

PG (NEW) CBCS
M.Sc. Semester-III Examination, 2022
CHEMISTRY
 PAPER: CEM 303



ADVANCED ORGANIC CHEMISTRY-II (ORGANIC SPL.)

Full Marks: 40

Time: 2 Hours

GROUP - A

1. Answer any FOUR questions from the following questions: 2×4 = 8

- a) Write down the application of liquid crystals.
- b) What are the major differences between supramolecular gel and polymeric gel?
- c) A' carry out Knoevenagel condensation following the principles of green chemistry?
- d) Write down four different applications of cyclodextrin.
- e) What are micelles and reverse micelles?
- f) What is the prosthetic group of an enzyme?
- g) What is electric point?
- h) What is an acidic amino acid? Give example.

GROUP - B

2. Answer any FOUR questions from the following questions: 4×4 = 16

- a) What are photo-responsive systems? Give two examples. (2+2)
- b) Define the terms 'amphiphile' and 'bola-amphiphile' with suitable examples.
- c) Explain the mechanism of Dye sensitize solar cells.
- d) Describe the primary and secondary structure of protein.
- e) Describe the purification process of enzyme.
- f) Describe the types of amino acids and give example.
- g) What is nucleoside and nucleotide? Give example. (2+2)
- h) Write the Watson-Crick Model of DNA.

(P.T.O.)

GROUP - C

3. Answer any **TWO** questions from the following questions: $8 \times 2 = 16$

- a) Define self-assembly. What kind of interactions are involved in the self-assembly process? Write the different types of supramolecular structures that can form by self-assembly. (2+2+4)
- b) Discuss the twelve basic principles of green chemistry.
- c) Write down the applications of crown ethers and cryptands. Describe the structural features of cyclodextrin. (4+4)
- d) Describe the structural features of the RNA and state the different types of RNA. (4+4)


