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Model Question Paper: Final Semester Examination
B.Sc. Semester-VI, DSE -4 (Organic Synthetic)
Section- V Oxidation Reaction

MCQ (2- Marks)

1. Forming one of these: C-O, C-N, C-X and decreasing electron density on carbon atom is called an/a:
   a) Oxidation Reaction **b)** Reduction reaction **c)** Both a and b **d)** None
2. Chromium Reagent are used to oxidize:
   a) Ketones **b)** Tertiary alcohols **c)** Primary alcohols **d)** Secondary Alcohols
3. 1,2-dicarbonyl product can be prepared by allylic oxidation with
   a) Selenium dioxide **b)** DCC **c)** MnO2 **d)** None
4. Dicyclohexylcarbodiimide reagent are used in the induction of
   a) Protein synthesis b) Amide linkage c) Insulin synthesis d) All
5. Which one of them is an Oxidizing reagent……:
   a) DMSO b) DDC c) CrO3 d) all
6. MPV reduction is a revers process of
   a) DCC oxidation b) Oppenauer Oxidation c) CrO3 Oxidation d) all

Short answer type Questions (5- Marks)

Q-1. Find the oxidation number of Cr in Na2Cr2O7? How can you prepare a chromic acid reagent in the laboratory? Discuss mechanism of chromic acid oxidation with an appropriate precursor.
Q-2. Discus the mechanism of selenium dioxide-mediated oxidation of methylene groups adjacent to carbonyls
Q-3. Discus the Preparation and properties of Lead (IV)Acetate, Pb (OAc)4.
Q-4. Depicts the structure of DCC. Discuss the mechanism of Sheehan and Hess method for the induction of amide linkage in peptide synthesis.

Long answer type questions (12.5)

Q-1. Discuss the mechanism of Glycol Oxidative Cleavage by Lead Tetraacetate.
Q-2. Write the mechanism of:
1. Oppenauer Oxidation reaction.
2. Oxidative Cleavage of Olefins by Ozonolysis.