

19001390



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Reg. No.....

Name.....

**M.Sc. DEGREE (C.S.S.) EXAMINATION, APRIL 2019**

**Fourth Semester**

Faculty of Science

Branch III : Chemistry—Pure Chemistry

CH 4E 02—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. Explain the applications of cyclodextrins
3. What do you mean by drug action ?
4. Give a short note on supercritical CO<sub>2</sub> solvents ?
5. What is the mechanism of Thiamine catalysed of Benzoin.
6. What are dendrimers and how can these be made ?
7. What are calixarenes.
8. Explain Host-Guest complex formation with an example.
9. Give *two* methods for the synthesis of nano-materials.
10. Explain regulation of gene expressions.
11. Give structures of any *two* anti-antigonal drugs
12. Give structure of PGE<sub>2</sub> and PGF<sub>2</sub>α.
13. What are the bases present in DNA ? Give their structures.

(10 × 1 = 10)

**Turn over**





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### Section B

*Answer any **five** questions.*

*Each question carries a weight of 2.*

14. Explain the different forces involved in molecular recognition.
15. What are the principles of green chemistry ?
16. Describe the asymmetric Diels-Alder reactions.
17. Explain the modelling techniques in drug designing.
18. Describe the synthesis and application of crown ethers.
19. What are the requirements for a journal article ?
20. Explain synthesis and application of anti-anginal drugs.
21. Explain polymerase chain Reaction (PCR).

(5 × 2 = 10)

### Section C

*Answer any **two** questions.*

*Each question carries a weight of 5.*

22. Explain in brief, the *twelve* principles of green chemistry.
23. Describe the characterisation of nanomaterials using (a) TEM (b) SEM (c) STM (d) XRD.
24. Explain synthesis of (a) Penicillins (b) Chloramphenicol (c) Tetracyclins.
25. Explain (a) Replication of DNA (b) Flow of genetic information (c) Transcription and translation (d) Genetic code.

(2 × 5 = 10)

