

Methods of Space Creation:

Proclination, Expansion, Stripping, Distalization, Uprighting, De-rotation,
Combination of Methods and Extraction. (1.5)

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BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)
Model Paper

Q.3 Give protocol of Serial Extraction. (3)

Topic Specification: Diagnosis and Treatment Planning.

Key of Q.3:

Protocol: (C, D, 4)

Extraction of C	Delay Eruption of 3	When 3 at Nolla Stage 5, 6
	Unraveling of Lower Crowding	(1)

Extraction of D	Hasten Eruption of 4	When 4 at Nolla Stage of 7, 8
		(1)

Extraction of 4	To Allow Eruption of 3 Distally
	(1)

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BDS FINAL PROFESSIONAL EXAMINATION 2007
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Q.4 Enlist theorems that help in understanding the concept of Retention and Relapse. (3)

Topic Specification: Class I Crowding.

Key of Q.4:

Theorem of retention and relapse:

- | | |
|--|-------|
| Theorem 1: | (0.3) |
| Teeth that have been moved tend to return to their former position e.g; de-rotation, diastema closure. | |
| Theorem 2: | (0.3) |
| Elimination of the cause of malocclusion will prevent relapse. | |
| Theorem 3: | (0.3) |
| Malocclusion should be overcorrected as a safety factor. | |
| Theorem 4: | (0.3) |
| Proper occlusion and inter-digitation prevents relapse. | |
| Theorem 5: | (0.3) |
| Bone and adjacent tissues must be allowed time to reorganize around newly positioned teeth. | |
| Theorem 6: | (0.3) |
| If the lower incisors are placed upright over basal bone they are more likely to remain in good alignment. | |
| Theorem 7: | (0.3) |
| Correction carried out during periods of growth are less likely to relapse. | |
| Theorem 8: | (0.3) |
| The farther the teeth have been moved, the less is the likelihood of relapse. | |
| Theorem 9: | (0.3) |
| Arch form, particularly the mandibular arch, cannot be altered permanently by appliance therapy. | |
| Theorem 10: | (0.3) |
| Special procedures like fibrotomy etc. | |

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Q.5 Give different methods by which anchorage loss can be minimized. (3)

Topic Specification: Biomechanics.

Key of Q.5:

- 1) Increase number of teeth in anchor unit. (0.5)
- 2) Decrease number of teeth in moving unit. (0.5)
- 3) Intra-oral anchorage. (0.5)
 - (i) Intra-maxillary (TPA, nance, lingual arch, implants, ankylosed teeth, anchor bend, cortical anchorage).
 - (ii) Inter-maxillary (Intra-oral elastics).
- 4) Extra-oral anchorage e.g. headgear, chin cup, face mask. (0.5)
- 5) Muscular e.g. lip bumper. (0.5)
- 6) Implants for absolute anchorage. (0.5)

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Q.6 Give Andrew's six keys of occlusion. (3)

Topic Specification: Occlusion and Diagnosis and Finishing.

Key of Q.6:

- | | |
|---|-------|
| 1. Class I relationship. | (0.5) |
| 2. Inclination. | (0.5) |
| 3. Angulation. | (0.5) |
| 4. Straight to slightly curved curve of Spee. | (0.5) |
| 5. No rotations. | (0.5) |
| 6. Tight contact. | (0.5) |

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(SEQs)
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Q.8 Give 1st and 2nd order bends. (3)

Topic Specification: Biomechanics.

Key of Q.8:

1st Order Bends (In-Out Bends) (1.5)

Maxilla (Lateral incisor inset, canine curvature, molar offset)

Mandible (Canine curvature, molar offset)

2nd Order Bends (1.5)

Tipping Bends

Up-down Bends

Maxilla (lateral incisor 0.5 mm above occlusal plane, Canine 0.5 mm below occlusal plane).

Mandible (Canine 0.5 mm above occlusal plane).

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BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)

Model Paper

Q.9 What do you mean by Fetal Molding. Give its significance regarding etiology of dentofacial deformity. (1+2)

Topic Specification: Etiology of Malocclusion.

Key of Q.9:

Fetal Molding:

Abnormal pressures on the developing embryos structures during intrauterine life leading to dentofacial deformity. (1)

Significance Regarding Etiology of Dentofacial Deformity: (2)

- Pressure of arm against the mid face leading to midfacial deficiency.
- Head flexed against chest leading to Pierre Robins Syndrome.

Reference: Contemporary Orthodontics by Proffit.

BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)
Model Paper

Q.10 Give different types of Class II div. 2 incisor relationships. (3)

Topic Specification: Classification of malocclusion, Class II Malocclusion.

Key of Q.10:

Type A (Maxillary Central Incisor retroclined, Lateral Incisors overlap mesially and labially). (0.75)

Type B (Maxillary Incisor retroclined, canines overlap mesially and labially). (0.75)

Type C (All anterior teeth retroclined). (0.75)

Type D (Incisor on one side shows excessive overjet and on other side there is crowding). (0.75)

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BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
(SEQs)
Model Paper

Q.11 Give Indications of Functional Appliances with reference to Skeletal Class II Malocclusion. (3)

Topic Specification: Functional Appliances.

Key of Q.11:

Indications: (1)

Growing ages, Compliance (well motivated).

Skeletal Considerations

Skeletal Class II with short Mandible: (2)

Class II division 1.

Class II division 2 (Convert div 2 to div 1)

Vertical considerations (Normal to low angle cases)

Dental considerations (No crowding)

Dental compensation (IMPA normal).

Reference: Contemporary Orthodontics by Proffit.

BDS FINAL PROFESSIONAL EXAMINATION 2007
ORTHODONTICS
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Model Paper

Q.12 Differentiate between Slow Palatal expansion and Rapid Palatal Expansion. (3)

Topic Specification: Malocclusion and Management.

Key of Q.12:

Differentiate between Slow Palatal Expansion and Rapid Palatal Expansion:

Slow Palatal Expansion: (1.5)

- Slow.
- Treatment time 2-4 months.
- Expansion 1mm/week.
- Forces 2-4 pounds.
- 50% SK.
- 50% dental.
- Retention 2 month.

Rapid Palatal Expansion: (1.5)

- Rapid.
- Treatment time 2 weeks.
- Expansion 1mm/day.
- Forces 10-20 pounds.
- 80% SK. Effects and 20% dental effects.
- Retention 3-4 months.

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Model Paper

Q.13 Give concept of Canine guided occlusion and Group Guided Occlusion? (3)

Topic Specification: Functional Occlusion.

Key of Q.13: -

a) Canine Guided Occlusion: (1.5)

On lateral excursion there is contact of upper canine to lower canine cusp tip on the working side while there is no contact on any teeth on balancing side.

b) Group Guided Occlusion: (1.5)

on lateral excursion there is contact of upper posterior teeth to lower posterior teeth on the working side while there is no contact on any teeth on balancing side (condition arises due to attrition of canines).

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Q.14 Give features of Patient with prolong Habit of thumb sucking.
(3)

Topic Specification: Class II Malocclusion, Open Bite.

Key of Q.14:

Features of Patient with Prolong Habit of Thumb Sucking:

1. Labial tipping of maxillary incisors-Proclination. (0.5)
2. Increased overjet. (0.5)
3. Lingual tipping of lower incisors. (0.5)
4. AOB due to restriction if incisor eruption and supraeruption of buccal teeth. (0.5)
5. Cheek muscles contract- Narrow maxillary arch predisposing to posterior crossbite. (0.5)
6. Tongue thrust habit may develop. (0.5)

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Q.15 What are deleterious effects of heavy Orthodontics forces? (3)

Topic Specification: Biomechanics and Bone Physiology.

Key of Q.15:

Deleterious Effects Expected when Forces above Optimum Level are Applied:

- Hyalinization. (0.75)
- Delayed tooth movement. (0.75)
- Root resorption. (0.75)
- Destruction to periodontium. (0.75)

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