

DEPARTMENT OF PAEDIATRIC AND PREVENTIVE DENTISTRY

1. Goals

The goal of post graduate dental education should be to produce competent Pedodontists and/or Pediatric dental teachers.

2. Objectives

2.1. To train the post graduate students about the psychological development, behavioral problems and the various techniques of management of children, so that he/she will be able to manage all children in the dental office.

2.2. To train the post graduates to instill a positive attitude towards dental health in children.

2.3. To train the post graduate in all the various preventive measures to implement in the dental office, as well as to the community.

2.4. To train the post graduate students in pre natal counseling about proper oral hygiene for mother and post natal care of the child.

2.5. To recognize various dental and oral diseases in children and to treat them effectively with the most recent methodology.

2.6. To treat the dental problems in the disabled child.

2.7 To treat the dental problem of children under General Anesthesia and Conscious sedation.

2.8. To make them understand human values, practice ethically and develop communication abilities.

3. Skills

3.1. To obtain proper clinical history, methodological examination of the child patient, perform essential diagnostic procedure and interpret them and arrive at a reasonable diagnosis and treat appropriately.

3.2. To be competent to treat the dental diseases which are occurring in the child patients.

3.3. To manage, to repair and restore the lost tooth structure, to maintain harmony between both hard and soft tissues of the oral cavity.

3.4. To manage the disabled children effectively and efficiently, tailor to the needs of individual requirements and conditions.

3.5. Acquire skills in managing efficiently, life- threatening conditions with emphasis on basic life- support measures.

4. Attitudes

4.1. To develop an attitude to adapt ethical principles in all aspects of Pediatric Dental Practice.

4.2. Professional honesty and integrity are to be fostered.

4.3. Treatment care to be delivered irrespective of social status, caste, creed and religion of the patients.

4.4. Willingness to share the knowledge and clinical experience with professional colleagues.

4.5. Willingness to adapt, after a critical assessment, new methods and technique of clinical management developed from time to time, based on scientific researches, which are in the best interest of the child patients.

4.6. Respect child patients' rights and privileges.

4.7. Develop an attitude to seek opinion from allied medical and dental specialties as and when required.

Learning Outcomes:

1. The post graduate students are trained about the psychological development,

behavioral problems and the various techniques of management of children, so that he/she will be able to manage all children in the dental office.

2. The post graduate students are trained to instill a positive attitude towards dental health in children.

3. The post graduate students are trained in all the various preventive measures to implement in the dental office, as well as to the community.

4. The post graduate students are trained in pre natal counseling about proper oral hygiene for mother and post natal care of the child.

5. The post graduate students are trained to recognize various dental and oral diseases in children and to treat them effectively with the most recent methodology.

6. The post graduate students are trained to treat the dental problems in the disabled child.

7. The post graduate students are trained to treat the dental problem of children under General Anesthesia and Conscious sedation.

8. The post graduate students are trained to make them understand human values, practice ethically and develop communication abilities.

5. Course contents

5.1. Syllabus

Part I- Common to all specialties

Part II- Syllabus - Annexure I

5.2. Pre-clinical exercises- Annexure -II

- To be completed in 3 months.
- Records of Pre- clinical exercises to be approved by the guide and duly signed by the Head of the Department.
- Should be displayed during final MDS examination.

5.3 Clinical requirements- Annexure III

- The list is the minimum required quota to be completed before the

candidate appears for the final MDS examination.

- Clinical records should be maintained and approved by the guide and duly certified by the Head of the Department.

5.4. Clinical Postings in other specialties

Candidates shall be posted on rotations to the various departments

1. Pediatric Surgery and Pediatric Medicine
2. Community Dentistry
3. Oral Surgery and Anesthesiology
4. Orthodontics
5. Endodontics
6. Radiology
7. Psychology- (An in-house lecture)

5.5. Special Assignments:

5.5.1. School Health Programs

During the course, the candidates should submit a project report of their work.

5.5.2. Library Dissertation

The topic for Library dissertation should be finalized and approved by the end of first 6 months, approved by the guide and certified by the Head of the Department, and the same should be submitted before appearing for Part I examination.

5.5.3. Dissertation

The subject and protocol for the dissertation to be submitted by the end of first 6 months, and the candidate should complete the work and submit the dissertation, 6 months before part II examination. The work should be original and should be registered in the University. Along with the submission of dissertation, a scientific paper of the dissertation should be prepared and submitted for publication, which is approved by the Guide and the Co-Guide.

5.5.4. Inter- Disciplinary approach to Oro-facial deformities, comprising of Pediatrics, Plastic Surgery, Oral Surgery, Orthodontics, Prosthodontics, Speech Therapy, Psychology and Anesthesiology.

5.6. Teaching assignments

1. Seminars in Basic Sciences
2. Seminars and Journal club presentations in specialty subjects
3. Case presentations & Discussions
4. Lecture classes and clinical discussions for Under Graduate students
5. Attending workshops/ Continuing Dental education (CDE) programs
6. The trainees shall be encouraged to attend conferences/ workshops/ advanced courses and also to present at least two scientific papers and two posters at State/ National level conferences/ conventions during the training period.
7. At least one scientific paper and a case report should be published in an Indexed Journal.

6. Evaluation

6.1. Eligibility

The following requirements shall be fulfilled by the candidate to become eligible for the final examination.

6.1.1. Attendance: Every candidate shall secure 90% attendance during each academic year.

6.1.2. Progress & Conduct: Every Candidate shall participate in Seminars, Journal review meetings, symposia, conferences, Case presentation clinics and didactic lectures during each year, organized by the department.

6.1.3. Work Diary and Logbook: Every candidate shall maintain a work diary and logbook for recording his / her participation in the training program conducted by the department. The work diary and log book shall be certified by the Head of the department. The certificate of satisfactory progress is based on the work diary and logbook.

6.2. University examination

The University examination shall consist of theory, practical and clinical examination and viva-voce and pedagogy.

Theory:

Part – I: Conducted at the end of I year MDS

Shall consist of one paper- Basic Sciences

Part – II: Conducted at the end of III year MDS

Shall consist of 3 papers

Paper – I: Clinical Pedodontics

Paper - II: Preventive & Community Dentistry, as applied to Pediatric Dentistry

Paper – III: Recent advances in Pediatric Dentistry. (Descriptive and analyzing type question)

Practical examination:

Clinical / Practical examination & viva voce will be conducted for a minimum of 2 days.

6.2.1. Scheme of Examination

Part	Timing	Type	Duration	Subject	Mark distribution
Part I	End of I year	Theory	3 hours	Basic Sciences	10 Questions (10 marks each)
Part II	End of III year	Theory	3 hours	Paper I (100 marks)	2 Long Essays (25 marks each) 5 Short Essays (10 marks each)
			3 hours	Paper II (100 marks)	2 Long Essays (25 marks each) 5 Short Essays (10 marks each)
			3 hours	Paper III (100 marks)	2 essays to be answered out of 3 (50 marks each)
		Practical	2 days	Practical/ Clinical exam	200 marks
				Viva voce	80 marks
				Pedagogy	20 marks

6.3. Examiners:

Part – I: There shall be one internal examiner and one external examiner, appointed by the affiliated University, for evaluating answer scripts.

Part – II: There shall be four examiners in each subject. Out of them, 2 shall be internal examiners, and 2 shall be external examiners. Both external examiners shall be from a University other than the affiliating University, of which, one examiner shall be from a University of a different state.

6.4. Qualification & Experience of Examiners:

The qualification and experience of an examiner shall be as under:-

- (i) Shall possess qualification and experience of a Professor in a post-graduate degree program.
- (ii) A person who is not a regular post graduate in the subject shall not be appointed as an examiner;
- (iii) No person shall be appointed as an external examiner for the same institution for more than two consecutive years. However, if there is a break of one year, the person can be re-appointed.

6.5. Examination center:

As decided by the University

6.6. Valuation:

Part – I: Answer book(s) shall be evaluated by the internal and the external examiner(s)

Part – II: Answer books shall be evaluated by four examiners, two internal and two external and the average marks shall be computed.

6.7. Criteria for pass Certificate:

To pass the University examination, a candidate shall secure in both theory and practical examination and in clinical/practical including viva voce independently with an aggregate of 50% of total marks allotted. (50 out of 100 marks in Part I examination and 150 out of 300 marks in Part II examination in theory and 150 out of 300 marks in clinical plus viva voce together). A candidate securing below 50% marks as mentioned above shall be declared to have failed in the examination.

A candidate who is declared successful in the examination shall be granted a Degree of Master of Dental Surgery in the respective specialty.

ANNEXURES:

Annexure - I

COURSE CONTENTS:

A) Applied Basic Sciences:

Applied Anatomy of Head and Neck:

- • Anatomy of the scalp, temple and face
- • Anatomy of the triangles of neck and deep structures of the neck
- • Cranial and facial bones and its surrounding soft tissues with its applied aspects
- • Muscles of head and neck
- • Arterial supply, venous drainage and lymphatics of head and neck
- • Congenital abnormalities of the head and neck
- • Anatomy of the cranial nerves

- Anatomy of the tongue and its applied aspects
- • Anatomy and its applied aspects of salivary glands, pharynx, thyroid and parathyroid gland, larynx, trachea, esophagus
- • Autonomous nervous system of head and neck
- • Functional anatomy of mastication, deglutition, speech, respiration and circulation
- • TMJ: anatomy and function

Applied Physiology:

Introduction, Mastication, deglutition, digestion and assimilation, Homeostasis, fluid and electrolyte balance. Blood composition, volume, function, blood groups and

hemorrhage, Blood transfusion, circulation, Heart, Pulse, Blood pressure, Normal ECG, capillary and lymphatic circulation, shock, respiration, control, anoxia, hypoxia, asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroid glands and sex hormones. Role of calcium and Vit D in growth and development of teeth, bone and jaws. Role of Vit. A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatory system. Speech mechanism, swallowing and deglutition mechanism, salivary glands and Saliva

Applied Pathology:

Inflammation and chemical mediators, Thrombosis, Embolism, Necrosis, Repair, Degeneration, Shock, Hemorrhage, Blood dyscrasias, Pathogenesis of Dental Caries, Periodontal diseases, tumors, oral mucosal lesions etc. in children

Applied Microbiology:

Microbiology & Immunology as related to Oral Diseases in Children: Basic concepts, immune system in human body, Auto Immune diseases and Immunology of Dental caries.

Applied Nutrition & Dietetics:

- • General principles, balanced diet, effect of dietary deficiencies and starvation, protein energy, malnutrition, Kwashiorkor, Marasmus.
- • Fluid and Electrolytic balance in maintaining haemostasis
- • Diet, digestion, absorption, transportation and utilization

Genetics:

- • Introduction to genetics
- • Cell structure, DNA, RNA, protein synthesis, cell division
- • Modes of inheritance
- • Chromosomal anomalies of oral tissues & single gene disorders

Growth & Development:

Prenatal and Postnatal development of cranium, face, jaws, teeth and supporting structures. Chronology of dental development and development of occlusion. Dimensional changes in dental arches. Cephalometric evaluation of growth.

B) Pediatric Dentistry:

Child Psychology:

Development & Classification of behavior, personality, intelligence in children, theories of child psychology, stages of psychological child development, fear, anxiety, apprehension & its management.

- Behavior Management: Non- pharmacological & Pharmacological methods
- Child Abuse & Dental Neglect:

Conscious Sedation:

- Deep Sedation & General Anesthesia in Pediatric Dentistry: (Including Other Drugs, Synergic & Antagonistic Actions of Various Drugs Used in Children)

Preventive Pedodontics:

Concepts, chair side preventive measures for dental diseases, high-risk caries including rampant & extensive caries – Recognition, Features & Preventive Management, Pit and Fissures Sealants, Oral Hygiene measures, Correlation of brushing with dental caries and periodontal diseases. Diet & Nutrition as related to dental caries. Diet Counseling

Dental Plaque:

Definition, Initiation, Pathogenesis, Biochemistry, and Morphology & Metabolism.

Gingival & Periodontal diseases in Children:

- Normal Gingiva & Periodontium in children.
- Gingival & Periodontal diseases – Etiology, Pathogenesis, Prevention & Management

Pediatric Operative Dentistry:

- Principle of Operative Dentistry along with modifications of materials/past, current & latest including tooth colored materials.
- • Modifications required for cavity preparation in primary and young permanent teeth.
- • Various Isolation Techniques
- • Restorations of decayed primary, young permanent and permanent teeth in children using various restorative material like Glass Ionomer, Composites, Silver, Amalgam & latest material (gallium)
- Stainless steel, Polycarbonate & Resin Crowns / Veneers & fibre post systems. • Primary Dentition: - Diagnosis of pulpal diseases and their management – Pulp capping, Pulpotomy, Pulpectomy (Materials & Methods), Controversies & recent concepts.
- Young permanent teeth and permanent teeth, Pulp capping, Pulpotomy, Apexogenesis, Apexification, Concepts, Techniques and Materials used for different procedures.
- Recent advances in Pediatric diagnosis and Endodontics.

Pediatric Endodontics:

Prosthetic consideration in Pediatric Dentistry.

Traumatic Injuries in Children:

- • Classifications & Importance.
- • Sequelae & reaction of teeth to trauma.
- • Management of Traumatized teeth with latest concepts.
- • Management of jaw fractures in children.

Interceptive Orthodontics:

- • Concepts of occlusion and esthetics: Structure and function of all anatomic components of occlusion, mechanics of articulations, recording of masticatory function, diagnosis of Occlusal dysfunction, relationship of TMJ anatomy and pathology and related neuromuscular physiology.
- A comprehensive review of the local and systemic factors in the causation of malocclusion.
- • Recognition and management of normal and abnormal developmental occlusions in primary, mixed and permanent dentitions in children (Occlusal Guidance).
- • Biology of tooth movement: A comprehensive review of the principles of teeth movement. Review of contemporary literature. Histopathology of bone and Periodontal ligament, Molecular and ultra cellular consideration in tooth movement.
- Myofunctional appliances: Basic principles, contemporary appliances: Design & Fabrication
- Removable appliances: Basic principles, contemporary appliances: Design & Fabrication
- Case selection & diagnosis in interceptive Orthodontics (Cephalometrics, Image processing, Tracing, Radiation hygiene, Video imaging & advance Cephalometric techniques).
- Space Management: Etiology, Diagnosis of space problems, analysis, Biomechanics, Planned extraction in interceptive orthodontics.

Oral Habits in Children

- Definition, Etiology & Classification
- Clinical features of digit sucking, tongue thrusting, mouth breathing & various other secondary habits.
- Management of oral habits in children

Dental care of Children with special needs:

Definition, Etiology, Classification, Behavioral, Clinical features & Management of children with:

- Physically handicapped conditions
- Mentally compromising conditions
- Medically compromising conditions
- Genetic disorders • Historical background
- Definition, Aetiology & Pathogenesis
- Caries pattern in primary, young permanent and permanent teeth in children.
- Rampant caries, early childhood caries and extensive caries. Definition, aetiology, Pathogenesis, Clinical features, Complications & Management.
- Role of diet and nutrition in Dental Caries
- Dietary modifications & Diet counseling.
- Subjective & objective methods of Caries detection with emphasis on Caries Activity tests, Caries prediction, Caries susceptibility & their clinical Applications

Oral manifestations of Systemic Conditions in Children & their Management

Management of Minor Oral Surgical Procedures in Children

Dental Radiology as related to Pediatric Dentistry

Cariology:

Historical background

- Definition, Aetiology & Pathogenesis
- Caries pattern in primary, young permanent and permanent teeth in children.

- Rampant caries, early childhood caries and extensive caries. Definition, aetiology, Pathogenesis, Clinical features, Complications & Management.
- Role of diet and nutrition in Dental Caries
- Dietary modifications & Diet counseling.
- Subjective & objective methods of Caries detection with emphasis on Caries Activity tests, Caries prediction, Caries susceptibility & their clinical Applications.

Pediatric Oral Medicine & Clinical Pathology: Recognition & Management of developmental dental anomalies, teething disorders, stomatological conditions, mucosal lesions, viral infections etc.

Congenital Abnormalities in Children: Definition

Dental Emergencies in Children and their Management.

Dental Materials used in Pediatric Dentistry.

C) Preventive Dentistry:

- Definition
- Principles & Scope
- Types of prevention
- Different preventive measures used in Pediatric Dentistry including fissure sealants and caries vaccine.

Dental Health Education & School Dental Health Programmes:

Dental health concepts, Effects of civilization and environment, Dental Health delivery system, Public Health measures related to children along with principles of Pediatric Preventive Dentistry

Fluorides:

- • Historical background
- • Systemic & Topical fluorides
- • Mechanism of action
- • Toxicity & Management.
- • Defluoridation techniques.

Medico legal aspects in Pediatric Dentistry with emphasis on informed consent.

Counseling in Pediatric Dentistry

Case History Recording: Outline of principles of examination, diagnosis & treatment planning. **Epidemiology:** Concepts, Methods of recording & evaluation of various oral diseases. Various national & global trends of epidemiology of oral diseases.

Comprehensive Infant Oral Health Care.

Principles of Bio-Statistics & Research Methodology & Understanding of Computers and Photography

Comprehensive cleft care management with emphasis on counseling, feeding, nasoalveolar bone remodeling, speech rehabilitation.

Setting up of Pediatric Dentistry Clinic.

Emerging concepts in Pediatric Dentistry of scope of lasers / minimum invasive procedures in Pediatric Dentistry.

SYLLABUS

PART – I (Basic sciences)

Compulsory subjects:

1. Applied Anatomy
2. Applied Physiology and Biochemistry
3. Applied Pathology and Microbiology
4. Applied Pharmacology (especially related to pregnancy lactation and children below 14 years)
5. Applied Dental Materials

Allied subjects:

6. Biostatistics and Research Methodology
7. Nutrition and Dietetics
8. Teaching and Testing Methodology
9. Computer Application and Photography

Part – II

1. Child development : Principles and Theories of growth and development, effects of prenatal and postnatal factors. Details of pedologic anatomy, growth and development of skull, facial skeleton, dentition and occlusion, psychological development of the child including personality, intelligence and emerging principles of development of social behavior and communication skill.
2. Principles and practice of behavior management including counseling and pain control.
3. Pediatric dental practice management and utilization of dental Auxiliaries.
4. Pediatric conservative/Restorative Dentistry and Endodontics.
5. Principles of oral microbiology, immunology and Human genetics as applied to Pedodontics.
6. Recent advances and application of dental materials and technology.
7. Dental radiology including recent trends in imaging.

8. Fractures of teeth and facial skeleton in children including emergencies and oral surgical principles.
9. Pediatric Oral medicine and Clinical Pathology.
10. Principles of Oral hygiene, dental plaque, gingival and periodontal diseases in children.
11. Principles and practice of diagnosis and treatment of incipient malocclusion, preventive and interceptive orthodontics.
12. Elements of nutrition and dental health in children.
13. Management of children with cleft lip / palate, handicapped and medically compromised children.
14. Principles of epidemiology of dental diseases including Indian and Global Prevalence.
15. Principles of Cariology / Cariology update.
16. Ephebodontics or Adolescent Dentistry.
17. Dental health: principles and practice, primary health care, dental health education and promotion, dental health delivery systems and community health programs.
18. Preventive dentistry: Principles of children's preventive and community dentistry.
19. Fluorides and trace elements in dentistry.
20. Biostatistics and Research Methodology.

Annexure - II

PRE- CLINICAL EXERCISES:

1. All the following exercises should be completed by drawing album and records
 - a. Table showing chronology of eruption of teeth
 - b. Table showing tooth dimensions
 - c. Pulp morphology
 - d. Development of dentition at different ages
 - e. Development of occlusion at different ages

- f. Diagram showing cephalometric points , planes and angles
- g. Table showing differences between primary , young permanent and permanent teeth
- h. Table showing modification of cavity preparation for primary teeth
- i. Mixed dentition analysis, principles and measurements
- j. Principles of soldering and welding
- k. Principles and methods of rubber dam

2. Carve all deciduous teeth in wax (ten only).

abcde

abcde

3. Complete set up of dentition at age of 8 years.

6edc21 12cde6

6edc21 12cde6

4. Complete set of up dentition at the age of 10 years

6e4c21 12c4e6

6e4c21 12c4e6

5. Preparation of special trays with upper and lower impressions of 3 yrs old child.

6. Models – models of children with normal occlusion at age 3,7,11 and 14 years

7. Cephalogram- Cephalogram learning and analysis of children with normal occlusion and morphology at 3,7,11 and 14 years.

8. Mixed dentition analysis – 1 case

9. Basic orthodontic exercises

A. Straightening of wire (6"-1 9 gauge)

B. Square, triangle and circle formation (2")

C. Clasps – different types

1. 3/4th clasp

2. Full clasp
3. Adams clasp
4. Arrowhead clasp
5. Modified arrowhead clasp
6. Ball clasp

D. Labial bow- different types

1. Short labial bow
2. Long labial bow
3. High labial bow with apron spring
4. Split labial bow

E. Multiple loop exercises- different types of springs

1. Finger spring
2. Single cantilever
3. Double cantilever spring
4. Canine retractors
 1. U-loop,
 2. Helical,
 3. Palatal canine retractors and
 4. Roberts retractor
 5. Buccal canine retractor

F. Soldering exercises –Lamp post formation

10. Appliances.

a. Space maintainers

1) Removable type-

a. Functional- Unilateral, Bilateral

b. Non- functional- Unilateral, Bilateral

2) Fixed type

a) Band and loop (long & short loop)

b) Trans-Palatal and Nance palatal holding arches

- c) Lingual arch with canine stoppers
 - d) Space maintainer for guiding eruption of first permanent molar
- b. Space regainers for distalizing first permanent molar
 - 1. Removable type.
 - 2. Fixed type
- c. Habit-breaking appliances.
 - 1. Removable- Palatal crib for tongue thrusting
 - 2. Fixed- for thumb sucking
 - 3. Blue grass appliance
 - 4. Oral screen
 - 5. Soft splint for Bruxism
 - 6. Lip Bumper
- d. Expansion plates with coffin spring and expansion screw
- e. Hawley's appliance- For retention, for retraction
- f. Hawley's appliance with anterior bite plane
- g. Posterior bite plane with single and double cantilever springs.
- h. Upper inclined plane and lower inclined plane
- i. Upper appliance with finger springs to correct midline diastema
- j. Upper canine retraction appliance with helical and U-loop springs
- k. Twin block appliance
 - l. Activator
- m. Feeding appliances

11. Conservative and Endodontic exercises (on Typhodont / extracted teeth)

- a. Class –II cavity in 64, 65 and 84,85
- b. Stainless steel crown on 74 and 85
- c. Pulpotomy in 75
- d. Pulpectomy in extracted teeth 51, 61,54 or 64, 55 or 65, 75 or 85
- e. Class – II MOD in 46
- f. Class – I mesial and distal pit with palatal extension in 26
- g. Class – I with buccal extension on 36 or 46
- h. Acrylic Jacket crown on 12 or 22 and 31 or 41
- i. Strip crown on 51 or 61
- j. RCT in extracted teeth 16, 22, 23 36, or 46
- k. Apexification
- l. Post and core crown on 11 or 21,
- m. Fibre post
- n.. Splint- Wire-Composite splint
- o. Tooth preparation and fabrication of various temporary and permanent restorations on fractured anterior teeth
- p. Veneers

12. Proforma of behavioral rating scales and tests for children

13. Computation of –

- a. Caries index and performing various caries activities tests

- b. Oral hygiene index
- c. Periodontal index
- d. Fluorosis indices

14. Oral Radiology

- a. Write up about periapical, Occlusal, OPG & bitewing radiographs in children
- b. Developing and processing of films – write up.
- c. Tracing of soft tissue dental and skeletal landmarks as observed.
- d. Drawing of various planes and angles

15. Fixed appliance technique

Training shall be imported in one basic technique i.e, Begg Technique or its derivative / Edge wise / Straight wire etc., with adequate exposure to other techniques.

- a. Band pinching
- b. Bracket positioning and placement
- c. Different stages in treatment appropriate to technique taught

16 Surgical exercises

- a. Fabrication of splints
- b. Types of wiring
- c. suturing

17. Sectioning of the teeth at various levels and planes

Annexure III - CLINICAL REQUIREMENTS

The following is the minimum required quota to be completed before the candidate can be considered eligible to appear in the final MDS Examinations.

S.No.	Procedure		Minimum required no. of cases
1	Restorations	Class II	150
		Other restorative procedures	200
		Esthetic Restorations	25
2	Crowns	Acrylic full coverage crowns	10
		Stainless steel crowns	250
		Cast crowns	5
3	Endodontic Procedures in deciduous teeth	Pulpectomy	200
		Pulpotomy	50
4	Endodontic Procedures in permanent teeth	Molars	30
		Incisors	20
5	Apexification / Apexogenesis		30
6	Apicectomy		5
7	Full mouth rehabilitation cases under GA		15
8	Space Maintainers		60

9	Habit breaking appliances	Oral screen Bite plate Thumb sucking habit & others	15
10	Functional Appliances		5
11	Fluoride application		200
12	Pit and Fissure sealant		200
13	Minor Surgical procedures		5
14	Management of traumatized anterior teeth		15
15	School dental health program		3
16	Camps		3

All cases must be documented, with complete records, with at least 6 months to 1 year follow-up.

Annexure IV - Sample Question papers

Part I – Basic Sciences

Answer all questions. (10×10= 100)

1. Describe the physiology and importance of blood coagulation. explain in detail the bleeding disorders.
2. Describe the composition of saliva. Discuss the role of saliva in health and disease.
3. Dietary recommendations in children with caries risk.
4. Describe the anatomy of TMJ. Write briefly about TMJ disorders in Children.
5. Define growth and development. Critically evaluate various theories of growth.
6. Discuss the nerve supply of primary and permanent teeth, and their supporting structures along with the applied aspects of the same.
7. Discuss the factors influencing prenatal development of face.
8. Classify Leucocytes. Give an account of Leucopoiesis.. Mention normal counts of granulocytes and give their functions.
9. Describe inflammation in detail.
10. Classify anti microbial drugs. Discuss the most commonly used antibiotics in Children.

Part II

Paper I- Clinical Pedodontics

Answer all questions

Essays: . (2×25= 50)

1. Discuss the treatment options and prognosis in a 5 1/2 year old child with dental caries in 85 and dento- alveolar abscess.
2. Discuss in detail the management of avulsed permanent maxillary central incisor in a 8 year old child, with emphasis on periodontal healing reactions.

Short Notes: . (5×10= 50)

3. Fejerskov's index
4. Immunization hazards
5. Modifications of Stainless steel crowns
6. Management of Ankyloglossia
7. Management of Complications of Local Anesthesia in Children.

Paper II- Preventive Pedodontics

Answer all questions

Essays: . (2×25= 50)

1. Discuss in detail the applications of Xylitol in Children.
2. Discuss in detail the various preventive measures for dental caries .

Short Notes: . (5×10= 50)

3. Fluoride Varnishes
4. Mouth guards
5. T- test
6. Prevention of Child Abuse and neglect
7. Merits and Demerits of school dental health programs.

Paper III- Recent Advances in Pediatric Dentistry

Answer any two questions.

Essays: . (2×50= 100)

1. Lasers in Pediatric Dentistry
2. Dental Caries Vaccine.
3. Minimal Intervention Dentistry, as applied to Pediatric Dentistry.

B. Practical / Clinical Examination : 200 Marks

The Clinical / Practical and Viva-Voce Examinations are conducted for a minimum of two days.

First Day:

1. Case Discussion, Pulp Therapy i.e. Pulpectomy on a Primary Molar.

Case Discussion : 20 marks

Rubber Dam application : 10 marks

Working length X-ray : 20 marks

Obturation : 20 marks

Total 70 marks

2. Case Discussion, Crown preparation on a Primary Molar for Stainless steel crown and cementation of the same.

Case discussion : 10 marks

Crown Preparation : 20 marks

Crown selection and Cementation : 20 marks

Total 50 marks

3. Case Discussion, band adaptation for fixed type of space maintainer and impression making.

Case discussion : 20 marks

Band adaptation : 20 marks

Impression : 20 marks

Total 60 marks

Second Day:

1. Evaluation of Fixed Space Maintainer and Cementation : 20 marks

C. Viva Voce : 100 Marks

i. Viva-Voce examination : 80 marks

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy Exercise : 20 marks

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

Annexure V - List of Seminar topics

V-A: Basic Sciences

1. Nerve supply of teeth
2. Blood supply and Lymphatics of face
3. Anatomy of TMJ, TMJ disorders
4. Cranial nerves
5. Muscles of mastication
6. Embryology of oral structures
7. Genetics - basics; Its role in dental diseases
8. Immunology
9. Sterilization and Disinfection
10. Oral microflora
11. Inflammation
12. Shock
13. Wound healing
14. Balanced diet and its role in oral health
15. Composition and Functions of blood. Add a note on Erythropoiesis.
16. Clotting factors and mechanisms. Bleeding disorders

17. Salivary glands. Composition and Functions of saliva

18. Taste pathway

19. Pain pathway

20. Vitamins and Minerals

V-B: Pediatric & Preventive Dentistry

1. Theories of child psychology
2. Development of behavior in children
3. Classification of behavior, factors influencing behavior, behavioral disorders
4. Techniques of behavior management (psychological and pharmacological management)
5. Management of children in dental office – importance of first dental visit
6. Restorative materials used in pediatric dentistry
7. Radiology in pediatric dentistry
8. Principles of cavity preparation, its modifications in primary teeth
9. Isolation of teeth
10. Temporary and semi-permanent restoration
11. Endodontics in primary teeth
12. Pulp treatment in young permanent teeth
13. Fractures of anterior teeth, classification and management, discoloration of teeth and its management
14. Dental caries: Etiology, classification and Histopathology
15. Dental plaque: Its development and relation with dental caries and periodontal diseases
16. Diet and dental caries, Diet counseling
17. Nursing caries
18. Immunology of dental caries
19. Caries vaccine
20. Pit and fissure sealants

21. Oral hygiene methods to improve the oral hygiene status: Different brushing techniques, control of plaque, mechanical and chemical plaque inhibitors
22. Common gingival and periodontal diseases in children
23. Oral manifestations of systemic diseases in children
24. Principles of growth and development, various theories of growth
25. Parameters of growth assessment, methods of growth prediction
26. Craniofacial anomalies
27. Development of dentition
28. Deleterious oral habits in children: classification and management
29. Mixed dentition analysis: various methods
30. Malocclusion: classification and etiology
31. Cephalometrics
32. Serial extraction procedures
33. Space management
34. Transient malocclusions
35. History of fluorides
36. Biomechanics of fluorides
37. Topical fluorides
38. Toxicity of fluorides, Defluoridation
39. Handicapped children, management of disabled children
40. Medical emergencies in pediatric dental practice
41. Minor oral surgery in Pedodontics
42. Drugs used in pediatric dental practice
43. Epidemiology of dental caries and periodontal diseases
44. Caries and periodontal Indices
45. Trends in Dental Caries
46. Ephebodontics – adolescent Dentistry
47. Applied anatomy and physiology for children
48. Genetics in Pediatric Dentistry
49. Prosthodontic Considerations in children
50. Bio-Statistics

Annexure VI - List of Recommended Books & Journals:

Books:

1. A Color atlas of Oral diseases in Children and Adolescents – Crippian and Scully
2. An Atlas of Glass Ionomer Cements – G. J. Mount
3. Cariology today – Guggenheim
4. Child development – Gessen and Ilq
5. Child management in Dentistry – Wright
6. Clinical Pedodontics – Sydney B. Finn
7. Clinical Use of Fluorides – Stephen H Y Wei
8. Common drugs in Pediatrics: 8th Edition – Santhanakrishnan BR
9. Community dental health – Jong
10. Community oral health – Edited by – Cynthia M. Pine
11. Conscious Sedation and Analgesia – Watson
12. Contemporary Orthodontics – Proffit
13. Dental caries : Etiology, Pathology and Prevention – Silverstone
14. Dental health education – Stoll
15. Dentistry and the Handicapped patient – Kenneth E Wessels
16. Dentistry for the Adolescent – Castaldi and Brass
17. Dentistry for the child Adolescent: 7th Edition – McDonald R E and David R Avery
18. Disease prevention and oral health promotion – Cohen and Gift
19. Drugs in pregnancy and Lactation – Gerald G Briggs
20. Endodontic practice – Grossman
21. Endodontics – Ingle

22. Essentials of Preventive and Community dentistry – Soben Peter
23. Fluoride in Dentistry – Fejerskov, Ekstrand and Burt
24. Fluorides in caries prevention – Murray, Rugg Gunn and Jenkins
25. Fundamentals of Pediatric Dentistry – Mathewson R J and Primosch R E – 3rd Edition
26. Hand book of Pediatric dentistry – Cameron and Widmer
27. Hand book of Pedodontics – Kenneth D
28. Kennedy's Pediatric Operative Dentistry – Kennedy and Curzon
29. Management of Dental Behavior in child : Volume 1 – Louis W Ripa
30. Manual of Pedodontics – Andlaw and Rock
31. Medical emergencies in children – Meharban Singh
32. Nutrition in preventive dentistry: Science and Practice – Nizel
33. Occlusal Guidance in Pediatric Dentistry – Minoru Nakata & Stephan H Y Wei
34. Oral health care systems – WHO
35. Oral health surveys: Basic methods- WHO
36. Pathways of Pulp – Cohen and Burns
37. Pediatric Dental Medicine – Forrester DJ
38. Pediatric Dentistry – Stewart, Barber, Trautman and Wei
39. Pediatric Dentistry Total Patient Care – Stephen H Y Wei
40. Pediatric Dentistry : Infancy through Adolescence – Pinkham JR – 3rd Edition
41. Pediatric Drug Therapy – Tomare
42. Pediatric Medical Emergencies – P.S. Whatt
43. Pediatric Oral and Maxillofacial Surgery – Kaban
44. Pediatric orofacial medicine and pathology – Hall
45. Pedodontics : a clinical approach – Goran Kuch
46. Preventive Dentistry - Forester
47. Primary Preventive Dentistry – Norman O. Harris
48. Principles of Endodontics- Munford
49. Psychology – Crider, Goethals and Kavanaugh
50. Sedation in Dentistry – Girtler and Hill
51. Self assessment picture tests in Pediatric dentistry – Linda

52. Surgical Endodontics – Gutmann
53. Text book of Clinical Cariology – Thylstrup and Fejerskov
54. Text book Pediatric Dentistry – Braham and Morris
55. The Biologic basis of Dental Caries – Lewis Manekar
56. The Management of Traumatized Anterior Teeth of Children – Hargreaves J A
57. The Metabolism and Toxicity of Fluoride – G. M. Whitford
58. The Prevention of Dental Disease – Murray
59. Traumatic Injuries of Anterior Teeth – Andreasen
60. Understanding Dental caries – Gordon Nikiforuk

Specialty Journals:

1. ASDC journal of Dentistry for Children
2. International Journal of Pediatric Dentistry
3. Paediatric Dentistry
4. Journal of Clinical Paediatric Dentistry
5. Journal of Indian Society of Pedodontics and Preventive Dentistry
6. European Archives of Paediatric Dentistry
7. European Journal of Paediatric Dentistry
8. Paediatric Dental Journal
9. Journal of Dentistry for Children

Other journals:

1. Acta Odontologica Scandinavia
2. American Journal of Orthodontics
3. American Journal of Orthodontics & Dento Facial Orthopedics
4. Annals of Dentistry
5. Australian Dental Journal
6. Australian Endodontics Journal
7. British Dental Journal
8. British Journal of Orthodontics

9. Caries Research
10. Community Dental Health
11. Community Dentistry and Oral Epidemiology
12. Dental Abstracts
13. Dental Clinics of North America
14. Dental Materials
15. Dental Update
16. Endodontics & Dental Traumatology
17. European Journal of Orthodontics
18. Fluorides
19. International Journal Of Computerized Dentistry
20. International Journal Of Endodontics
21. Journal of American College of Dentists
22. Journal of Clinical Orthodontics
23. Journal of Dental Education
24. Journal of Dental Research
25. Journal of Dentistry
26. Journal of Endodontics
27. Journal of Indian Dental Association
28. Journal of Oral pathology & Medicine
29. Journal of Public Health Dentistry
30. Journal of The American Dental Association
31. Operative Dentistry
32. Oral Surgery, Oral Medicine & Oral Pathology
33. Quintessence International
34. Special Care Dentistry
35. The Journal Of Adhesive Dentistry