



MS – 308

II Semester B.Sc. Examination, May 2016
(Fresh + Repeaters) (CBCS)
(2014-15 and Onwards)
BIOCHEMISTRY – II

Time : 3 Hours

Max. Marks : 70

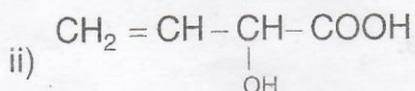
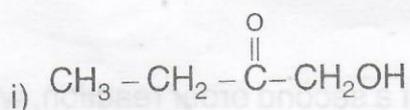
- Instructions :**
- This paper is for the students of the **new syllabus 2014-15.**
 - The question paper has **two Parts. Part A and Part B.**
 - Answer **any eight** questions from Part A and **any nine** questions from Part – B.

PART – A

Answer the following. **Each** question carries **two** marks.

(2×8=16)

- What is Frenkel defect ?
- State Nernst distribution Law.
- What is the role of ATP in bioenergetics ?
- Define threshold energy.
- Mention any two characteristics of a catalyst.
- Write the IUPAC name of the following Structure



- State Markownikoff's rule.
- Among chair and boat conformations of cyclo hexane, which is more stable ?
Give reason.

P.T.O.



9. Write the structures of Naphthalene and Anthracene.
10. How is ethanoic Acid prepared from Grignard reagent ?
11. What is the Action of Bromine water on phenol ?
12. What is Aldol condensation ? Give an example.

PART – B

Answer the following. **Each** question carries **6** marks.

13. a) Name any four crystal systems with examples.
b) Define space lattice and unit cell. (4+2)
14. a) Draw the phase diagram of KI-H₂O system. Explain its features.
b) Write Bragg's equation and mention the terms. (4+2)
15. a) State phase rule. Explain the terms
i) Phase
ii) Component
iii) Degree of freedom.
b) What is partition co-efficient ? (4+2)
16. a) What is chemical equilibrium ? Give the characteristics of Dynamic equilibrium.
b) Define free energy change. (4+2)
17. a) Derive an expression for the rate constant of a second order reaction, where the initial concentration of the two reactants are different ($a \neq b$).
b) What are carbonium ions ? Give an example. (4+2)
18. a) Define zero order reaction and Half life period. Calculate Rate constant of a reaction if half-life period is 7670 seconds.
b) What are the factors influencing Rate of a reaction ? (4+2)



19. a) Explain Resonance effect and Inductive effects with suitable examples.
b) What is Homogeneous catalysis ? Give an example. (4+2)
20. a) Explain the Mechanism of addition of HBr to 1-3- Butadiene.
b) Write a note on Ozonolysis. (4+2)
21. a) Discuss the Sailer features of Baeyer's strain theory.
b) What happens when Napthalene undergo oxidation with Alkaline $KMnO_4$?
Give example. (4+2)
22. a) Explain the Mechanism of SN^2 reaction with a suitable example.
b) Write the reaction between n-butyl chlorid with alcoholic potash.
23. a) How do you distinguish 1° , 2° and 3° alcohols using Lucas reagent ?
b) What is Reimer-Tiemann reaction ? (4+2)
24. a) Explain the mechanism of Nitration of Benzene.
b) What is Orientation effect ? (4+2)
25. a) Give the mechanism of addition of HCN to Acetaldehyde.
b) Explain claisen condensation reaction with an example. (4+2)