

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE	
Board of Studies in Bioanalytical Sciences	
UG First Year Program	
Semester	II
Title of Paper	Credits - 2
1) Animal cell physiology	
From the Academic Year	2024-25

Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	The aim of Open elective is designed to provide co-curricular extension of subject domain in the Zoology and allied areas, where bioanalysts can get basics of human physiology and systems so that they are able to understand concepts like PK, PD, BA-BE etc. and be employable in fields like Clinical research, drug development, testing and allied areas.
2	Vertical :	Open Elective (Option II)
3	Type :	Theory & Practical
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	15 Hours and 30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: CO 1. Introduce students to the major concepts of animal cell. CO 2. Familiarize students with the parts of cells and their functions. CO 3. Better understanding of the animal cell physiology. CO 4. To correlate the applications of animal cell concepts in drug development and development based research areas.	
8	Course Outcomes: OC 1. Identify and describe the structures and parts of animal cells, tissues and organ systems OC 2. Gain knowledge of the classification system for animals. OC 3. Better understanding of the physiological basics of ADME. OC 4. Understand the physiological processes that occur in animal cells across the kingdom animalia in a comparative way	

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	Animal cell Physiology	[30]
	Unit 1 i) Structures and constituents of animal cell and its constituents ii) Importance of cells in understanding life processes.	[15]
	Unit II i) Characteristics of animal cell ii) Major animal phyla and their characteristics.	[15]
10	Reference Books: 1. "Molecular Biology of the Cell" by Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, and Peter Walter 2. "Zoology" by Stephen A. Miller and John P. Harley 3. "Animal Physiology" by Richard W. Hill, Gordon A. Wyse, and Margaret Anderson 4. "Essential Cell Biology" by Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter.	
11	Internal Continuous Assessment: 40%	External, Semester End Examination : 60% Individual Passing in Internal and External Examination
12	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	
13	Format of Question Paper: 30 Marks per paper Semester End Theory Examination: 1. Duration - These examinations shall be of one hour and 30 minutes duration. 2. Theory question paper pattern: a. There shall be 03 questions each of 10 marks on each unit b. All questions shall be compulsory with internal choice within the questions	

Sign of the BOS
Chairman
Dr. Prafullachandra
P.Tekale
Bioanalytical Sciences

Sign of the
Offg. Associate Dean
Dr. Madhav R. Rajwade
Faculty of Science &
Technology

Sign of the
Offg. Dean
Prof. Shivram S. Garje
Faculty of Science &
Technology