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(2063)

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**B. Pharmacy (Ayurveda) 2nd Semester Examination**  
**Pharmaceutical Chemistry (Organic)**

**BPA-223**

**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 :** Question 1 is compulsory and candidates are required to attempt any five questions out of remaining six.

1. Answer the following questions (ANY TEN)
  1. Differentiate electrophile and nucleophile.
  2. Explain the polarity of carbon tetrachloride.
  3. Write application of Grignard reagent.
  4. Explain why alkynes are less reactive than alkenes towards electrophilic addition reaction.
  5. Give the structure of isopropyl alcohol and tertian butyl alcohol.
  6. Discuss Huckel's rule of aromaticity.
  7. Differentiate E1 and E2 reactions.
  8. Why do ethers have low boiling points compare to isomeric alcohols?

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9. Give the structure of acetophenone and p-nitro benzaldehyde.
10. What is the function of anhydrous  $\text{ZnCl}_2$  in lucas reagent?
11. Why boiling points of carboxylic acids are much higher than alcohols of comparable mass?
12. Define the terms cis and trans. **(20)**
2. (a) Describe sequence rule for giving configuration R and S. **(5)**  
(b) Write a note on meso compounds. **(5)**
3. (a) Discuss resonance in detail. **(5)**  
(b) Explain hydrogen bonding. **(5)**
4. (a) Explain  $\text{SN}_1$  reaction. **(5)**  
(b) Discuss preparations of ethers. **(5)**
5. (a) Give mechanism of chlorination of methane. **(5)**  
(b) Explain nitration of benzene. **(5)**
6. (a) Explain Markovnikov's rule with example. **(5)**  
(b) Write a note on chemical properties of alcohols. **(5)**
7. (a) Explain cannizzaro reaction. **(5)**  
(b) Explain nomenclature of aliphatic and aromatic carboxylic acids. **(5)**