

MARCH 2007

[KQ 400]

Sub. Code : 2418

M.D.S. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Orthodontics

**(For candidates admitted from the Academic year
2004-05 onwards)**

**Paper II — GROWTH AND DEVELOPMENT, BASICS
IN ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay Questions

1. Discuss the emerging trends and recent advances in imaging of the craniofacial area for orthodontic purposes. Add a note on three dimensional cephalometrics. (20)

2. Discuss in detail the late growth changes in the human face. (15)

3. Discuss in detail the "Servo system" theory of facial growth and its importance in orthodontics. (15)

II. Short notes

(6 × 5 = 30)

(a) Various dental cast analysis (model) and their importance in orthodontics.

(b) Importance of Parathormone in orthodontics

(c) Speech and malocclusion

(d) Natural head position in cephalometry

(e) Importance of IMPA in Indian context

(f) Growth Trends.

SEPTEMBER 2007

[KR 400]

Sub. Code : 2418

M.D.S. DEGREE EXAMINATION.

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Branch V — Orthodontics

**(For candidates admitted from the Academic Year
2004–05 onwards)**

**Paper II — GROWTH AND DEVELOPMENT, BASICS
IN ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

**1. Discuss in detail prenatal and postnatal growth of
mandible. (20)**

**2. Various imaging techniques and its applications in
TMJ. (15)**

**3. Define and classify habits. Write in detail clinical
features of adenoid faces and their management. (15)**

II. Short notes :

(6 × 5 = 30)

(a) 'C'-axis.

(b) Shortcomings of ANB.

(c) Homeobox genes.

(d) Visual Treatment Objective.

(e) Rickett's four step analysis.

(f) Adreno Cortico Trophic Hormones.

MARCH 2008

[KS 382]

Sub. Code : 2418

M.D.S. DEGREE EXAMINATION.

(Revised Regulations)

Branch V — Orthodontics

(For candidates admitted from the Academic Year
2004–2005 onwards)

Paper II — GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY

Q.P. Code : 242418

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

- I. Essay : (2 × 20 = 40)
1. Evolution of TMJ.
 2. Hand wrist radiographs.
- II. Short notes : (6 × 10 = 60)
1. ALARA principle.
 2. Growth relativity.
 3. Wolfe's law.
 4. Psychological aspects of habits.
 5. Buccinator mechanism.
 6. IOTN.
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[KT 382]

September 2008

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION.

(Revised Regulations)

Branch V – ORTHODONTICS

(For Candidates admitted from 2004-2005 onwards)

**Paper II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND
RADIOLOGY**

Q.P. Code : 242418

Time : Three hours

Maximum : 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions :

(2 X 20 = 40)

1. Discuss the adjustments of maxillomandibular complex from birth to adulthood with reference to the developing dentition.
2. Discuss the functional analysis in Orthodontic diagnosis.

II. Write short notes on :

(6 X 10 = 60)

1. Radiographic localization of impacted canine.
 2. Anthropometric studies and its importance in Orthodontics.
 3. Natural head position.
 4. Self correcting malocclusion.
 5. Growth site and growth centre.
 6. Xi-point.
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March 2009

[KU 382]

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

Branch V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

(Revised Regulations)

(For Candidates admitted from 2004 - 2005 onwards)

**Paper II – GROWTH AND DEVELOPMENT,
BASICS IN ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Draw suitable diagram wherever necessary

I. Essay questions : (2 x 20 = 40)

1. Describe the features of Facial Asymmetry and correlate them to growth and development. What are the imaging modalities usable for diagnosis and treatment planning. Add a note on its age related management.
2. Enumerate the advantages and disadvantages of conventional Cephalometrics. What is the basis of Morphometrics? Discuss the various morphometric methods and its application in Orthodontics.

II. Write short notes on : (6 x 10 = 60)

1. Digital Radiography.
2. Accuracy of computerized Cephalometric software.
3. Growth forecasting and its accuracy.
4. Natural Head position.
5. Oral stereognosis.
6. Psychology of patient compliance in orthodontics.

September 2009

[KV 382]

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

Branch V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

(Revised Regulations)

(For Candidates admitted from 2004 - 2005 onwards)

**Paper II – GROWTH AND DEVELOPMENT,
BASICS IN ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Draw suitable diagram wherever necessary

I. Essay questions : (2 x 20 = 40)

1. Enumerate and briefly outline the indicators and methods of assessing growth onset, peak height velocity and its cessation in clinical practice. Compare and contrast the utility of hand wrist x-rays vs cervical vertebrae maturation.
2. Describe the role of airway patency in normal facial growth. Enumerate and outline the common airway obstructive conditions seen in orthodontic practice and their effect on dentofacial morphology.

II. Write short notes on : (6 x 10 = 60)

1. Primary failure of eruption.
2. Morphometrics.
3. Ricketts four step analysis.
4. Balanced facial profile.
5. Orthognathic surgery during growth.
6. Maxillary transverse deficiency.

March 2010

[KW 382]

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

Branch V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

(Revised Regulations)

(For Candidates admitted from 2004 - 2005 onwards)

**Paper II – GROWTH AND DEVELOPMENT,
BASICS IN ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Draw suitable diagram wherever necessary

I. Essay questions : (2 x 20 = 40)

1. Discuss about inherent errors in conventional cephalometrics and how are they overcome in digital cephalometrics?
2. Computerized tomography in orthodontics.

II. Write short notes on : (6 x 10 = 60)

1. IOPA radiographs in orthodontic diagnosis
2. Effect of x-rays radiation on genesis.
3. Principle of panoramic radiography.
4. Radiation hazards in orthodontic practice.
5. Functional matrix concept.
6. Evaluate the problems of the emotionally disturbed child from orthodontic point of view.

October 2011

[KZ 382]

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

**PAPER II – GROWTH AND DEVELOPMENT, BASICS IN ORTHODONTICS,
DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

**Time : 3 hours
(180 Min)**

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Functional Matrix Theory.	6	18	10
2. Discuss the development of dentition and the factors contributing for a stable occlusion.	6	18	10
3. Embryological disorders causing malocclusion and malocclusion associated syndromes.	6	18	10
4. Role of hormones in growth and development.	6	18	10
5. Development of temporomandibular joint and its anatomical attachment.	6	18	10
6. Erikson's eight stages of emotional development.	6	18	10
7. Discuss the post-natal growth of maxilla and mention the causes for facial asymmetry.	6	18	10
8. Methods of assessing growth and factors influencing nasolabial angle.	6	18	10
9. The divine proportion and its significance.	6	18	10
10. Cephalometric methods of assessing vertical dimension.	6	18	10

M.D.S. DEGREE EXAMINATION**BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS****PAPER II – GROWTH AND DEVELOPMENT, BASICS IN ORTHODONTICS,
DIAGNOSIS AND RADIOLOGY****Q.P. Code : 242418****Time : 3 hours
(180 Min)****Maximum : 100 marks****Answer ALL questions in the same order.**

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Bone markers and implant studies	7	18	10
2. Enlow's "V" principle	7	18	10
3. Development of palate and clinical implication	7	18	10
4. Growth prediction and arcial growth	7	18	10
5. Anthropometric studies	7	18	10
6. Nutrition and malocclusion	7	18	10
7. Mechanisms of bone growth	7	18	10
8. Clinical implications of growth and development	7	18	10
9. Post natal growth of maxilla	7	18	10
10. Calcium and phosphorus homeostasis	7	18	10

[LB 382]

OCTOBER 2012

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

PAPER II – GROWTH AND DEVELOPMENT, BASICS IN

ORTHODONTICS, DIAGNOSIS AND RADIOLOGY

Q.P. Code : 242418

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Growth Trends.	7	18	10
2. Primary and Secondary Cartilage.	7	18	10
3. Genomic Growth.	7	18	10
4. Buccinators mechanism and safety valve mechanism.	7	18	10
5. Hand wrist x-ray.	7	18	10
6. Development of dentition from birth to adulthood.	7	18	10
7. Evolution of human face.	7	18	10
8. Teratogens.	7	18	10
9. Malocclusion associated with syndromes.	7	18	10
10. Functional matrix theory revisited.	7	18	10

[LC 382]

APRIL 2013

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

**PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time : 3 hours

Maximum : 100 marks

(10x10=100)

1. Functional matrix therapy and its clinical implications.
2. Skeletal maturity indicators.
3. Evolution of TMJ.
4. Anthropometric studies.
5. Radiovisuography.
6. Orofacial muscles and buccinator mechanism.
7. Development of occlusion.
8. Theories of tooth eruption.
9. Cybernetics and servo system.
10. Pierre-Robin syndrome.

[LD 382]

OCTOBER 2013

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

PAPER II – GROWTH AND DEVELOPMENT, BASICS IN

ORTHODONTICS, DIAGNOSIS AND RADIOLOGY

Q.P. Code : 242418

Time: Three Hours

Maximum: 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

(10 x 10 = 100)

1. Methods for studying physical Growth
2. Role of neural crest in craniofacial anomalies
3. Facial Proportions
4. Indices of orthodontic treatment need
5. Cognitive development
6. Pitch, Roll and yaw
7. Digital photography
8. Tube shift method
9. Orthodontic Triage
10. Pitchfork Analysis.

[LE 382]

APRIL 2014

Sub. Code: 2418

M.D.S. DEGREE EXAMINATION
BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS
PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY

Q.P. Code : 242418

Time : 3 hours

Maximum : 100 marks

(10X10=100)

1. Functional matrix theory – Revisited.
2. Rotation of jaws during growth.
3. Mini Esthetics.
4. Digital study models.
5. Evolution of orthodontic appliances.
6. Digigraph.
7. Template analysis.
8. Transverse Dysplasia.
9. Natural head position in cephalometrics.
10. Management of problem child.

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

**PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time : 3 Hours

Maximum : 100 marks

(10 x 10 = 100)

1. Explain Counterpart theory of growth.
2. Describe about electromyography and its implications in orthodontics.
3. Discuss in detail development of palate. Enumerate the etiological factors responsible for cleft palate.
4. Deliberate the importance of soft tissue analysis and age changes in diagnosis and treatment planning.
5. Discuss in detail the functional and Cephalometric criteria for growth modification treatment.
6. Analysis of tongue posture, function, and size. Relate it to malocclusion.
7. Enumerate about the drugs that inhibit and enhance orthodontic tooth movement.
8. Describe about the etiology of upper airway constriction and its effect on malocclusion. Add a note on its management.
9. Discuss about patient compliance and motivation towards orthodontic treatment between Adult and Adolescent patients.
10. Role of genetics in orthodontics.

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

**PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY**

Q.P. Code : 242418

Time: Three Hours

Maximum: 100 marks

(10 x 10 = 100)

1. Explain the Growth of the jaw in relation to hereditary and congenital factors.
2. Describe Nasoalveolar molding. Enumerate its advantages and complications.
3. What are Growth indicators? Add a note on cervical vertebrae maturation indicator.
4. Explain cephalo caudal gradient of growth. Add a note on Rickett's growth prediction.
5. What is Prediction Imaging? Discuss recent trends in prediction of treatment outcomes.
6. Describe briefly about the management of child with unilateral cleft lip and palate and its challenges in achieving its treatment objectives.
7. Write about the Condylar adaptation in class II and class III malocclusion?
8. Discuss about Postural rest position and its significance. Add a note about the various methodologies in recording postural rest position.
9. Deliberate the physiology, functions and malfunctions of the stomatognathic system.
10. What is the clinical importance of Functional analysis in Orthodontics?

M.D.S. DEGREE EXAMINATION

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

**PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
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Q.P. Code : 242418

Time : 3 Hours

Maximum : 100 Marks

(10 x 10 = 100)

1. Describe Servosystem theory of growth in relation to Dentofacial orthopaedics.
2. Explain the post natal growth of mandible.
3. What is Wetzel grid? Explain its purpose and mechanism.
4. Explain Logarithmic spiral? Also associate it with growth of mandible.
5. Enumerate about radiation hazards and recommendations in orthodontics.
6. Discuss digital radiographs in orthodontics and its importance. Briefly discuss the role of MRI and TMJ imaging.
7. Describe the role of oral habits in Etiology of malocclusion. Write about the role of muscle pressure in the dimensional changes in orofacial structures during growth and development.
8. Discuss about functional occlusion. Add a note on equilibration.
9. What is your understanding about mandibular protraction appliances?
10. What is Pitchfork analysis?

[LK 382]

JUNE 2017

Sub. Code: 2418

M.D.S DEGREE EXAMINATION
(For the Candidates Admitted up to the Academic Year 2012-2013 only)

BRANCH V – ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS
PAPER II – GROWTH AND DEVELOPMENT, BASICS IN
ORTHODONTICS, DIAGNOSIS AND RADIOLOGY

Q.P. Code : 242418

Time : 3 Hours

Maximum : 100 Marks

(10 x 10 = 100)

1. Write in detail about neurotropism.
2. Butler field theory.
3. Hand wrist radiograph and its significance.
4. Stutzman angle.
5. Classical conditioning.
6. Airway and its importance.
7. Pattern, variability and timing of growth.
8. Eva point.
9. Unilateral cephalometric landmarks.
10. Occlusal equilibrium.
