



# TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)

Delhi Road, Moradabad (U.P.)

## Ph.D. PROGRAMME

### SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE

#### MEDICAL BIOCHEMISTRY

Course Code: PDS240179	CLINICAL BIOCHEMISTRY AND MOLECULAR BIOLOGY	L	T	P	C
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<b>Objective</b>	To equip the research scholars to apply knowledge, critical thinking, methodologies, and skills to address the fundamental questions in the respective areas of study and to pursue research of significance in the core discipline or an interdisciplinary area under the guidance of an advisor				
<b>Course Outcome</b>	<b>On completion of the course, the outcome should be</b>				
<b>CO 1</b>	To equip research scholars to understand, innovate, and conduct research on cancer biomarkers, RNP, and non-coding RNA signaling				
<b>CO 2</b>	To provide research training on targeting immunomodulation, inflammation, and cancer by natural and synthetic bioactive compounds				
<b>UNIT-I</b>	<b>CHEMISTRY OF BIOMOLECULES and METABOLISM-</b> To elucidate the secondary metabolite biosynthetic pathways and formulate strategies towards enhancing the production of these high-value low volume metabolites	<b>8 hours</b>			
<b>UNIT-II</b>	<b>MOLECULAR BIOLOGY</b> To conduct innovative research in the area of molecular biology, with a specific focus on pathogenic RNA viruses	<b>10 hours</b>			
<b>UNIT-III</b>	<b>CLINICAL BIOCHEMISTRY</b> To conduct original research addressing the global challenge of disease management and developing sustainable solutions	<b>8 hours</b>			
<b>UNIT-IV</b>	<b>TOOLS AND TECHNIQUES IN BIOCHEMICAL RESEARCH-</b> To provide advanced skills in the field of non-coding RNAs and cancer biology and equip the scholar to achieve competence in the latest molecular biology skills	<b>12 hours</b>			

<b>SUGGESTED READINGS:</b>	<ol style="list-style-type: none"> <li>1. Nelson D and Cox M. Lehninger Principles of Biochemistry, 5th Edition. Macmillan.</li> <li>2. Lodish et al., 2008, Molecular Cell Biology, 6th Edition, Freeman.</li> <li>3. Clinical diagnosis and management by laboratory methods- Author: John BernardHenry</li> <li>4. Wilson and Walker's Principles and Techniques of Biochemistry and Molecular Biology</li> </ol> <p><b>*The latest editions of all the suggested books are recommended.</b></p>	
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