



Accredited with NAAC **A** Grade

12-B Status from UGC

TEERTHANKERMAHAVEERUNIVERSITY
 (Established under Govt. of U.P. Act No.30,2008)
 Delhi Road, Moradabad (U.P.)

PhD PROGRAMME

**SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE
 PEDODONTICS AND PREVENTIVE DENTISTRY**

Course Code: PDS240122	PEDODONTICS AND PREVENTIVE DENTISTRY	L	T	P	C
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Objective:	The Training Program in Pediatric and Preventive Dentistry Is Structured To Achieve The Following Five Objectives: Knowledge, Skills, Attitude, Communicative Skills and Ability Research				
Course Outcomes:					
Co 1:	Understanding dental health concepts Students will learn about dental health concepts, the effects of the environment and civilization, and the dental health delivery system.				
Co 2:	Learning about pediatric preventive dentistry Students will learn the principles of pediatric preventive dentistry and public health measures for children				
Co 3:	Developing counseling skills Students will learn to develop counseling skills in pediatric dentistry				
Co 4:	Treating dental diseases Students will learn to treat dental diseases in children. Restoring lost tooth structure Students will learn to repair and restore lost tooth structure to maintain harmony between the hard and soft tissues of the oral cavity. Managing disabled children Students will learn to manage disabled children effectively and efficiently.				
Co 5:	Educating patients Students will learn to educate patients about the etiology and prevention of oral disease. Administering hygiene instructions Students will learn to administer hygiene instructions, topical fluoride therapy, and fissure sealing. Diagnosing periodontal problems				

	Students will learn to diagnose periodontal problems and plan and perform appropriate treatment.
Course Content:	
Unit 1:	Child Psychology: Development & Classification of behavior, personality, intelligence in children, theories of child psychology, stages of psychological child development, fear, anxiety, apprehension & its management.
Unit 2:	Behavior Management: Non- pharmacological & Pharmacological methods.
Unit 3:	Child Abuse & Dental Neglect
Unit 4:	Conscious Sedation: Deep Sedation & General Anesthesia in Pediatric Dentistry: (Including Other Drugs, Synergic & Antagonistic Actions of Various Drugs Used in Children)
Unit 5:	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.
Unit 6:	Dental Plaque: Definition, Initiation, Pathogenesis, Biochemistry, and Morphology & Metabolism.
Unit 7:	Gingival & Periodontal Diseases in Children: Normal Gingiva & Periodontium in children. Gingival & Periodontal Diseases – Etiology, Pathogenesis, Prevention & Management
Unit 8:	Pediatric Operative Dentistry: Principle of Operative Dentistry along with modifications of materials/past, current & latest including tooth-colored materials, Modifications are required for cavity preparation in primary and young permanent teeth, Various Isolation Techniques, Restorations of decayed primary,

	<p>young permanent, and permanent teeth in children using various restorative materials like Glass Ionomer, Composites, Silver, Amalgam & latest material (gallium) Stainless steel, Polycarbonate & Resin Crowns / Veneers & fiber post systems.</p>
Unit 9:	<p>Pediatric Endodontics: 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. Prosthetic Consideration in Pediatric Dentistry.</p>
Unit 10:	<p>Traumatic Injuries in Children: Classifications & Importance. Sequelae & reaction of teeth to trauma. Management of Traumatized teeth with the latest concepts. Management of jaw fractures in children.</p>
Unit 11:	<p>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, the 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),</p> <p>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,</p> <p>Myofunctional appliances: Basic principles, contemporary appliances: Design & Fabrication,</p> <p>Removable appliances: Basic principles, contemporary appliances: Design & Fabrication Case selection & diagnosis in interceptive Orthodontics (Cephalometrics, Image processing, Tracing, Radiation hygiene, Video imaging & advanced Cephalometric techniques)</p> <p>Space Management: Etiology, Diagnosis of space problems, analysis, Biomechanics, Planned extraction in interceptive orthodontics.</p>
Unit 12:	<p>Oral Habits in Children: Definition, Etiology & Classification. Clinical features of digit sucking, tongue thrusting, mouth breathing & various other secondary habits.</p>

	Management of oral habits in children.
Unit 13:	<p>Dental care of Children with special needs:</p> <p>Definition, Etiology, Classification, Behavioral, Clinical features & Management of children with: Physically handicapped conditions. Mentally compromising conditions. Medically compromising conditions. Genetic disorders Oral manifestations of Systemic Conditions in Children & their Management Management of Minor Oral Surgical Procedures in Children Dental Radiology as related to Pediatric Dentistry.</p>
Unit 14:	<p>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, etiology, 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.</p>
Unit 15:	<p>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, Classification, Clinical Features & Management.</p>
Unit 16:	Dental Emergencies in Children and their Management
Unit 17:	Dental Materials Used in Pediatric Dentistry
Unit 18:	<p>Preventive Dentistry: Definition. Principles & Scope. Types of prevention. Different preventive measures are used in Pediatric Dentistry including fissure sealants and caries vaccine.</p>
Unit 19:	<p>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.</p>
Unit 20:	<p>Fluorides: Historical background, Systemic & Topical fluorides, Mechanism of action, Toxicity & Management, Defluoridation techniques.</p>

Unit 21:	Medico-legal aspects in Pediatric Dentistry with emphasis on informed consent
Unit 22:	Counseling in Pediatric Dentistry
Unit 23:	Case History Recording: Outline of principles of examination, diagnosis & treatment planning
Unit 24:	Epidemiology: Concepts, Methods of recording & evaluation of various oral diseases. Various national & global trends of the epidemiology of oral diseases.
Unit 25:	Comprehensive Infant Oral Health Care
Unit 26:	Principles of Bio-Statistics & Research Methodology & Understanding of Computers and Photography
Unit 27:	Comprehensive cleft care management with emphasis on counseling, feeding, nasoalveolar bone remodeling, and speech rehabilitation.
Unit 28:	Setting up of Pediatric Dentistry Clinic.
Unit 29:	Emerging concepts in Pediatric Dentistry of the scope of lasers / minimum invasive procedures in Pediatric Dentistry.
Textbooks:	<ol style="list-style-type: none"> 1. McDonald and Avery's Dentistry for the Child and Adolescent 2. Pediatric Dentistry: Infancy Through Adolescence 3. Textbook of pediatric dentistry – Nikhil Marwah 4. Pediatric Dentistry: Richard Welbury, Monty S. Duggal Fundamentals of Pediatric Dentistry: Richard J. Mathewson
Reference Books:	<ol style="list-style-type: none"> 1. Phillips' Science of Dental Materials; Arvind Shenoy & K Chandrasekharan Nair. 2. Journal of Indian society of pedodontics and preventive dentistry 3. Pediatric Dentistry Journal 4. Journal Of Clinical Pediatric Dentistry