1/6/23

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002407

May, 2023

B.Tech. IV SEMESTER

Biology (BSC-01)

Time: 3 Hours] [Max. Marks. : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) Explain carbohydrates. (1.5)

(b) 5 differences between mitosis and meiosis. (1.5)

(c) Explain a note on eukaryotes. (1.5)

(d) Explain Phospholipids. (1.5)

(e) 5 differences between DNA and RNA. (1.5)

(f) Compare camera and eye with figure. (1.5)

(g) Explain Mendels Law. (1.5)

(h) Explain genetic code with figure of triplet codons. (1.5)

(i) What is oxidative and substrate level phosphorylation. (1.5)

(j) Why should an engineer study biology? Explain citing examples. (1.5)

PART-B

2. (a) Explain Glycolysis in detail, its site of action, enzymes involved, and end product. (10)

(b) What are model organism? Explain with examples and its usage in biology. (5)

3. (a) What are the different methods of isolating and identifying microbes. (5)

(b) What are biomolecules? Explain in detail diverse proteins, its types, and structures studied. (10)

4. Distinguish between, cyclic and non cyclic phosphorylation, light and dark reactions, catabolism and anabolism. (15)

5. (a) Explain in detail blood group. What are autosomal and recessive disorders? (5)

(b) Explain enzymes, its classification and mechanism of action hypothesis. (10)

6. (a) In detail explain TCA cycle with enzymes, end product and well labelled figure. (10)

(b) Explain in details basis techniques used during the process of sterilization. (5)

7. Explain in Detail photosynthesis with equation, site and well labelled figures. (15)