

Total No. of printed pages = 2

MPC 202T

Roll No. of candidate

--	--	--	--	--	--	--	--	--	--

2023

M.Pharm. (Pharmaceutical Chemistry) 2nd Semester End-Term Examination

ADVANCED ORGANIC CHEMISTRY — II

(New Regulation)

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *Seven* from the rest.

1. Multiple Choice Questions : (5 × 1 = 5)
- (i) Ziegler Natta catalyst is associated with.
- (a) polymerisation of alkenes
 - (b) hydrogenation of alkenes
 - (c) hydroformylation of alkenes
 - (d) none of the above
- (ii) What is the first step in the Solid Phase Peptide Synthesis?
- (a) Protection
 - (b) Deprotection
 - (c) Coupling
 - (d) Attaching an amino acid to the polymer
- (iii) Which of the following are the principal laws of photochemistry?
- (a) Grothus-Draper and Stark-Einstein law
 - (b) Raoult's and Dalton's law
 - (c) Raoult's and Henry's law
 - (d) Lambert's and Beer's law

[Turn over

- (iv) Rate of reaction depends upon
- Number of collisions
 - Energy of molecules
 - Orientation of molecules
 - All of these
- (v) Which of the following is used as a catalytic promoter?
- Cl_2
 - NO_2
 - Br_2
 - He
2. Draw the structure of five C-terminal protecting group and five coupling reagents in peptide synthesis and write down their application. (5 + 5 = 10)
3. List out the application of the synthetic peptides. Explain the steps of solid phase peptide synthesis with proper example. (3 + 7 = 10)
4. Explain any five principles of green chemistry citing proper example. (10)
5. Calculate atom economy of any two reactions compared with green chemistry approach and conventional method. Explain the principle of microwave synthesis. (8 + 2 = 10)
6. Differentiate solid phase and solution phase peptide synthesis. Explain the synthetic application of continuous flow reactor. (4 + 6 = 10)
7. Give four examples of drugs undergo photochemical reaction. Explain Photo addition reaction citing proper example. (4 + 6 = 10)
8. Describe the methods of asymmetric synthesis using chiral pool and chiral auxiliaries. Write down four methods of resolution of racemates. (8 + 2 = 10)
9. Describe the application of heterogeneous catalysis in synthesis of drugs. (10)
10. Classify pericyclic reaction. Differentiate [2+2] and [4+2] cycloaddition reaction. Describe the methods of analysing pericyclic reaction. (2 + 8 = 10)
-