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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**
