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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**

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**

B.M.S.C.E. - ODD SEM 2022-23