



SE – 162

II Semester B.Sc. Examination, September 2020
(CBCS) (F+R) (2014-15 and Onwards)
BIOCHEMISTRY – II

Time : 3 Hours

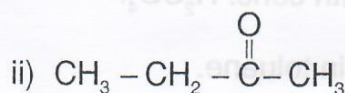
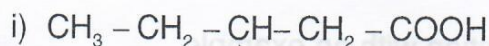
Max. Marks : 70

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

PART – A

Answer **any eight** of the following questions. **Each** question carries **two** marks. (8×2=16)

1. What are amorphous solids ? Give an example.
2. State Henry's Law.
3. What is a zero order reaction ? Give an example.
4. What is ozonolysis ?
5. Write the structure of phenanthrene and anthracene.
6. Mention two general properties of aldehydes and ketones.
7. State Nernst Law and mention its importance.
8. Write Braag's equation and mention the terms involved.
9. What are carbocations ? Give an example.
10. Write the boat and chair forms of cyclohexane.
11. Mention any two properties of p-benzoquinone.
12. Give the IUPAC nomenclature of the following :



P.T.O.



PART - B

Answer **any nine** of the following questions. **Each** question carries **six** marks. (9×6=54)

13. a) What are the elements of symmetry ? Explain each of them.
b) Write a note on Frenkel defect. (4+2)
14. a) Define :
i) Phase
ii) Components
b) Write the Gibb's phase rule and mention the terms involved. (4+2)
15. a) Based on Le Chatlier's principle, discuss the effect of pressure and temperature for the decomposition of PCl_5 .
b) Explain redox equilibrium with an example. (4+2)
16. a) Explain the effect of temperature and catalyst on the rate of a reaction.
b) Write the Arrhenius equation of activation energy and mention the terms involved. (4+2)
17. a) What are homogeneous and heterogeneous catalysis ? Give an example for each.
b) What is critical solution temperature ? (4+2)
18. a) Explain the following :
i) Inductive effect
ii) Electromeric effect
b) What are free radicals ? Give an example. (4+2)
19. a) Explain the mechanism of addition of HCl to propene.
b) Write any two conformations of ethane. (4+2)
20. a) Explain Friedel-Craft alkylation reaction with an example.
b) Write the oxidation reaction of naphthalene with conc. H_2SO_4 . (4+2)





22. a) Explain SN_2 reaction with a suitable example. (4+2)
b) What are organometallic compounds ? Give an example. (4+2)
23. a) Explain the addition of alcohol to aldehydes and ketones. (4+2)
b) Phenol is acidic in nature. Why ? (4+2)
24. a) Explain the mechanism of Claisen condensation. (4+2)
b) Write the reaction of phenol with bromine water. (4+2)
25. a) Define the following : (4+2)
i) Unit cell
ii) Interfacial angles
iii) Aromaticity
iv) Degree of freedom.
- b) What are immiscible solvents ? Give an example. (4+2)

