



## DEPARTMENT OF COMPUTER SCIENCE & DESIGN

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

Course with Code: <u>Biology for Engineering [BBOC407] [CG]</u>				Faculty: Ms. Tejaswini B M			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
<b>MODULE-1: CELL BASIC UNIT OF LIFE</b>								
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				
<b>MODULE -2: APPLICATION OF BIOMOLECULES</b>								
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			
<b>MODULE – 3: ADAPTATION OF ANATOMICAL PRINCIPLES FOR BIOENGINEERING DESIGN</b>						
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			
<b>MODULE – 4: NATURE-BIOINSPIRED MATERIALS AND MECHANISMS</b>						
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			
20	Perfluorocarbons (PFCs).	PPT	5			



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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			

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%		
<b>Planning</b>			<b>Execution</b>	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	