

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

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main 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: 04.03.2023

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) 'Biology is the science of life.' Justify the statement. **10**
- b) Briefly explain the theories of evolution of life. **05**
- c) Explain evolutionary adaptation with an example. **05**

UNIT - II

- 2 a) Explain the types and functions of carbohydrates. **10**
- b) With a neat diagram explain the structure of a Biological Membrane. **05**
- c) Illustrate the importance of cell reproduction. **05**

OR

- 3 a) Explain the structure of a eukaryotic cell. Also, mention the functions. **10**
- b) Describe the classifications of lipids. **05**
- c) Write the differences between DNA and RNA. **05**

UNIT - III

- 4 a) Distinguish the types of radiations on the basis of ionizing property. Also, explain their biological effects. **10**
- b) What are X – rays? Describe the medical use of X – rays. **05**
- c) Discuss the penetrating power of different types of radiations. **05**

UNIT - IV

- 5 a) Arrange the radiosensitive organs in descending order and explain the reasons for the order. **10**
- b) Differentiate between deterministic effect and stochastic effect. **05**
- c) Write a note on hazards of cell phone radiations. **05**

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 - V

- 6 a) Explain the history and advantages of organic farming. **10**
- b) Explain the effects of nitrogen on plant growth and quality. Also explain the effects of its deficiency. **10**

OR

- 7 a) Explain the effects of phosphorous on plant growth and quality. Also explain the effects of its deficiency. **10**
- b) Explain the effects of potassium on plant growth and quality. Also explain the effects of its deficiency. **10**

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