(Pages : 4) L – 3654

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, August 2021

First Degree Programme under CBCSS

Biochemistry

Core Course I :

BC 1141 : PERSPECTIVES, METHODOLOGY AND BIO MOLECULES – I

(2020 Admission Regular)

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions. Short answer type. Each question carries **1** mark.

Define the following

1. Precision
2. Bioorganic theory
3. Theory of Vitalism
4. Erwin Chargaff
5. Homogenate
6. Semi conservative replication
7. pOH

P.T.O.

8. Normality

9. HDL

10. Iodine number

(10 × 1 = 10 Marks)

II. Answer **any eight** questions, not exceeding **one** paragraph. Each question carries **2** marks.

11. What do you mean by reproducibility?

12. Brief about Good laboratory practices.

13. Briefly outline the discovery of Priestley's experiment on photosynthesis.

14. Outline the achievements of Krebs and Henseleit.

15. Discovery by Watson and Crick.

16. What do you mean by isolated perfused organ experiments? Outline the important points.

17. What is homogenate? Outline its biochemical significance.

18. How will you do Sub-cellular fractionation by centrifugation technique?

19. Outline the Bronsted theory of acids and bases.

20. Briefly discuss about the concepts Ka and pKa value.

21. Write the formula to derive molarity and explain its significance in Biochemistry.

22. Outline parts per million and parts per billion.

23. Brief about any two important amino sugars.

24. Outline any four important biological functions of Lipids.

25. What is the difference between saturated and unsaturated lipids in context with biological properties?

26. What are prostaglandins? How it regulates the biological functions of the body?

(8 × 2 = 16 Marks)

III. Answer **any six** questions, short essay. Each question carries **4** marks.

27. Outline the difference between theory and hypothesis.

28. Explain about corroboration and falsification.

29. Explain in short about the application of Biochemistry in food industries.

30. Discuss about the Emil Fischer's contribution to science.

31. How will you isolate the individual cellular organelles?

32. Discuss with one good example the term metabolism.

33. Discuss about the importance of studying of Acid-Base balance in the biological systems.

34. Outline about the percentage solution, its preparation and its biochemical importance.

35. Draw the structure of any two disaccharides and explain its biological importance.

36. What do you mean by stereo isomerism? Explain with suitable example.

37. What are essential fatty acids? Outline its biological properties.

38. What do you mean by soapanification number? How it is important in lipid chemistry?

(6 × 4 = 24 Marks)

IV. Answer **any two** questions, Long essay type. Each question carries **15** marks.

39. Discuss about the great contribution of Miller-Urey experiment the biological science.

40. Explain the importance Michaelis & Mentons equation in the division enzymology.

41. How will you prove DNA is a genetic material? Justify with classical example.

42. Discuss about Donnan-membrane equilibrium and its biological applications.

43. Discuss in detail about the Storage and structural polysaccharides with suitable examples.

44. How Lipoproteins are important to the biological system? Explain its abnormality conditions.

(2 × 15 = 30 Marks)
