

4E1224

Roll No. _____

Total No of Pages: **2**

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B. Tech. IV-Sem. (Back) Exam., Oct.-Nov. - 2020
HSMC Electrical & Electronics Engineering
4EX2-01 Biology
EE, EX

Time: 2 Hours

Maximum Marks: 65

Min. Passing Marks: 23

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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.
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