



US – 344

II Semester B.Sc. Examination, May 2017
(CBCS) (F+R)
(2014-15 and Onwards)
BIOCHEMISTRY – II

Time : 3 Hours

Max. Marks : 70

Instructions : i) This question paper has **two** parts. Part **A** and Part **B**.
ii) Answer **any eight** questions from Part **A** and **any nine** questions from Part **B**.

PART – A

Answer **any eight** of the following questions. **Each** question carries **two** marks.

(8×2=16)

1. Define
 - i) Space lattice
 - ii) Unit cell
2. State Gibb's phase rule.
3. What is chemical equilibrium ? Mention any two characteristics of it.
4. Write the expression of velocity constant for zero and first order reactions.
5. What is inductive effect ?
6. Mention two uses of acetylides.
7. Write the structure of anthracene and diphenyl.
8. What are conjugated dienes ? Give an example.
9. Mention two uses of glycol.
10. Write the reduction reaction of p-benzoquinone.
11. What is the principle of steam distillation ?
12. Write the structure of
 - i) 4-oxopentanoic acid
 - ii) 1,3-dibromo-3-methyl butane.

P.T.O.



PART - B

Answer **any nine** questions of the following. **Each** question carries **six** marks.

(9×6=54)

13. a) Explain Schotky and Frenkel defects in crystalline solids.
b) What are free radicals ? Give an example. (4+2)
14. a) Discuss the temperature composition curves of ideal and non ideal solutions.
b) What is aromaticity ? (4+2)
15. a) Explain the binding of oxygen to haemoglobin.
b) What is ozonolysis ? (4+2)
16. a) Explain Baeyer strain theory.
b) What is half life of a reaction ? (4+2)
17. a) Explain the mechanism of Reimer-Tiemann reaction of phenol.
b) Write a note on the effect of temperature on rate of reaction. (4+2)
18. a) Explain the Claisen condensation reaction in aldehydes.
b) Distinguish crystalline and amorphous solids. (4+2)
19. a) Explain the mechanism of elimination reaction in tertiary butyl chloride.
b) What is critical solution temperature ? (4+2)
20. a) Discuss the electronic interpretation for the orienting influence of chloro group in chlorobenzene.
b) State Nernst distribution law. (4+2)
21. a) How is glycerol prepared from propene ? Mention any two uses of glycerol.
b) Write Bragg's equation and mention the terms. (4+2)



22. a) What are Grignard reagents ? Write a note on its preparation and an application.
b) Mention any two characteristics of catalysts. (4+2)
23. a) Write the oxidation reactions of naphthalene in presence of
i) acidified KMnO_4
ii) chromic acid
b) What are azeotropes ? Give an example. (4+2)
24. a) What is rate of a reaction ? Explain the effect of temperature and pressure on it.
b) Give any two applications of distribution law. (4+2)
25. a) State the following.
i) Le-Chatlier's principle
ii) Raoult's law.
b) What are carbanions ? Give an example. (4+2)
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