



**DAV-M-201913**

Seat No. \_\_\_\_\_

**First Year Pharmacy Examination**

**May - 2022**

**Pharmaceutical Organic Chemistry**

Time : 3 Hours]

[Total Marks : 70

**Instructions :** (1) Figures to the right indicate marks.  
(2) Draw neat and clean diagram when required.

**1** Answer the following questions : **10×2=20**

- (1) Write the structure and IUPAC name of
  - (a) Acetone
  - (b) Diethyl ether
- (2) Explain Lewis theory of acids and bases.
- (3) Define nucleophile. Classify with examples.
- (4) Define melting point, boiling point.
- (5) Write Kolbe and reamer tiemanns reaction.
- (6) What are primary and secondary amines? Give examples.
- (7) Write the structure, uses of
  - (a) Lactic acid
  - (b) Dimercaprol
- (8) What is crossed -Aldol condensation? Give one example.
- (9) Ortho nitrophenol is more acidic than phenol. Comment.
- (10) Write comparison of aliphatic nucleophilic substitution with that of aromatic.

**2** Answer any two out of the following questions: **2×10=20**

- (1) What are SN1 and SN2 reactions? Explain their mechanism. Give an account on the various factors that influence by SN1 and SN2 reactions.
- (2) Explain the mechanism, orientation, stereochemistry and reactivity of E1 and E2 reaction with appropriate examples.
- (3) Explain Markonikov's and anti Markonikov's addition with examples.

**3** Answer any six out of the following questions : **6×5=30**

- (1) Discuss free radicals chain reactions of alkanes with mechanism in detail. Add a note on stability of free radicals.
- (2) Explain Bayer's strain theory. Write its limitations.
- (3) Write structure uses and assay of urea, aspirin, citric acid and Sodium lauryl sulphate.
- (4) Write the mechanism for Friedal craft alkylation. Write its limitations.
- (5) Explain electrophilic aromatic substitution reaction with example.
- (6) Discuss the nucleophilic addition reaction and write a note on reactivity of aldehydes & ketones towards this reaction.
- (7) Explain the mechanism of Cannizzaro and crossed Cannizzaro reaction with appropriate examples.
- (8) Explain: Hofmann's reaction, diazotization reaction and coupling reaction.

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