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(2064)

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B. Pharmacy (Ayurvedic) 2nd Semester Examination
Pharmaceutical Chemistry (Organic Chemistry) (O.S.)
Paper-III

Time : 3 Hours

Max. Marks : 90

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 : (i) Attempt any five questions in all. Question number 1 is compulsory.

(ii) Each question will carry 18 marks.

1. Attempt the following: (Any six) (6x3=18)
- (a) Compound X is highly volatile, inflammable and water insoluble in nature and obtained by the reaction of sodium ethoxide and methyl iodide. What is compound X?
 - (b) Which type of firstly product is formed by the oxidation of primary alcohol?
 - (c) Which kind of isomerism is shown by CH_3CHCl_2 and $\text{CH}_2\text{ClCH}_2\text{Cl}$?
 - (d) Arrange the following in decreasing order of acidic strength: Cl_3CCOOH , ClCH_2COOH , Cl_2CHCOOH .
 - (e) Explain why alcohols have much higher boiling points than the hydrocarbons from which they are derived?

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- (f) Compound X is polyhydroxy aldehyde or ketone or substance which yields these on hydrolysis and serves as source of energy and detected by Molisch's test. Explain what is the nature of compound X?
- (g) Compound X is very weak acidic in nature and due to intermolecular hydrogen bonding has relatively high boiling point than the corresponding hydrocarbon, and alcohol which react with metal to form salt known as phenoxide or phenate. What is compound X?
- (h) What product will be obtained when ethyl alcohol is heated with conc, sulphuric acid at 170°C?
2. Discuss the following: (3x6=18)
- (a) Resonance effect
 - (b) Dipole moment
 - (c) Hydrogen bonding
3. Attempt the following: (3x6=18)
- (a) What are alcohols? How you will differentiate the primary, secondary and tertiary alcohols?
 - (b) Discuss the optical isomerism
 - (c) Write a note on racemic modifications
4. Discuss the reaction mechanism of the following: (3x6=18)
- (a) Cannizaro reaction
 - (b) Electrophilic substitution reaction
 - (c) Clemmensen reduction reaction

5. Discuss the following: (3x6=18)
- (a) Methods of preparation of alkene
 - (b) Brief note on macromolecules
 - (c) Methods of preparation of phenol
6. Discuss the following: (3x6=18)
- (a) Acetylene
 - (b) Methods of preparation of aldehyde
 - (c) Aliphatic halogen compound
7. What are aromatic hydrocarbons? Discuss the methods of preparation and physico-chemical properties of aromatic hydrocarbons with suitable examples. (3x6=18)