

<b>4E1224</b>	Roll No. _____	Total No of Pages: <b>2</b>
	<b>4E1224</b> <b>B. Tech. IV-Sem. (Back) Exam., Oct.-Nov. - 2020</b> <b>HSMC Electrical &amp; Electronics Engineering</b> <b>4EX2-01 Biology</b> <b>EE, EX</b>	

Time: 2 Hours

Maximum Marks: 65  
Min. Passing Marks: 23

*Instructions to Candidates:*

**Attempt all five questions from Part A, four questions out of six questions from Part B and one questions out of three from Part C.**

*Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.*

*Use of following supporting material is permitted during examination. (Mentioned in form No. 205)*

1. NIL

2. NIL

**PART - A**

**(Answer should be given up to 25 words only)**

**[5×2=10]**

**All questions are compulsory**

- Q.1 What is Brownian Motion?
- Q.2 Give major differences between Prokaryotic and Eukaryotic cell.
- Q.3 What is the difference between Mitosis and Meiosis?
- Q.4 Why DNA is used as a genetic material?
- Q.5 What is Enzymology?

**PART – B**

**(Analytical/Problem solving questions)**

**[4×10=40]**

**Attempt any four questions**

- Q.1 Explain Briefly objective, scope and outcome of the course.
- Q.2 Explain –
- (a) Why Biology is an important discipline as compared to Physics and Chemistry.
  - (b) What are the fundamental difference between Science and Engineering?
- Q.3 Explain classification and function of carbohydrates.
- Q.4 (a) Explain Mendel's law of segregation.
- (b) E – coli.
- Q.5 How to analyze structure and function of proteins by Biological processes.
- Q.6 Explain structure of DNA and Define gene in terms of complementation and recombination.

**PART – C**

**(Descriptive/Analytical/Problem Solving/Design Questions)**

**[1×15=15]**

**Attempt any one questions**

- Q.1 Write notes on –
- (a) Glycolysis
  - (b) Comparison between eye and camera
  - (c) Photosynthesis
- Q.2 **What is Enzyme? Explain the mechanism of Enzyme action. Classification and Enzyme Kinetics.**
- Q.3 **Explain the Classification and Identification of microorganisms and also explain Growth kinetics.**
-