

APRIL/MAY 2019

MCH24A — GREEN CHEMISTRY

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL questions.

- (a) Discuss the basic concepts of green chemistry.

Or

- (b) How would you explain energy requirements for synthesis?

2. (a) Explain the substitution and addition reaction using sonochemical methods.

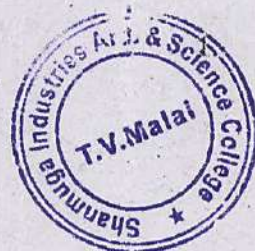
Or

- (b) Write an account on N-alkylation and C-alkylation using microwaves methods.

3. (a) Describe the synthesis and application of ionic liquids in organic synthesis.

Or

- (b) Define and illustrate polymer supported photo sensitizers.





4. (a) Explain the various types and advantages of phase transfer catalyst.

Or

- (b) Discuss the oxidation and reduction reactions under PTC conditions.

5. (a) How will you explain the vegetable tanning?

Or

- (b) Give an account of application of Ziegler Natta Catalysis.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. Explain the following

- (a) Minimization of hazardous products
- (b) Use of protecting groups
- (c) Designing safer chemicals.

7. (a) How would you explain the oxidation, reduction and coupling reaction using ultra sound. (8)

- (b) Discuss the following using Microwaves condition. (7)

- (i) Diels – Alder reaction
- (ii) Deprotection of esters

8. Write notes on: (5+5+5)

- (a) Synthesis of oligosaccharides with polymer supported reagents.
- (b) Preparation of sulfonazide polymer and application in diazo transfer reaction.
- (c) Preparation of polymer supported  $AlCl_3$  and its applications.

How will you explain the following name reaction using phase transfer catalyst. (5+5+5)

- (a) Williamson synthesis
- (b) Benzoin condensation
- (c) Wittig reaction

10. Discuss the followings: (5+5+5)

- (a) Leather Manufacture
- (b) Chrome tanning
- (c) Metallocene catalyst

