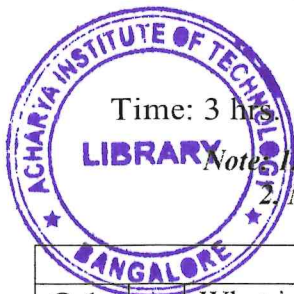


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Fourth Semester B.E./B.Tech. Degree Examination, June/July 2026

Biology for Computer Engineers



Time: 3 hrs

Max. Marks: 100

Notes: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	What is a Biomolecule? Explain the classification of Biomolecules.	6	L2	CO2
	b.	Compare PHA and PLA Acid properties, with a suitable example.	7	L2	CO2
	c.	What are Nucleic Acids? Explain Nucleic Acids.	7	L2	CO2
OR					
Q.2	a.	Explain properties of Cellulose-based water filters production.	6	L2	CO2
	b.	Explain properties of Lipids and list different types of lipid.	7	L2	CO2
	c.	Explain properties of Enzymes and list different types of Enzymes.	7	L2	CO2
Module – 2					
Q.3	a.	Explain Brain as a CPU system.	6	L2	CO2
	b.	Explain about lens materials by considering CR39 as a example.	7	L2	CO2
	c.	Explain Robotic Arms for prosthetics.	7	L2	CO2
OR					
Q.4	a.	Write a short note on Cardiac Pace Maker.	6	L2	CO2
	b.	Explain Heart as a Pump System.	7	L2	CO2
	c.	Write a short on Engineering solutions for Parkinson's disease.	7	L2	CO2
Module – 3					
Q.5	a.	Write a short on Spirometry and Ventilator.	6	L2	CO2
	b.	Explain Lung as purification system.	7	L2	CO2
	c.	Explain Kidney as a filtration system.	7	L2	CO2
OR					
Q.6	a.	What is COPD? Explain signs and symptoms of COPD.	7	L2	CO2
	b.	Explain the working of Heart Lung Machine.	7	L2	CO2

	c.	Explain about Dialysis and 2 types of Dialysis.	6	L2	CO2
Module – 4					
Q.7	a.	Explain about Echolocation and mechanics of Echolocation.	7	L3	CO3
	b.	Explain about ultrasonography and SONARS.	7	L3	CO3
	c.	Explain about photosynthesis process and role of chlorophyll in photosynthesis.	6	L3	CO3
OR					
Q.8	a.	Explain the lotus leaf effect, superhydrophobic and self cleaning surfaces.	7	L3	CO3
	b.	Explain about shark skin and swimsuits using biological concepts.	6	L3	CO3
	c.	Explain Hemoglobin Based Oxygen Carriers (HBOCs) and Perfluorocarbons (PFC).	7	L3	CO3
Module – 5					
Q.9	a.	Explain the DNA ORIGAMI and BIOCOMPUTING.	7	L4	CO4
	b.	Explain the Bioimaging and Artificial intelligence for Disease Diagnosis.	7	L4	CO4
	c.	Explain about Self Healing Bioconcrete.	6	L4	CO4
OR					
Q.10	a.	Explain Bioremediation and Bio mining via microbial surface adsorption.	8	L4	CO4
	b.	Explain the importance of Bioimaging.	6	L4	CO4
	c.	Explain the importance of Bioleaching and Nanomediance.	6	L4	CO4

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