BBOK407

Model Question Paper-1/2 with effect from 2022-23 (CBCS Scheme)

USN | | | | | | | | | | |

Fourth Semester B.E. Degree Examination

Subject Title Biology for Engineers

TIME: 03 Hours **Max. Marks: 100**

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	CO's	Marks
Q.01	a	Explain the structure and function of a Cell with neat diagram.	L4	CO1	10
	b	Discuss the functions of proteins in brief.	L2	CO1	10
		OR			
Q.02	a	Apply your knowledge of lipids and outline the process of obtaining biodiesel from lipids.	L3	CO1	10
	b	Explain in detail the properties and functions of nucleic acids.	L4	CO1	10
		Module-2			
Q. 03	a	How can DNA fingerprinting be applied to evaluate its effectiveness and reliability in forensic applications?	L3	CO1	10
	b	Describe the use of meat analogue and plant protein as food.	L2	CO2	10
		OR			
Q.04	a	Illustrate the properties& engineering applications of PLA.	L2	CO1	10
	b	What are the key properties, advantages and limitations of cellulose-based water filters?	L2	CO2	10
		Module-3			
Q. 05	a	Explain the mechanism of filtration in human kidney.	L2	CO2	10
	b	Deliberate the functioning of brain as CPU system.	L4	CO2	10
		OR			
Q. 06	a	Critically evaluate the principles and working of spirometry as a diagnostic tool for assessing lung function.	L3	CO2	10
	b	Illustrate the engineering solutions available for Parkinson's disease and assess their effectiveness in improving the quality of life for patients. .	L3	CO2	10
		Module-4			
Q. 07	a	Illustrate the HBOCs & PFCs as human blood substituents.	L3	CO3	10
	b	Describe the materials used and engineering applications of Velcro technology.	L4	CO3	10
		OR			

Q. 08	a	Compare and contrast biological echolocation and technological echolocation, highlighting their applications and significance in navigation and detection.	L3	CO3	10
	b	Explain the following i) sonars ii) photovoltaic.	L2	CO3	10
Module-5					
Q. 09	a	Explain Bioimaging and Artificial Intelligence technique in disease diagnosis.	L2	CO4	10
	b	Write a note on Bioprinting techniques and materials.	L1	CO4	10
OR					
Q. 10	a	Describe the concept of self-healing bio-concrete and explain the role of bacillus spores, calcium lactate nutrients and biomineralization processes in this technology.	L2	CO4	10
	b	Explain the process of biomining via microbial surface adsorption.	L2	CO4	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.