

[Total No. of Questions - 3] [Total No. of Printed Pages - 2]  
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**B. Pharmacy 1st Semester Examination**  
**Pharmaceutical Organic Chemistry (N.S.)**  
**BP-112**

**Time : 3 Hours**

**Max. Marks : 70**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** The candidates are required to attempt any two questions from Section A, Any eight from Section B. Section C will be compulsory & students have to answer all questions from Section C.

**SECTION - A**

1. Attempt any two:
  - (a) Discuss stability, generation and reactions of carbanions.  
(10)
  - (b) Discuss Mechanisms with proof for E<sub>1</sub> and E<sub>2</sub> reactions.  
(10)
  - (c) Write on chemistry, properties and reactions of Alcohols.  
(10)

**SECTION - B**

2. Write on followings with examples (Any Eight):
  - (a) Neighbouring group effects.
  - (b) Hyperconjugation.
  - (c) sp<sup>2</sup> hybridization.

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- (d) Markonikov and anti-markonikov rule.
- (e) Preparation and reactions of epoxide.
- (f) Molecular orbital theory.
- (g) Halogenation of Alkanes.
- (h) Aldol condensation.
- (i) Canizzaro reaction.
- (j) Basicity of Amines. **(5×8=40)**

**SECTION - C**

3. Comment on followings:

- (a) Carboxylic acids are more acidic than alcohols.
- (b) Tertiary compounds generally undergo SN2 reactions.
- (c) Ketones undergo electrophilic addition reactions more readily than aldehydes.
- (d) Dipole moment of CO<sub>2</sub> is zero.
- (e) Aryl halides are less reactive than alkyl halides. **(2×5=10)**