

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0522]

MAY 2022

Sub. Code: 2016

(SEPTEMBER 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER - II

PAPER II – PHARMACEUTICAL ORGANIC CHEMISTRY I

*Q.P. Code : 562016*

Time: Three hours

Maximum: 75 Marks

**I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)**

1. What are alcohols? Classify them. Outline the nomenclature, method of preparation and chemical reactions of alcohols.
2. Outline the synthesis and mechanism of
  - a) Aldol condensation
  - b) Cannizzaro reaction
  - c) Benzoin condensation
  - d) Perkin condensation
3.
  - a) Describe any two methods to differentiate 1°, 2° and 3° amines.
  - b) Give the reactions of carboxylic acids.

**II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)**

1. Discuss the general methods of preparations and properties of aliphatic amines.
2. Factors affecting SN<sup>1</sup> and SN<sup>2</sup> reactions.
3. Discuss free radical and electrophilic addition reactions of conjugated dienes.
4. Explain the mechanism by which alkyl halides undergo elimination reaction with suitable examples.
5. Discuss the mechanism of bimolecular nucleophilic substitution reaction.
6. What are carboxylic acids? Draw the resonating structures of carboxylate ion.
7. Discuss factors affecting E<sup>1</sup> and E<sup>2</sup> reactions.
8. Write any three qualitative tests of carboxylic acid.
9. How will you distinguish between aldehydes and ketones.

**III. Short answers on: Answer ALL questions. (10 x 2 = 20)**

1. Draw the structure and uses of Benzyl benzoate, Succinic acid.
2. Draw the structure and uses of Ethanolamine, Ethylenediamine.
3. Draw the structure and uses of Acetyl salicylic acid, Lactic acid.
4. Draw the structure and uses of Hexamine, Cinnamaldehyde.
5. Discuss the two simplest aliphatic Carboxylic acid with their IUPAC names.
6. Why ammonia is basic in nature.
7. State anti-Markownikov rule.
8. What is the full form of IUPAC.
9. Explain why tertiary amine is more basic than the other two amines?
10. Define elimination reaction.

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