

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

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Branch: Civil Engineering

Course Code: 21CV7BSBFE

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". Explain the characteristics of life to support this statement. **10**
- b) With the help of labelled diagram write on eukaryotic cell structure and also describe on different organelles and its function **10**

OR

- 2 a) Describe in detail about, why vegetable oil rich in polyunsaturated fat is recommended than saturated and trans-fat for persons suffering from cardiovascular disease. **10**
- b) The abundant organic polymer on earth is carbohydrate. Outline the classification and give an account on importance of it. **10**

UNIT - II

- 3 a) Illustrate with an example lock and key model of an enzyme and add a note on how factors influence the enzyme activity **10**
- b) Elaborate on types of reversible enzyme inhibition. Write a note on importance of enzyme in diagnostic **10**

UNIT - III

- 4 a) What are antibodies. Write on structure and function of different types of antibodies **10**
- b) Explain Swan neck Theory. Write on importance of microbiology in various fields **10**

UNIT - IV

- 5 a) "One card or one chip with your life". Give an explanatory note on this statement and its importance **05**
- b) Discuss why bioinformatics is necessary in biomedical field **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.

- c) Elaborate on the following nano biomolecules and write on its application **10**
i. Carbon based material
ii. Metal based nano material

UNIT - V

- 6 a) Write a short note on tools of recombinant DNA technology and name some of the GMO's and its uses **10**
b) Why stem cells are called as magical seeds. List out different types of stem cell and its uses **10**

OR

- 7 a) Illustrate with diagram; how neural network reflects the behavior of the human brain and add a note on application of artificial neural network **10**
b) What is Biomechanics and how does the concept of biomechanics help in the physical education? **2+8**
