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N – 4251

Reg. No. :

Name :

First Semester B.Sc. Degree Examination, June 2022
Career Related First Degree Programme Under CBCSS
Group 2(a) – Biochemistry and Industrial Microbiology

Foundation Course – I

IM 1121 : FUNDAMENTALS OF BIOCHEMISTRY

(2015 – 2019 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – I

Answer **all** questions. Answer in a word to a maximum of two sentences. Each question carries 1 mark.

1. How will you define science?
2. Define Hypothesis.
3. Give any three major differences between cellulose and starch.
4. What is the role of Heparin in the human body?
5. Mention another name of Lecithin.
6. What is the single letter code for Tyrosine and Glycine?
7. What are the codons for Methionine and Alanine?
8. What is the latest version of MS-Office?
9. What is the short key used in the power point for slide show?
10. Expand SPSS.

(10 × 1 = 10 Marks)

P.T.O.

SECTION – II

Answer any **eight** questions. Answer not to exceed **one** paragraph. Each question carries **2** marks.

11. Brief about Universal Law of Gravitation.
12. Discuss about Newton's Laws of Motion.
13. Discuss about the controversial arguments raised against Einstein's Law of general relativity.
14. Outline the structure of cellulose.
15. Brief about the oxidative products of glucose.
16. What is the major function of the glycogen in our body?
17. Define Iodine value and explain its significance.
18. Outline the important differences between saturated fatty acids and unsaturated fatty acids.
19. What are gangliosides? Outline with suitable example.
20. Draw the general structure of Purines.
21. Brief about the significance of van slyke's test?
22. What do you mean by regression analysis?

(8 × 2 = 16 Marks)

SECTION – III

Answer any **six** questions. Answers not to exceed **120** words. Each question carries **4** marks.

23. Briefly explain the hypothetico-deductive model.
24. Discuss about the discovery of DNA polymerase I and the contribution of the Arthur Konberg.

25. Outline the different structural formations produced during the ozonone reaction.
26. Discuss about the biological functions of Cellulose in the plant cell.
27. Name the bile acids produced in our body and explain about its biological functions.
28. Draw the structure of tRNA and explain its salient features.
29. Expand NCBI-NLM-NIH.
30. What are the applications of EMBL in Bioinformatics? Explain in detail.
31. Discuss about Chi-square and explain the place where the use of this method will be significant.

(6 × 4 = 24 Marks)

SECTION – IV

Answer any **two** questions. Each question carries **15** marks.

32. Discuss in detail about the structure, biosynthesis, properties and biological functions of cell wall polysaccharide.
33. Discuss in detail about the structure, biological properties, synthesis, biological functions and disease causing properties of cholesterol.
34. Define plagiarism. What are the setbacks associated with Plagiarism and Name any two major software used to detect it worldwide?
35. Discuss in detail about the SPSS and its application in the analysis of biological data with suitable example.

(2 × 15 = 30 Marks)