TEERTHANKERMAHAVEERUNIVERSITY

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DelhiRoad,Moradabad(U.P.)

PhD PROGRAMME

SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE ORAL & MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY

Course Code: PDS240120	**ORAL & MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY**	**L**	**T**	**P**	**C**
		0	**0**	**0**	**4**
Objective:	To train a postgraduate dental surgeon to ensure higher competence in both general and special pathology dealing with the nature of oral diseases, their causes, processes, and effects. An oral pathologist is expected to perform routine histopathological evaluation of specimens relating to oral and perioral tissues, to carry out routine diagnostic procedures including hematological, cytological, microbiological, Immunological, and ultra-structural investigations. He/she is expected to understand current research methodology, collection and interpretation of data, ability to carry out research projects on clinical and epidemiological aspects, a working knowledge of current databases, automated data retrieval systems, referencing, and skill in writing scientific papers. He/she is expected to present scientific data about the field in conferences both as poster and verbal presentations and to take part in group discussions.				
Course Outcomes:					
CO 1:	Students should possess knowledge about the manifestations of common lesions affecting the oral and para-oral structures.				
CO 2:	Students should be able to understand the basic principles and concepts of Forensic Odontology				
CO 3:	Students should be competent in identifying histopathological features of oral diseases in microscopic slides				
CO 4:	Students should be able to understand the histological aspects & functions of the oral tissues.				
CO 5:	Students should be competent in identifying histological slides of oral tissues and ground sections of teeth				
Course Content:					
Unit 1:	**ORAL AND DENTAL PATHOLOGY:** Developmental disorders of oral and paraoral structures Potentially malignant disorders Benign and malignant tumors of the oral cavity Odontogenic cysts and tumors				

	Pathology of salivary glands Regressive alterations of teeth Bacterial, fungal, viral, and protozoal infections of the oral cavity Dental care Diseases of pulp and periapical region Spread of oral infection Healing of oral wounds Physical and chemical injuries of the oral cavity Oral aspects of metabolic diseases Diseases of bones and joints Diseases of the skin and mucous membrane Diseases of periodontia Diseases of blood and blood-forming organs Diseases of nerves and muscles Oro-facial pain Immunological diseases of the oral cavity including tumor immunology Molecular pathology Oral Microbiology
Unit 2:	**BASIC HISTO-TECHNIQUES AND MICROSCOPY:** Enzyme histochemistry Principles, techniques and applications of immunofluorescence Principles, techniques and applications of immunohistochemistry Preparation of frozen sections Museum set up Quality control Animal models
Unit 3:	**RECENT MOLECULAR TECHNIQUES:** Basic principles, techniques, and applications of – PCR BLOTS Hybridization Recombinant DNA technology Microarray DNA sequencing Cell culture and cloning
Unit 4:	**FORENSIC ODONTOLOGY:** Giant cell lesions Clear cell lesions Round cell lesions Spindle cell lesions

	Pigmented lesions Fibro-osseous lesions Mechanism of formation and expansion of cysts of orofacial region Mechanism of growth and metastasis of tumors Lab diagnosis of: Bacterial infections Lab diagnosis of viral infections Lab diagnosis of fungal infections
Unit 5:	Hamartomas Phakomatoses Vascular tumors of oro-facial region Genodermatoses Tumor markers Histogenesis of salivary gland tumors Tumor angiogenesis Concept of premalignancy Blue cell lesions Molecular basics of oral squamous cell carcinoma Matrix remodelling in pathological condition Etiopathogenesis of developmental defects of teeth Viral oncogenesis Lesions associated with impacted and missing teeth Syndromes affecting oro-facial region Hereditary oral defects Techniques to assess the prognosis of neoplastic lesions Vesiculo-bullous lesions Lymphoreticular malignancy Haemopoietic malignancy Micronutrients Oral aspects of metabolic disorders Hormones and oro-maxillofacial lesions Matrix metalloproteinases Current concepts in HIV related oral diseases Current concepts in OSMF Epithelial –connective tissue interaction Stem cell research
Textbooks:	1. Oral Pathology by Shafers 2. Oral Pathology by Neville 3. Fitzpatrick's Dermatology 4. Cyst of the oral cavity by Shears **5.** Odontogenic Tumors and Allied Lesions by Peter A. Reichart / Hans P. Philipsen

Reference Books:	1. Essential Pathology for Dental Students, Harsh Mohan 2. Oral Pathology, M.S Sant 3. Shafer's Textbook of Oral Pathology 4. Oral Pathology, K Manjunath 5. MCQs in Oral Pathology, T Rooban