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H – 2237

Reg. No. :

Name :

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

2(a) : BIOCHEMISTRY AND INDUSTRIAL MICROBIOLOGY

Foundation Course I : IM 1121

FUNDAMENTALS OF BIOCHEMISTRY

(2015 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

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

1. Define isoelectric point.
2. What is plagiarism?
3. Write down the anomers of glucose.
4. What is mucic acid?
5. What is science?
6. Why are amino acids optically active?
7. What do you mean by data mining?

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8. How many asymmetric carbon atoms are there in glucose?
9. Why is sucrose called nonreducing sugar?
10. Explain with one example D and d and L and l?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. Answer not to exceed 1 paragraph. Each question carries 2 mark.

11. Explain Molisch's test.
12. Write down the epimers of glucose.
13. Explain the structural difference between uronic acid, saccharic acid and aldonic acid.
14. Write down the structure of heparin.
15. Explain the acid base titration of amino acids.
16. Classify the following into nucleotides, nucleosides and bases (a) adenosine (b) cytosine (c) uridylic acid, (d) guanosine monophosphate.
17. Explain Chi square test.
18. Write down the structure of α D fructofuranose.
19. Explain the differences between DNA and RNA.
20. What is tripalmitin? Explain with structure.
21. What are gangliosides?
22. Explain student's t test?

(8 × 2 = 16 Marks)

SECTION – C

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

23. Describe the Watson and Crick model of DNA.
24. Explain the reactions of monosaccharides.
25. Write down the structure and functions of major phospholipids.
26. Write down the structure of bile acids.
27. Write down the structure and various purine nucleotides.
28. Write down the ninhydrin reaction of amino acids.
29. Explain correlation and regression.
30. What are heteropolysaccharides? Explain with structure.
31. Explain the experiments of Frederick Sanger and Arthur Kornberg.

(6 × 4 = 24 Marks)

SECTION – D

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

32. Explain in detail the classification of carbohydrates.
33. Discuss the structure of different types of RNA.
34. Describe the applications of bioinformatics.
35. Describe the classification of fatty acids.

(2 × 15 = 30 Marks)