

B.Sc. DEGREE EXAMINATION, APRIL 2019
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. What are buffer solutions?
2. Mention an example for strong and weak electrolytes.
3. Write any two disadvantages of hard water.
4. What is a mixed fertilizer?
5. Gaseous fuels are superior to solid fuels. Why?
6. Write the hybridisation of ethyne and benzene.
7. Classify the following into electrophiles and nucleophiles. OH^- , CN^- , H^+ , Br^- .
8. What are free radicals?
9. Draw the resonance structures of furan.
10. Why furan is less aromatic than pyrrole?
11. Define quantum yield of a photochemical reaction.
12. What is meant by Chemiluminescence?

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

Answer any **FIVE** questions

13. Write Henderson equation for acidic and basic buffers. Explain the terms in it.
14. Distinguish between temporary and permanent hardness.
15. How does urea manufactured? Cite its uses.
16. Discuss the hybridisation of methane.
17. Explain the nitration of benzene with mechanism.
18. Write the preparation and properties of thiophene.
19. State the following laws. (i) Grothus-Draper (ii) Stark-Einstein

Section C ($3 \times 10 = 30$) MarksAnswer any **THREE** questions

20. (a) Explain common ion effect with an example.
(b) Discuss the buffer action in biological systems.
21. (a) Explain any two methods of purifying water for domestic use.
(b) How are the following prepared? (i) Water gas (ii) Semi water gas
22. Describe the classification of organic reactions with relevant examples.
23. Compare the properties of pyrrole and pyridine.
24. Write notes on the following. (a) Photosensitisation (b) Fluorescence

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