



DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

Lesson Plan & Work-done Diary for AY: 2025-26, EVEN Semester [CY]

Course with Code: <u>Biology for Engineering [BBOC407] [CY]</u>				Faculty: Mr. Thejas Gowda B			Semester & Section: IV	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1: CELL BASIC UNIT OF LIFE								
1		Introduction. Structure and functions of a cell.	PPT	1				
2		Stem cells and their application. Biomolecules: Properties and functions of Carbohydrates,	PPT	2				
3		Biomolecules: properties and functions of nucleic acids, proteins.	PPT	3				
4		Biomolecules: lipids. Importance of special biomolecules: Properties and functions of enzymes	PPT	4				
5		Properties and functions of vitamins and hormones	PPT	5				
MODULE -2: APPLICATION OF BIOMOLECULES								
6		Carbohydrates in cellulose-based water filters production, PHA and PLA in bioplastics production.	PPT	1				
7		Nucleic acids in vaccines and diagnosis.	PPT	2				



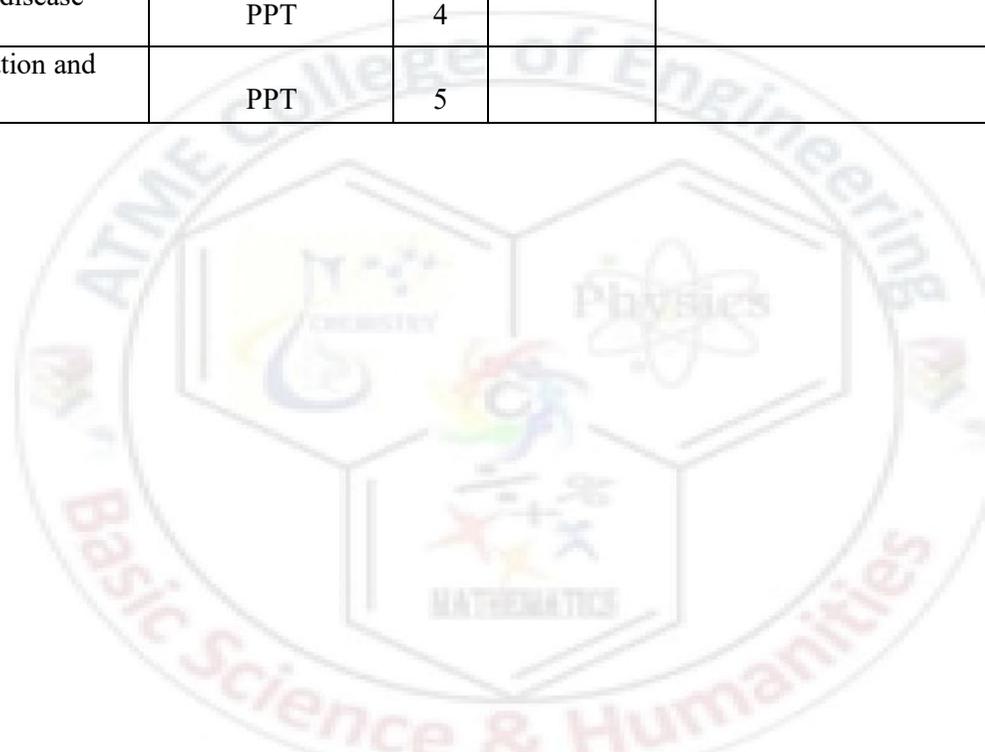
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8	Proteins in food production, lipids in biodiesel and detergents production.	PPT	3				
9	Enzymes in biosensors fabrication, food processing,	PPT	4				
10	Detergent formulation and textile processing.	PPT	5				
MODULE – 3: ADAPTATION OF ANATOMICAL PRINCIPLES FOR BIOENGINEERING DESIGN							
11	Brain as a CPU system.	PPT	1				
12	Eye as a Camera system.	PPT	2				
13	Heart as a pump system.	PPT	3				
14	Lungs as purification system	PPT	4				
15	Kidney as a filtration system.	PPT	5				
MODULE – 4: NATURE-BIOINSPIRED MATERIALS AND MECHANISMS							
16	Echolocation and Photosynthesis.	PPT	1				
17	Bird flying and Lotus leaf effect.	PPT	2				
18	Plant burrs, Shark skin and Kingfisher beak.	PPT	3				
19	Human Blood substitutes - hemoglobin-based oxygen carriers (HBOCs).	PPT	4				



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20		Perfluorocarbons (PFCs).	PPT	5				
MODULE – 5: TRENDS IN BIOENGINEERING								
21		Muscular and Skeletal Systems as scaffolds, scaffolds and tissue engineering.	PPT	1				
22		Bioprinting techniques and materials.	PPT	2				
23		Electrical tongue and electrical nose in food science and DNA origami.	PPT	3				
24		Biocomputing, Bioimaging and artificial intelligence for disease diagnosis.	PPT	4				
25		Bioconcrete, Bioremediation and Biomining.	PPT	5				





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Sl. No	Activity	Planned	Actual	Remarks
1	Theory Classes	25		
2	Assessments	1 Activity		
3	Quiz	5 (One per Module)		
3	Tutorials/ Extra classes/Bridge Courses	3		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	50%		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	