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Fourth Semester B.E./B.Tech. Degree Examination, June/July 2024 Biology for Engineers

Time: 3 hrs.

Max. Marks: 100

*Note: 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 Cell? Explain Prokaryotic cells and Eukaryotic cell in brief.		10	L2	CO1
	b.	With a neat figure, explain the structure of plant cell and animal cell.		10	L2	CO1
OR						
Q.2	a.	What is a biomolecule? Explain the classification of biomolecule.		10	L1	CO1
	b.	Explain the properties and functions of Enzymes.		10	L2	CO1
Module – 2						
Q.3	a.	What are Bioplastics? Compare the properties of PHA and PLA as bioplastics.		10	L1	CO1
	b.	With an example, explain the development of DNA vaccines.		10	L3	CO2
OR						
Q.4	a.	Explain the importance of lipids and its application in cleaning agents.		10	L2	CO1
	b.	Discuss the development of vaccine for Covid 19.		10	L3	CO2
Module – 3						
Q.5	a.	Discuss about the Human Brain as a CPU system.		10	L3	CO2
	b.	What is ECG? Describe the various parts of ECG.		10	L2	CO1
OR						
Q.6	a.	Describe the kidney as a filtration system.		10	L3	CO2
	b.	What are Pacemakers? Briefly explain the various kinds of pacemakers.		10	L2	CO2
Module – 4						
Q.7	a.	What is Echolocation? Discuss the application of echolocation in Ultrasonography.		10	L1	CO2
	b.	Explain the structure and design of Kingfisher's beak led to bullet trains.		10	L3	CO2
OR						
Q.8	a.	Discuss about the human blood substitutes.		10	L1	CO1
	b.	What is a lotus effect? Explain the mechanism and applications of lotus leaf effect.		10	L4	CO2

Module – 5					
Q.9	a.	Explain the architecture of Muscular and Skeletal systems as Scaffolds.	10	L3	CO4
	b.	Discuss the applications of Artificial intelligence in the diagnosis of disease.	10	L4	CO4
OR					
Q.10	a.	What is Bioprinting? Discuss the process and applications of Bio printing.	10	L4	CO4
	b.	Write a note on : (i) Electrical Tongue (ii) Self-healing Bioconcrete.	10	L3	CO4
