

Paper Code : 12003
BDS 1st Year
University Main Examination – 2018
Paper Third

Dental Anatomy, Embryology and Oral Histology

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary.
Use separate answer book for Part A and Part B.**

Part A

(35 Marks)

- Q.1. Describe the theories of tooth eruption in detail. Add a note on shedding of deciduous dentition. **(15 Marks)**
- Q.2. Write short notes on the following : **(5×3=15 Marks)**
(a) Morphology of Occlusal aspect of permanent maxillary and mandibular first molar
(b) Advanced bell stage
(c) Development of mandible
- Q.3. Multiple Choice Questions : **(1×5=5 Marks)**
- (a) **During an illness for a child tooth calcification is disturbed. This will most likely affect teeth that are in which of the following stages of development?**
(i) Bud (ii) Cap (iii) Early Bell (iv) Late Bell
- (b) **Which of the following is generally the longest root of maxillary permanent 1st molar?**
(i) Distal (ii) Distobuccal (iii) Palatal (iv) Mesiobuccal
- (c) **The part of alveolar bone that surrounds the root of the tooth and gives attachment to the principal fibres of the periodontal ligament is called-**
(i) Alveolar
(ii) Alveolar process
(iii) Bundle bone
(iv) Inner cortical plates
- (d) **During production of enamel which of the following parts of the enamel organ collapses (disappears)?**
(i) Inner enamel epithelium
(ii) Outer enamel epithelium
(iii) Reduced enamel epithelium
(iv) Stellate reticulum
- (e) **Ossification of the mandible starts in which of the following regions?**
(i) Alveolar process
(ii) Condyle
(iii) Coronoid
(iv) Mental foramen

Conti..2..

Part B**(35 Marks)**

- Q.1. Define and classify Oral mucosa. Discuss in detail the process of maturation in epithelium. Add a note on Nonkeratinocytes. **(15 Marks)**
- Q.2. Write short notes on the following : **(5×3=15 Marks)**
- Cells and Principal fibers of periodontal ligament
 - Mixed salivary glands
 - Hypocalcified structures of Enamel
- Q.3. Multiple Choice Questions. Choose one correct answer. **(1×5=5 Marks)**
- Ameloblasts form conical projections called Tomes Processes during which of the following stages of amelogenesis?**
 - Desmolytic
 - Maturative
 - Morphogenic
 - Secretary
 - The highest quantity of inorganic content is likely to be present in which of the following tissues related to teeth?**
 - Cementum
 - Dentin
 - Enamel
 - Pulp
 - Repeated exposure of the teeth to gastric contents (e.g. due to vomiting) may result in which of the following conditions?**
 - Abrasion
 - Attrition
 - Caries
 - Erosion
 - In a haematoxylin and eosin stained histological section of a salivary gland, the following features are seen: Lightly stained pyramidal cells with flattened nuclei, arranged in tubular patterns. Which of the following cells are likely to have these characteristics?**
 - Ductal cells
 - Serous cells
 - Mucous cells
 - Myoepithelial cells
 - Which of the following terms may be used to indicate the dentin formed first in the tooth?**
 - Granular Dentin
 - Hyaline Dentin
 - Mantle Dentin
 - Radicular Dentin

Paper Code : 12003
BDS First Year
University Examination – August-September 2019
Dental Anatomy, Embryology and Oral Histology
Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.

Part A

(35 Marks)

- Q.1. What is odontogenesis? Enumerate the morphological stages of it & describe the advanced bell stage in detail. (15 Marks)
- Q.2. Write short notes on the following : (5 Marks Each)
- (a) Taste Bud
 - (b) Histology of Dental pulp
 - (c) Theories of dentinal hypersensitivity
- Q.3. Multiple Choice Question:- (1 Mark Each)
- (a) **The incremental lines of enamel are called:**
 - (i) Contour lines of Owen
 - (ii) Striae of Retzius
 - (iii) Lines of Salter
 - (iv) Lines of von Ebner
 - (b) **Bone resorbing cells are :**
 - (i) Osteocytes
 - (ii) Odontoblasts
 - (iii) Osteoclasts
 - (iv) Fibroblasts
 - (c) **The largest group of Periodontal fibers are:**
 - (i) The oblique fibers
 - (ii) The apical fibers
 - (iii) The horizontal fibers
 - (iv) The trans-septal fibers
 - (d) **Basket cell is the other name for:**
 - (i) Serous cell
 - (ii) Epithelial cell
 - (iii) Mucous cell
 - (iv) Myoepithelial cell
 - (e) **The maxillary sinus is also known as -**
 - (i) Antrum of Highmore
 - (ii) Antrum of Lowmore
 - (iii) Antrum of maxilla
 - (iv) Antrum of mandible

Conti..2..

Part B

(35 Marks)

- Q.1. Describe the morphology of Permanent maxillary 1st molar in detail. Add a note on its arch traits. (15 Marks)
- Q.2. Write short Notes on the following: (5 Marks Each)
- Leeway space of Nance
 - FDI tooth Numbering system
 - Ridges
- Q.3. Multiple Choice Questions. (1 Mark Each)
- Broadbent phenomenon is seen during which age?**
 - 6-7 yrs
 - 8-9 yrs
 - 11-12 yrs
 - 18-25 yrs
 - Which of the following muscle is not a antigravity muscle?**
 - Masseler
 - Medial pterygoid
 - Temporalis
 - Lateral Pterygoid
 - Which of the following theory of tooth eruption is most widely accepted?**
 - Ligament traction
 - Bone remodelling
 - Vascular pressure
 - Root growth
 - Palatogingival groove is seen in -**
 - Maxillary 1st molar
 - Maxillary canine
 - Maxillary 1st premolar
 - Maxillary lateral incisor
 - Number of roots in maxillary 1st premolar -**
 - 1
 - 2
 - 3
 - 4

Paper Code : 12003

BDS First Year

University Supplementary Examination – February 2019

Dental Anatomy, Embryology and Oral Histology

Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B.

Part A

(35 Marks)

- Q.1. Enumerate stages of Tooth development. Describe in detail the development of tooth from initiation to late bell stage. **(15 Marks)**
- Q.2. Write short notes on the following : **(5 Marks Each)**
- (a) Difference between Primary and Permanent dentition
 - (b) Tooth notation
 - (c) Morphology of permanent maxillary canine
- Q.3. Attempt all the multiple choice questions and choose one correct answer. **(1 Mark Each)**
- (a) **The position of maximum inter cuspatation of upper & lower teeth is referred to as**
- (i) Centric position
 - (ii) Centric occlusion
 - (iii) Centric relation
 - (iv) Centric bite
- (b) **At the age of nine years, the mandibular permanent first molar has its distal contact with which of the following teeth?**
- (i) First premolar
 - (ii) No distal contact
 - (iii) Second deciduous molar
 - (iv) Second permanent molar
- (c) **Differentiation of ameloblasts from the internal enamel epithelium takes place in which of the following stages of tooth development?**
- (i) Bud
 - (ii) Cap
 - (iii) Early
 - (iv) Late bell
- (d) **Which of the following is the last succedaneous tooth to erupt?**
- (i) Maxillary canine
 - (ii) Mandibular canine
 - (iii) Maxillary first premolar
 - (iv) Mandibular first premolar
- (e) **The identifying number of the permanent mandibular left second molar in the FDI numbering system is:**
- (i) 7
 - (ii) 17
 - (iii) 47
 - (iv) 37

Conti..2..

Part B**(35 Marks)**

Q.1. Define periodontium. Classify and describe the cells of periodontal ligament in detail. Add a note on principal fibers of periodontal ligament. **(15 Marks)**

Q.2. Write short Notes on the following: **(5 Marks Each)**

- (a) Nonkeratinocytes
- (b) Age & functional changes in Dentin
- (c) Cellular & Acellular Cementum

Q.3. Multiple Choice Questions. **(1 Mark Each)**

(a) **Which of the following histological features of enamel is apparent due to an optical phenomenon?**

- (i) Tufts
- (ii) Spindles
- (iii) Lines of Retzius
- (iv) Hunter Schreger bands

(b) **Which of the following groups of periodontal ligament fibres are most numerous?**

- (i) Alveolar crest
- (ii) Oblique
- (iii) Horizontal
- (iv) Apical

(c) **Which of the following types of dentin is likely to have the highest mineral content?**

- (i) Integlobular
- (ii) Intertubular
- (iii) Mantle
- (iv) Sclerotic

(d) **Merkel cells are likely to be found in which of the following tissues?**

- (i) Epithellium
- (ii) Papillary lamina propria
- (iii) Submucosa
- (iv) Reticular lamina propria

(e) **Cells that are responsible for the production of reactive dentin are most likely to be present in which of the following areas of pulp?**

- (i) Around blood vessels
- (ii) Pulp periphery
- (iii) Cell rich zone
- (iv) Pulp core

Paper Code : 12003

BDS First Year

University Main/Supple. Examination – November 2020

Dental Anatomy, Embryology and Oral Histology

Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.

Part A

(35 Marks)

Q.1. Describe in detail the morphological stages of tooth development.

(15 Marks)

Q.2. Write short notes on the following :

(5 Marks Each)

- (a) Histology of maxillary sinus
- (b) Mechanism of shedding of tooth
- (c) Dentin hypersensitivity theories

Q.3. Multiple Choice Question:-

(1 Mark Each)

(a) Pattern of mineralization seen in dentin -

- (i) Globular
- (ii) Linear
- (iii) Both globular & linear
- (iv) None of the above

(b) Palate is developed from -

- (i) Mandibular process
- (ii) Maxillary process
- (iii) Zygomatic process
- (iv) Alveolar process

(c) Incremental lines of salter are seen in -

- (i) Dentin
- (ii) Alveolar bone
- (iii) Enamel
- (iv) Cementum

(d) Zymogen granules are seen in -

- (i) Epithelial cells
- (ii) Endothelial cells
- (iii) Serous cells
- (iv) Basket cells

(e) Dentin forming cells are called as -

- (i) Cementoblasts
- (ii) Ameloblasts
- (iii) Osteoblasts
- (iv) Odontoblasts

Conti..2..

Part B**(35 Marks)**

- Q.1. Describe in detail all the aspects of mandibular – I Molar. **(15 Marks)**
- Q.2. Write short Notes on the following: **(5 Marks Each)**
- Describe the occlusal aspect of mandibular 2nd premolar.
 - Curve of Spee and curve of Monsoon
 - Mixed dentition period
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- (a) Number of roots in maxillary 2nd pre molar -**
- | | |
|----------|---------|
| (i) 03 | (ii) 01 |
| (iii) 04 | (iv) 02 |
- (b) Oblique groove is seen in -**
- | | |
|----------------------------|--------------------------|
| (i) Maxillary canine | (ii) Maxillary I – Molar |
| (iii) Mandibular I – Molar | (iv) Mandibular canine |
- (c) Which of the following muscle is not attached to tongue -**
- | | |
|--------------------|--------------------|
| (i) Temporalis | (ii) Palatoglossus |
| (iii) Genioglossus | (iv) Styloglossus |
- (d) Most accepted theory for tooth eruption -**
- | | |
|------------------------|--------------------------|
| (i) PDL – Traction | (ii) Vascular – Pressure |
| (iii) Bone Remodelling | (iv) Root Growth |
- (e) Mixed dentition period is between -**
- | | |
|--------------------|-------------------|
| (i) 3 – 8 years | (ii) 3 – 10 years |
| (iii) 6 – 12 years | (iv) 2 – 6 years |

Paper Code : 12003

University Supplementary Examination – February 2021

BDS First Year

Dental Anatomy, Embryology and Oral Histology

Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B.

Part A

(35 Marks)

- Q.1. Enumerate and describe the hypocalcified structures of enamel. Add a note on physical and chemical properties of enamel. **(15 Marks)**
- Q.2. Write short notes on the following : **(5 Marks Each)**
- (a) Theories of pain transmission in dentin
 - (b) Principal fiber groups of periodontal ligament
 - (c) Histology of advanced bell stage
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- (a) **Reciprocal induction is seen between -**
- (i) Cementoblast & Odontoblast
 - (ii) Cementoblast & Osteoblast
 - (iii) Ameloblast & Odontoblast
 - (iv) None of the above
- (b) **Direction of enamel rods in permanent teeth is -**
- (i) Vertical at cusp tip
 - (ii) Tangential to outer enamel surface
 - (iii) Horizontal in cervical region
 - (iv) All of the above
- (c) **Tertiary dentin is formed due to -**
- (i) Dental caries
 - (ii) Attrition
 - (iii) Irritation due to cavity preparation
 - (iv) All of the above
- (d) **Most accepted theory of tooth eruption is -**
- (i) Vascular pressure theory
 - (ii) Ligament traction theory
 - (iii) Bone remodeling theory
 - (iv) All of the above
- (e) **Which of the following glands are purely serous:**
- (i) Parotid
 - (ii) Von Ebner's
 - (iii) Buccal
 - (iv) Both (i) & (ii)

Conti..2..

Part B**(35 Marks)**

- Q.1. Write in detail about various aspects of permanent maxillary canine. Add a note on its arch traits. **(15 Marks)**
- Q.2. Write short Notes on the following: **(5 Marks Each)**
- Ridges
 - Embrasures
 - Eruption chronology of permanent teeth
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- (a) **Tooth no. #28 is represented by which number in FDI system-**
- | | |
|----------|---------|
| (i) 44 | (ii) 34 |
| (iii) 28 | (iv) 45 |
- (b) **Most common type of CEJ is -**
- | | |
|--------------------|---------------|
| (i) Gap CEJ | (ii) Butt CEJ |
| (iii) Over lap CEJ | (iv) None |
- (c) **The lining epithelium of maxillary sinus is -**
- | | |
|--------------------------------|---------------------------------------|
| (i) Simple columnar epithelium | (ii) Stratified squamous epithelium |
| (iii) Transitional epithelium | (iv) Pseudo stratified sq. epithelium |
- (d) **A common occurrence in the permanent maxillary I molar is -**
- | | |
|----------------------------|-----------------------------------|
| (i) Presence of 2 MB canal | (ii) Absence of distobuccal canal |
| (iii) None of the above | (iv) Both of above |
- (e) **The layer covering the condyle is called as:**
- | | |
|------------------------|------------------------|
| (i) Lamina limitans | (ii) Lamina propria |
| (iii) Lamina Splendens | (iv) None of the above |

Paper Code : 12003
University Examination – September 2021
BDS First Year
Dental Anatomy, Embryology and Oral Histology
Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B.

Part A

(35 Marks)

- Q.1. Classify Oral Mucous membrane. Discuss histology of dorsum of tongue in detail. Add a note on taste buds. **(15 Marks)**
- Q.2. Write short notes on the following : **(5 Marks Each)**
- (a) Advanced Bell Stage
 - (b) Dead Tracts
 - (c) Differences between serous and mucus salivary gland acini
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- (i) **The diameter of enamel rods increases from DEJ towards the surface of enamel in a ratio of about:**
- (a) 1 : 2
 - (b) 1 : 3
 - (c) 1 : 4
 - (d) 1 : 5
- (ii) **The lingual extension of dental lamina is known as :**
- (a) Mental lamina
 - (b) Buccal lamina
 - (c) Permanent lamina
 - (d) Successional lamina
- (iii) **Which of the following dental tissues is laid down first ?**
- (a) Enamel
 - (b) Dentin
 - (c) Cementum
 - (d) All of the above simultaneously
- (iv) **Which of the following is vascularized :**
- (a) Cementum
 - (b) Enamel
 - (c) Bone
 - (d) Calculus
- (v) **Spongy bone is least found in region of :**
- (a) Anterior teeth
 - (b) Premolar teeth
 - (c) Molar teeth
 - (d) Upper posterior teeth

Part B**(35 Marks)**

- Q.1 Discuss the differences between Deciduous and Permanent Dentition. **(15 Marks)**
- Q.2 Write short Notes on the following: **(5 Marks Each)**
- Mechanism of shedding of deciduous tooth
 - Curve of Spee and its significance
 - Occlusal aspect of Maxillary 1st Molar
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- (i) **Eruption of permanent maxillary central incisor takes place at the age of:**
- 6 – 7 years
 - 7 – 8 Years
 - 5 – 6 Years
 - 9 – 10 Years
- (ii) **The rounded protuberances seen in the newly erupted incisors on the incisal edges are called -**
- Lobes
 - Cusps
 - Mamelons
 - Tubercle
- (iii) **Which premolar would be the most likely to have a single pulp horn :**
- Maxillary 1st premolar
 - Mandibular 1st premolar
 - Mandibular 2nd premolar
 - Maxillary 2nd premolar
- (iv) **Morphologically the primary maxillary second molar strikingly resembles which permanent tooth listed below -**
- Permanent maxillary 3rd molar
 - Permanent maxillary 2nd molar
 - Permanent maxillary 1st molar
 - Permanent mandibular 2nd molar
- (v) **Which permanent tooth has smallest mesio-distal dimension:**
- Maxillary lateral incisor
 - Mandibular central incisor
 - Maxillary central incisor
 - Mandibular lateral incisor

Paper Code : 12003

University Supplementary Examination – December 2021

BDS First Year

Dental Anatomy, Embryology and Oral Histology

Paper Third

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B.

Part A

(35 Marks)

Q.1. Discuss the stages of tooth development in detail.

(15 Marks)

Q.2. Write short notes on the following :

(5 Marks Each)

(a) Types of Cementum

(b) Non-keratinocytes of Oral Mucosa

(c) Zones of pulp

Q.3. Multiple Choice Questions.

(1 Mark Each)

(i) **The articulating surfaces of the temporomandibular joint are covered with-**

(a) Fibrocartilage

(b) Hyaline cartilage

(c) Articular cartilage

(d) Perichondrium

(ii) **All of the following glands are purely mucous EXCEPT -**

(a) Palatine gland

(b) Glossopalatine gland

(c) Post Lingual glands

(d) Von ebner glands

(iii) **The diameters of dentinal tubules are -**

(a) Smaller near the pulpal cavity

(b) Larger at the outer ends

(c) Larger near the pulp cavity

(d) Same from pulp cavity to the outer ends

(iv) **The radiographic appearance of bundle bone is known as:**

(a) Lamina Densa

(b) Lamina Lucida

(c) Lamina Limitans

(d) Lamina Dura

(v) **Cementum is thinnest at :**

(a) Apical third of root

(b) Middle third of root

(c) CEJ

(d) Apical foramen

Part B

(35 Marks)

- Q.1. Describe in detail the morphology of Permanent Maxillary first molar. Write the differences between occlusal aspect of permanent maxillary and mandibular first molars
(15 Marks)
- Q.2. Write short notes on the following
(5 Marks Each)
- Theories of tooth eruption
 - Tooth Numbering systems
 - Composition of saliva & its functions
- Q.3. Multiple Choice Questions
(1 Mark Each)
- The ligament attached to lingula is :**
 - Stylomandibular
 - Sphenomandibular
 - Temporomandibular
 - None of the above
 - If a maxillary first molar has a fourth canal, it will be located where -**
 - In the palatal root
 - In the distobuccal root
 - In the mesiobuccal root
 - In the distal furcation
 - The portion of tooth that remains inside the gingiva & alveolar bone is known as -**
 - Anatomical root
 - Anatomical crown
 - Clinical root
 - Clinical crown
 - Which tooth listed below has a mesial development depression?**
 - Mandibular first premolar
 - Maxillary second premolar
 - Maxillary first premolar
 - Mandibular second premolar
 - All posterior teeth have proximal contacts in the -**
 - Cervical third
 - Occlusal third
 - Junction of Occlusal and middle third
 - Middle third

Paper Code : 12003
University Examination – February 2023
BDS First Year
Paper Third

Dental Anatomy, Embryology and Oral Histology

TIME: 3 hours

Maximum marks: 70

Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.

Part A

(35 Marks)

1. Define and classify Oral Mucous Membrane. Discuss the cellular events in the process of maturation of Oral Epithelium in detail. Add a note on Nonkeratinocytes. **(15 Marks)**
- Q.2. Write short notes on the following : **(5 Marks Each)**
- (a) Cellular and Acellular Cementum
 - (b) Age and Functional changes in Dentin
 - (c) Theories of Tooth Eruption
- Q.3. Multiple Choice Question:- **(1 Mark Each)**
- (i) **Von Ebner's glands are :**
- (A) Glands at apex of tongue
 - (B) Posterior lingual mucous glands
 - (C) Posterior lingual serous glands
 - (D) Glosso palatine glands
- (ii) **Stellate reticulum is seen in :**
- (A) Dental lamina
 - (B) Enamel organ
 - (C) Hertwig's root sheath
 - (D) All of the above
- (iii) **The zone of dentin most recently formed and uncalcified is known as :**
- (A) Mantle dentin
 - (B) Circumpulpal dentin
 - (C) Predentin
 - (D) Secondary dentin
- (iv) **Bone resorbing cells are :**
- (A) Osteocytes
 - (B) Odontoblasts
 - (C) Osteoclasts
 - (D) Osteoblasts
- (v) **The type of epithelium lining maxillary sinus is -**
- (A) Simple columnar
 - (B) Pseudo stratified columnar and ciliated
 - (C) Stratified squamous
 - (D) Simple squamous

Conti..2..

Part B**(35 Marks)**

- Q.1. Describe the morphological differences between Permanent Maxillary First molar and Permanent Mandibular first molar. Add a note on chronology of eruption of teeth. **(15 Marks)**
- Q.2. Write short Notes on the following: **(5 Marks Each)**
- Cells and fibers of Periodontal Ligament
 - Hypocalcified structures of enamel
 - Tooth notation systems
- Q.3. Multiple Choice Questions. **(1 Mark Each)**
- Number of roots in maxillary 1st premolar :**

(A) 1	(B) 2
(C) 3	(D) 4
 - Dentinal tubules in the crown are :**

(A) Concave	(B) Convex
(C) S-shaped	(D) None of the above
 - Which of the following histological features of enamel is apparent due to an optical phenomenon?**

(A) Tufts	(B) Spindles
(C) Lines of Retzius	(D) Hunter Schreger bands
 - The roots of which of the following permanent tooth are normally completely formed by age of ten years?**

(A) Mandibular canine	(B) Maxillary canine
(C) Mandible first premolar	(D) Maxillary central incisor
 - In permanent maxillary 1st molar cusp of carabelli is located on the -**

(A) Mediobuccal cusp	(B) Distobuccal cusp
(C) Mesiolingual cusp	(D) Distolingual cusp