



K20U 1838

Reg. No. :

Name :

**III Semester B.Sc. Degree CBCSS (OBE) – Regular
Examination, November 2020
(2019 Admission Only)
GENERAL AWARENESS COURSE IN MICROBIOLOGY
3A11MCB : Biochemistry for Microbiology**

Time : 3 Hours

Max. Marks : 40

PART – A

Answer **all** questions. **Each** question carries **1** mark :

1. Write an example for an amino acid with two carboxylic groups.
2. Name the amino acid containing H atom as R group.
3. What is meant by the term “primary structure” of a protein ?
4. Draw the figure of adenine.
5. Write the name of a saturated fatty acid with 16 carbon atoms.
6. Linolenic acid is said to be an essential fatty acid. Why ? **(6×1=6)**

PART – B

Answer **any 6** questions. **Each** question carries **2** marks :

7. Explain the formation of H bonding in water. What is its significance ?
8. Give examples of two homopolysaccharides in plants.
9. Draw the structure of a. α -Glucose and b. α -Galactose and explain how do they differ from each other structurally.
10. Write the name of two amino acids not found in proteins, but essential for our life. What is their role in our metabolism ?



11. What is the difference between alpha helix and beta pleated sheet ? Which one of them is stabilized using H bonds ?
12. What is the difference between lyases and ligases ?
13. Differentiate between apoenzyme and holoenzyme.
14. Explain the composition of a nucleotide. Why is it acidic in nature ? (6×2=12)

PART – C

Answer **any 4** questions. **Each** question carries **3** marks :

15. How does a weak acid differ from a strong acid ? Give one example for each.
16. What is the concentration of protons in an aqueous solution of neutral pH ? How does it differ in solutions of acidic and alkaline pH ?
17. What is the difference between amylose and amylopectin? Explain using suitable diagrams.
18. Draw a figure showing the formation of glycyl alanine. Label the peptide bond in the figure.
19. What is a coenzyme ? Give an example for an enzyme and its coenzyme.
20. How many ester bonds are there in a molecule of tripalmitin ? Explain using a diagram. (4×3=12)

PART – D

Answer **any 2** questions. **Each** question carries **5** marks :

21. a) What is a “disaccharide” ?
b) How does maltose differ from isomaltose ? Explain using suitable diagrams.
c) Draw a diagram of cellobiose. It is normally formed in human alimentary canal. Why ?



22. a) What is electrophoresis? Explain briefly.
- b) How does paper electrophoresis differ from gel electrophoresis ?
- c) What is the use of SDS in electrophoresis ?
23. a) Define K_m value. What is its unit ? What is its significance ?
- b) Draw a graph showing the effect of concentration of substrate upon activity of enzyme and label K_m value.
24. a) Name the component of RNA responsible for its acidic nature. How many molecules of that component are present in a nucleotide triphosphate ?
- b) Explain using a suitable diagram. Why adenine can pair with thymine only and not with guanine ?
- c) What is the structural difference between thymine and uracil ? **(2×5=10)**
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