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SEAT No. \_\_\_\_\_

No. of printed pages : 02

**SARDAR PATEL UNIVERSITY****M.Sc. Pharmaceutical Chemistry, Second Semester Examination****Monday, 18<sup>th</sup> March****2019****10.00 a.m. to 1.00 p.m.****Organic Chemistry-II: PS02CPCH21****Total Marks : 70****Note :** (i) All questions are to be attempted. (ii) Figures to the right indicate marks.

- Q.1 Choose the correct option for the following:** **8x1  
=08**
- (i) Conformational isomers can be represented by.....  
 (a) Newman projection (b) Fisher projection  
 (c) Haworth projection (d) All of the above
- (ii) Configurations isomers are .....  
 (a) Stereoisomers (b) Show rigidity within the molecule  
 (c) cannot be inter-converted (d) All of the above
- (iii) Amides can be synthesized by ..... reaction.  
 (a) Claisen condensation (b) Beckmann (c) Hoffmann (d) Lossen
- (iv) Curtius rearrangement is used for the synthesis of .....  
 (a) Primary amine (b) Secondary amine (c) Both 'a' & 'b' (d) tert-Amine
- (v) Which is used as an oxidizing agent ?  
 (a)  $\text{KMnO}_4$  (b)  $\text{HCOOOH}$  (c)  $\text{OsO}_4$  (d) All
- (vi) Which is Grignard reagent ?  
 (a)  $\text{CH}_3\text{MgBr}$  (b)  $\text{CaCO}_3$  (c)  $\text{Pb}$  (d)  $\text{CaCO}_3$  &  $\text{Pb}(\text{COOCH}_3)_2$
- (vii) FGA means .....  
 (a) Free group addition (b) Functional group addition  
 (c) Both 'a' & 'b' (d) None
- (viii) Retrosynthesis is shown by .....  
 (a) Single line arrow (b) Double line arrow  
 (c) Dotted line arrow (d) All of the above
- Q.2 Answer the following : (Attempt any seven)** **7x2  
=14**
- i. Draw conformational isomers of cyclohexane.
  - ii. Define: Chirality and Meso compound.
  - iii. Write Lossen rearrangement with an example
  - iv. Write Hoffmann rearrangement taking suitable reagents.
  - v. Define oxidation and oxidizing agents.
  - vi. Write the structure and uses of alkylating agents.
  - vii. Explain stability of free radicals.
  - viii. Define retrosynthesis analysis.
  - ix. Identify synthon and synthon equivalent of ethanol.

(1)

( P.T.O )

- Q.3 Answer the following :**
- A Draw Newman projection formula for n-butane and discuss stability of all the conformational isomer of n-butane. 06
- B Define racemic resolution. Discuss various methods for racemic modification. 06
- OR**
- B. Assign R- and S- notation to the following: 06  
(a) Glyceraldehyde (b) 2,3-Dichlorobutane (c) Sec. Butyl chloride
- Q.4 Answer the following :**
- A. Write reaction and appropriate mechanism for the following : 06  
(a) Benzil-Benzilic acid rearrangement (b) Schmidt reaction.
- B. Identify the reaction intermediate for following rearrangement and suggest appropriate mechanism for the reaction. 06  
(a) Pinacol-pinacolone rearrangement (b) Wagner-Meerwein rearrangement
- OR**
- B. Write a note on: Wittig reaction and its application. 06
- Q.5 Answer the following :**
- A. Define redox reaction. Write structure and uses of following reagents : 06  
(a)  $\text{LiAlH}_4$  and (b)  $\text{OsO}_4$ .
- B. Write the structure, synthesis and main application of potassium permanganate. 06
- OR**
- B. Write synthesis, structure and applications of Grignard reagent. 06
- Q.6 Answer the following:**
- A. Discuss about one group disconnection transform taking suitable example. 06
- B Explain the following terms: 06  
(a) synthon (b) synthon equivalent (c) FGI
- OR**
- B Explain in detail about latent polarity concept for retrosynthesis. 06

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