

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

M.Sc. Chemistry - END SEMESTER EXAMINATIONS APRIL - 2024
SEMESTER - II

22PCHET2002 - Hetero Cyclics And Natural Products

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Elaborate the preparation and properties and applications of imidazole. (2+2+1 marks)
2. Effect the following conversions: (2.5+2.5 marks)
 - i) Urea \longrightarrow Uracil
 - ii) Urea \longrightarrow Uric acid.
3. Explain the primary and secondary structure of proteins.
4. Describe various synthetic strategies adopted for anthocyanidins.
5. How will you synthesize progesterone from cholesterol.
6. Elucidate the structure of oestrone.
7. Explain Reformatsky reaction for the synthesis of vitamin A.
8. Illustrate the utility of Wittig reaction in the preparation of β -carotene and lycopene.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. How will you synthesize following heterocyclic compounds: (5x2=10 marks)
 - i) Pyrazole ii) Thiazole iii) benzoxazole iv) pyrimidine v) indole
10. Discuss various steps involved in solid phase peptide synthesis by taking suitable example.
11. Elucidate the structure of flavones and confirm the structure by synthesis. (6+4 marks)
12. i) Establish the structure of α -terpineol. (6)
ii) Outline the synthesis of camphor. (4)

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II - Compulsory question ($1 \times 10 = 10$ Marks)

13. i) Establish the positions of hydroxyl group and double bond in cholesterol. (6 marks)
- ii) Apply Barbier-Wieland degradation method to cholesterol and ascertain the nature of side chain. (4 marks)
