SARDAR PATEL UNIVERSITY
M.Sc. (CHEMISTRY), Semester – I, Examination
Friday, 3rd November 2017
PS01CCHE22 - ORGANIC CHEMISTRY-I

Time: 10:00 A.M. To 01:00 P.M.   **Maximum Marks-70**

Q.1 Select the correct answer from the option given below for each of the following questions. **[08]**
Write **ONLY ANSWERS** in the provided answer book. [e.g. **Q.1** (1)-(**B**)]

(1) **Assertion A:** Hypo-halous acid in presence of acid is used as a reagent for halogenation in benzene and derivatives.
**Reason B:** This is an example of electrophilic aromatic substitution.
    A) Both A and B are true; B is the correct explanation.
    B) Both A and B are true; B is not the correct explanation.
    C) A is true and B is false.
    D) A is false and B is true.

(2) Which of the following statements applies to the E2 mechanism?
    A) It is occurs with the inversion of stereochemistry.
    B) It proceeds through the more stable carbocation intermediate.
    C) The C-H and C-Y bonds that break must be anti.
    D) Use of bulky base gives the more highly substituted alkene product.

(3)

    A)   B)   C)   D)
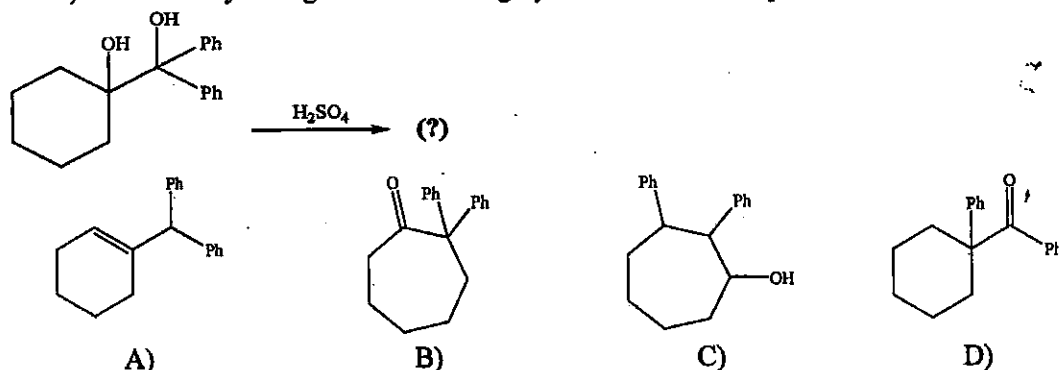
(4) Which of the following compound is least reactive towards nucleophilic substitution reaction?
    A) 1-chloro-2,4-dinitrobenzene   C) 1-chloro-2,4-dimethylbenzene
    B) 1-chloro-2,4-dimethoxybenzene   D) 1,4-dichlorobenzene

(5) The regioselectivity and stereospecificity in the hydroboration-oxidation of an alkene is best described as:
    A) Anti-Markovnikov orientation with anti-addition.
    B) Anti-Markovnikov orientation with syn-addition.
    C) Markovnikov orientation with anti-addition.
    D) Markovnikov orientation with both syn- and anti-addition.

(6) Phenol ester is converted into ortho- or para-acylphenol in presence of lewis acid using _____.
    A) Fries rearrangement   C) Lossen rearrangement
    B) Wolff rearrangement   D) Steven rearrangement

(7) The correct statements about the compound $H_3C(OH)HC-CH=CH-CH_3$ (X) are
    1) The total number of stereoisomer possible for X is 4.
    2) Total number of diastereomers possible for X is 3.