SAHYADRI
COLLEGE OF ENGINEERING & MANAGEMENT
An Autonomous Institution
MANGALURU

Fourth Semester B.E. Degree Examination, Sep/Oct 2023
BIOLOGY FOR ENGINEERS
(MODEL QUESTION PAPER)

Time: 3 hrs.   **Max. Marks: 100**

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Q. No.		Questions	Marks	BL/CO
		Module I		
1	a.	Explain the characteristics of cell.	5	CL2/CO1
	b.	Explain plant cell with neat labelled diagram.	10	CL2/CO1
	c.	Differentiate spinal cord and vertebral column.	5	CL2/CO1
		OR		
2	a.	Explain PNS (Peripheral nervous system).	5	CL2/CO1
	b.	Describe human brain with neat labelled diagram.	10	CL2/CO1
	c.	Explain different type of plant cell.	5	CL2/CO1
		Module II		
3	a.	Differentiate infectious and non-infectious diseases.	5	CL2/CO2
	b.	Discuss Modern technologies to detect heart diseases	10	CL2/CO2
	c.	Discuss in brief about Typhoid.	5	CL2/CO2
		OR		
4	a.	Explain life cycle of malarial parasite.	5	CL/CO2
	b.	Explain cardiovascular diseases and its types.	10	CL/CO2
	c.	Explain in brief the experiment performed by louis Pasteur for rabies vaccine.	5	CL/CO2
		Module III		
5	a.	Define Biosensors. With neat diagram explain the components of Biosensors.	10	CL2/CO3
	b.	With brief explanations, Classify the transducers used in Biosensors.	10	CL2/CO3
		OR		
6	a.	With block diagram explain Telemedicine system.	10	CL2/CO3
	b.	Explain the origin and development of telemedicine.	10	CL2/CO3

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		Module IV		
7	a.	Define Skeletal joints. Explain the types and functions of Joints.	10	CL2/CO4
	b.	With neat sketch explain the Circulatory system in Human Body.	10	CL2/CO4
		OR		
8	a.	Define biomaterials and classify the biomaterials.	10	CL2/CO4
	b.	Explain the Modeling of flow in Blood Vessels.	10	CL2/CO4
		Module V		
9	a.	Define Artificial Intelligence and explain how it advanced in Medical field.	10	CL2/CO5
	b.	Explain the Application of AI in Imaging.	10	CL2/CO5
		OR		
10	a.	Explain application of AI in Neuroscience	10	CL2/CO5
	b.	Describe how AI finds application in drug discovery	10	CL2/CO5

Cognitive Levels of Bloom's Taxonomy

No.	CL1	CL2	CL3	CL4	CL5	CL6
Level	Remember	Understand	Apply	Analyze	Evaluate	Create

Course Outcomes

CO1	Interpret the basics of cell biology and brain functions.	CL2
CO2	Understand effect of common diseases, types of vaccination and general forensics.	CL2
CO3	Summarise the application of biosensors and telemedicine in medical science.	CL2
CO4	Visualize biomechanical joints, biofluid mechanics and bio materials in medical science.	CL2
CO5	Contrast innovative methods of information technology in computer aided medical diagnosis.	CL2

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