B.Sc. DEGREE EXAMINATION,APRIL 2020
I Year I Semester
Allied Chemistry - I

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Find pH of 0.1 M HCl solution.
2. What is meant by common ion effect?
3. Write the disadvantages of hard water.
4. What does N-P-K ratio denotes?
5. What are polymerisation reactions?
6. Classify the following as electrophiles and nucleophiles. OH^-, $CH3^+$, Cl^-, Br^+
7. Mention the hybridisation and geometry of acetylene.
8. What are heterocyclic compounds?
9. Draw the resonance structures of furan.
10. State Grotthus-Draper law.
11. Define quantum yield of a photochemical reaction.
12. Write the mechanism for H_2-Cl_2 photochemical reaction.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. What are buffer solutions? Write the equation for find pH of a buffer solution and mention the terms in it.
14. Explain reverse osmosis process for softening water.
15. What are temporary and permanent hardness?
16. Explain the mechanism for the nitration of benzene.
17. Discuss the hybridisation in methane.
18. Mention any two methods of preparation and properties of thiophene.
19. Distinguish between fluorescence and phosphorescence.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. (a) Discuss the buffer action in biological systems. (b) What are strong and weak electrolytes? Cite examples.
21. Explain the manufacture of the following. (a) Urea (b) Superphosphate (c) water gas
22. (a) Describe the classification of organic compounds with suitable examples. (b) Define the following with an example. (i) Free radicals (ii) Condensation reactions
23. Compare the properties of pyrrole and pyridine.
24. Explain the following with suitable examples. (a) Photosensitisation (b) Chemiluminescence

B.Sc. DEGREE EXAMINATION,APRIL 2020
I Year I Semester
Allied Chemistry - I

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Find pH of 0.1 M HCl solution.
2. What is meant by common ion effect?
3. Write the disadvantages of hard water.
4. What does N-P-K ratio denotes?
5. What are polymerisation reactions?
6. Classify the following as electrophiles and nucleophiles. OH^-, $CH3^+$, Cl^-, Br^+
7. Mention the hybridisation and geometry of acetylene.
8. What are heterocyclic compounds?
9. Draw the resonance structures of furan.
10. State Grotthus-Draper law.
11. Define quantum yield of a photochemical reaction.
12. Write the mechanism for H_2-Cl_2 photochemical reaction.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. What are buffer solutions? Write the equation for find pH of a buffer solution and mention the terms in it.
14. Explain reverse osmosis process for softening water.
15. What are temporary and permanent hardness?
16. Explain the mechanism for the nitration of benzene.
17. Discuss the hybridisation in methane.
18. Mention any two methods of preparation and properties of thiophene.
19. Distinguish between fluorescence and phosphorescence.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. (a) Discuss the buffer action in biological systems. (b) What are strong and weak electrolytes? Cite examples.
21. Explain the manufacture of the following. (a) Urea (b) Superphosphate (c) water gas
22. (a) Describe the classification of organic compounds with suitable examples. (b) Define the following with an example. (i) Free radicals (ii) Condensation reactions
23. Compare the properties of pyrrole and pyridine.
24. Explain the following with suitable examples. (a) Photosensitisation (b) Chemiluminescence