

20000390



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Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, MAY 2020

Fourth Semester

Faculty of Science

Branch III—Pure Chemistry

CH4 E02—ADVANCED ORGANIC CHEMISTRY

(2012 Admission onwards)

Time : Three Hours

Maximum Weight : 30

Section A

*Answer any **ten** questions.*

Each question carries a weight of 1.

1. What is Atom Economy ?
2. Why is microwave energy used in synthesis ?
3. Give structure of *two* commonly used cations for the synthesis of ionic liquids.
4. Give a short note on Genetic Code.
5. Write the mechanism of Pinacol-pinacolone Rearrangement.
6. Write short notes on Green redox reactions.
7. What are Carbon Nanocapsules ?
8. Explain Host-Guest complex formation with an example.
9. Give *two* applications of Dendrimers.
10. Explain Regulation of gene expressions.
11. Give structures of any *two* anti-malarial drugs.
12. Give structure of β carotene and testosterone.
13. What are the bases present in DNA ? Give their structures.

(10 \times 1 = 10)

Turn over





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Section B

*Answer any **five** questions.*

Each carries a weight of 2.

14. Explain the different forces involved in molecular recognition.
15. What are the principles of green chemistry ?
16. How do you classify nano-materials using TEM ?
17. Explain drug selectivity in drug designing.
18. Explain hyper-branched Polymers.
19. What are the different types of research ?
20. Explain the fire resistant polymers.
21. Explain the structure of proteins.

(5 × 2 = 10)

Section C

*Answer any **two** questions.*

Each question carries a weight of 5.

22. Explain molecular recognition in biological systems.
23. Explain :
 - (a) asymmetric aldol condensation.
 - (b) Asymmetric epoxidation.
24. Explain synthesis of :
 - (a) atropine.
 - (b) Chloramphenicol.
25. Explain :
 - (a) Replication of DNA.
 - (b) Flow of genetic information.
 - (c) Transcription and translation.
 - (d) Human genome project.

(2 × 5 = 10)

