

Printing Page(s) : 1

Paper Code : MDS-101 (Ortho.)  
(SVSU): 2024-2025/R (B)

EnrollmentNo.

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**MDS**  
**(ORTHODONTICS)**  
**1<sup>ST</sup> Year Examination**  
**PAPER – 1**  
**(Applied Basic Science)**  
**(Applied Anatomy, Physiology, Pathology, Genetic, Physical**  
**anthropology & Dental Materials)**

[Time : 03 Hours]

[Max. Marks : 100]

**Note: Attempt all the questions. Draw suitable diagrams to support your answers. Question no. 9 & 10 are MCQs**

Short Essay

[8x10=80]

Q. 1 Twin studies

Q. 2 Scammon's growth curve

Q. 3 Copper NiTi Wire

Q. 4 Student "T" test

Q. 5 Buccinator mechanism

Q. 6 Role of endocrines in orthodontics

Q. 7 Xi- Point

Q. 8 Acid etching

Q9. Multiple Choice Questions (in Separate Sheet) [10]

Q10. Multiple Choice Questions (in Separate Sheet) [10]

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Q 9. Multiple Choice Questions: (Write the correct option in the box)

[1×10=10]

1. Peak mandibular growth velocity occurs at what cervical vertebral maturation (CVM) stage?
  - A. Stage 1
  - B. Stage 3
  - C. Stage 4
  - D. Stage 6

☐
2. The ANB angle assesses:
  - A. Vertical growth pattern
  - B. Skeletal asymmetry
  - C. Anteroposterior jaw relationship
  - D. Dental crowding

☐
3. Which is the center of resistance for a single rooted tooth?
  - A. Apex
  - B. CEJ
  - C. Mid-root
  - D. Crest of alveolar bone

☐
4. Orthodontic relapse is most commonly due to:
  - A. Improper appliance
  - B. Periodontal and muscular forces
  - C. Incomplete tooth movement
  - D. Retainer fracture

☐
5. The most effective force for tooth movement in fixed appliances is:
  - A. Heavy, continuous
  - B. Light, continuous
  - C. Heavy, intermittent
  - D. Light, intermittent

☐
6. A Frankel appliance acts by:
  - A. Altering neuromuscular environment
  - B. Restricting tongue movement
  - C. Applying direct force
  - D. Expanding maxilla

☐
7. The Wits appraisal is used to assess:
  - A. Skeletal jaw relationship
  - B. Vertical maxillary excess
  - C. Mandibular angle
  - D. Dental midline shift

☐
8. Which of the following is NOT a tooth-borne functional appliance?
  - A. Bionator
  - B. Twin block
  - C. Activator
  - D. Frankel

☐
9. The most stable tooth movement is:
  - A. Intrusion
  - B. Rotation
  - C. Tipping
  - D. Bodily movement

☐
10. Functional appliances are most effective during:
  - A. Pubertal growth spurt
  - B. Mixed dentition
  - C. Post-pubertal
  - D. Adult phase

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[P.T.O.]

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Q 10. Multiple Choice Questions: (Write the correct option in the box)

[1×10=10]

1. Which among the following is the best natural space maintainer?

- A. Primary first molars
- B. Permanent first molars
- C. Permanent incisors
- D. Premolar

2. Which among the following is not dental approach for correction of facial asymmetry?

- A. Maxillary expansion
- B. Rhinoplasty
- C. Occlusal splints
- D. Selective grinding

3. Which of the following tests measure biocompatibility?

- A. In Vivo Test
- B. Patch Test
- C. Prick Test
- D. All of the above

4. The gonial angle at birth is:

- A. 90 degrees
- B. 110 degrees
- C. 140 degrees
- D. 170 degrees

5. Which of the following homeobox genes is known for its critical role in tooth development?

- A. HOX
- B. PAX6
- C. SOX2
- D. SHH

6. Daily requirement of calcium in adults is:

- A. 600 mg
- B. 800 mg
- C. 1000 mg
- D. 1200 mg

7. Which of the following factors increases calcium absorption?

- A. Citric acid
- B. Vitamin D
- C. Acidity
- D. All of the above

8. Post natal growth of maxilla occurs by?

- A. Displacement
- B. Surface remodeling
- C. Growth at sutures
- D. All of the above

9. What is the threshold for recognizing an occlusal cant?

- A. 20 degree
- B. 9 degree
- C. 4 degree
- D. 15 degree

10. Dunlop' hypothesis is used as preventive method for which habit?

- A. Mouth Breathing
- B. Tongue Thrusting
- C. Thumb Sucking
- D. Nail Biting