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

Autonomous Institute Affiliated to VTU

May 2023 Semester End Make-Up Examinations

Programme: B.E.

Branch: ES CLUSTER (ET/EC/ML/EE/EI)

Course Code: 19ES7BSBFE

Course: Biology for Engineers

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Date: 17.05.2023

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

UNIT - I

1	a) Explain 5 kingdom classification of living organisms. Give taxonomical ranking for human	07
	b) The interaction between living things and environment is called as web of life. Explain the interaction by using Gaia hypothesis	08
	c) Construct the pyramid of life in the Hierarchical order.	05

UNIT - II

2	a) Why mitosis is called as equational division? Illustrate with diagram different phases of mitosis.	10
	b) Sketch the basic chemical structure of a Protein. Define the term Enzyme and thereby analyze the different mechanisms by which enzymes increase reaction rates.	10

OR

3	a) Write a note on active site of enzyme. Differentiate between cofactor and coenzyme.	10
	b) Explain the structure of biological membrane with neat diagram. Also explain the passive membrane transport mechanism	10

UNIT - III

4	a) On what basis does an X ray create the image of human body? Write a note on X ray generator with diagram.	10
	b) How an ionizing radiation is more harmful than nonionizing radiation. Elaborate on types of ionization of radiation	10

UNIT - IV

5	a) How soon does deterministic effect of radiation on human body appear, following the radiation exposure? In a descending order list the radiosensitive organ	10
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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.

b) What are the risks involved, if a person gets exposed to low dose of radiation regularly? What happens if the DNA repair mechanism fails, explain its mechanism 10

UNIT – V

6 a) Why organic farming has become a need of an hour? Mention the advantages of organic farming. 10

b) What is the role of potassium involved in enzyme activation and water regulation. Name the symptoms which are caused by the deficiency of it. 10

OR

7 a) Explain the effects of nitrogen on plant growth and quality. Also explain the effects of its deficiency. Support your answers with suitable diagrams. 10

b) Explain the effects of phosphorous on plant growth and quality. Also explain the effects of its deficiency. Support your answers with suitable diagrams. 10
