U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

August 2024 Supplementary Examinations

Programme: B.E. **Semester: VIII**

Branch: Artificial Intelligence & Machine Learning **Duration: 3 hrs.**

Course Code: 24AM8HSBFE **Max Marks: 100**

Course: BIOLOGY FOR ENGINEERS

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	*CO*	*PO*	Marks
1	a)	Define the term Life and also discuss its characteristics.	*CO1*	*PO1*	**6**
	b)	Analyze the concept of Genetic drift including analysis of the Bottleneck effect.	*CO1*	*PO1*	**7**
	c)	Analyze and explain the importance of Gaia hypothesis.	*CO1*	*PO1*	**7**
		UNIT - II			
2	a)	Analyze the different Monosaccharides of carbohydrates and the Monosaccharide derivatives. Write any basic Monosaccharide structure in your analysis.	*CO2*	*PO1*	**10**
	b)	With a relevant diagram, analyze the importance of biological membrane.	*CO2*	*PO1*	**10**
		OR			
3	a)	Sketch the basic chemical structure of a Protein. Define the term Enzyme and thereby analyze the different mechanisms by which enzymes increase reaction rates.	*CO2*	*PO1*	**10**
	b)	With the help of appropriate sketch, Identify the various parts of the Eukaryotic animal cell and analyze their functions.	*CO2*	*PO1*	**10**
		UNIT - III			
4	a)	Define the different types of radiation. Also analyze the penetrating power of radiations on human body and the process of stopping the radiations.	*CO3*	*PO6*	**10**
	b)	With a relevant diagram, analyze the generation of X-rays through an X-ray generator.	*CO3*	*PO6*	**10**
		UNIT - IV			
5	a)	Using suitable diagrams, Explain and analyze the ionization effect of radiation on human body and human DNA.	*CO3*	*PO6*	**6**

		b)	Explain the two different classifications for In-vitro studies of the effects of RF fields. Also write the mutation analysis procedure in detail.	*CO3*	*PO6*	**7**
		c)	Analyze the following effects of radiation: i. Deterministic effects ii. Stochastic effects	*CO3*	*PO6*	**7**
			UNIT - V			
	6	a)	Analyze the importance of Phosphorous in organic farming. Also write the effects of Phosphorous on plant growth and quality with relevant diagrams.	*CO4*	*PO7*	**10**
		b)	Analyze the importance of Nitrogen in organic farming. Also write the effects on plant growth and quality with relevant diagrams.	*CO4*	*PO7*	**10**
			OR			
	7	a)	Analyze with relevant diagrams, the importance of Potassium in biological farming.	*CO4*	*PO7*	**10**
		b)	With relevant sketches, analyze the various symptoms that occur due to deficiency of Nitrogen.	*CO4*	*PO7*	**10**

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