C 20096

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, MARCH 2022

Chemistry

CHE 6B 12—ADVANCED AND APPLIED CHEMISTRY

(2014 to 2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

Section A (One word)

Answer **all** *questions.*

Each question carries 1 *mark.*

1. Monomer of teflon is _____.
2. An example for a thermoplastic is _____.
3. FACT is located at _____.
4. The percentage by volume of iso-octane in the iso-octane-heptane mixture that matches the fuel being tested in a standard test engine is called _____.
5. Give an example for an anti-knocking compound.
6. An example for a prodrug is _____.
7. Give an example for a tranquilizer.
8. Draw the structure of BHC.
9. Write an example for an insecticide.
10. _____ is an example for an auxochrome.

(10 × 1 = 10 marks

Section B (Short Answer)

Answer any **ten** *questions.*

Each question carries 2 *marks.*

11. Explain the significance of quantum dots.
12. What are fullerens ?
13. What is green chemistry ?
14. Write notes on self assembly.
15. Explain the term combinatorial chemistry.

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16. What is a computer programme ? Give an example.
17. Explain condensation polymerization using a suitable example.
18. What is PLA ?
19. Write the composition of talcum powder.
20. What are Antiseptics ? Give one example.
21. What are rodenticides ? Give one example.
22. Based on the concept of chromophore - auxochrome theory, arrange the following compounds in the increasing order of colour intensity. naphthalene, nitro-naphthol and nitro naphthalene.

(10 × 2 = 20 marks)

Section C (Paragraph)

Answer any **five** *questions.*
Each question carries 6 *marks.*

23. Explain different carbon nanostructures.
24. Write a note on green organic synthesis using Diel's-Alder reaction as example.
25. Discuss different types of non-covalent interactions in supramolecular chemistry.
26. Give an account of combinatorial synthesis.
27. Explain the synthesis and applications of bakelite.
28. What are biodegradable polymers ? Give examples
29. Discuss the classification of drugs based on their mode of action using suitable examples.
30. Discuss the preparation and use of indigo.

(5 × 6 = 30 marks)

Section D (Essay)

Answer any **two** *questions.*
Each question carries 10 *marks.*

31. Give an account of the applications of nanomaterials in various fields.
32. Explain the twelve principles of green chemistry.
33. a) Discuss the classification of soaps.
    b) Explain the cleansing action of soap.
34. Explain the classification of dyes based on their structure and mode of application using suitable examples.

(2 × 10 = 20 marks)