Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

M.Sc. Summer 2018-19 Examination

Semester: III **Date: 04/04/2019**
Subject Code: 11205202 **Times: 2:00pm to 4:30 pm**
Subject Name: Redox reactions & Organometallics **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Write Brief note on (Each of 04 marks) **08**
(a) Short Note on Prevost method.
(b) Short Note on Oppenauer Oxidation.

Q.1. B) Answer the following questions (Any two)
(a) Answer the following (Each of 02 marks) **04**
1.Define Vicinal diols.
2.Define Oxidation.
(b) Explain the Process of Reduction of Ketone using $LiAlH_4$ **04**
(c) Write the Principles of Catalytic Hydrogenation. **04**

Q.2. A) Answer the following questions.
(a) Write Short Notes on (Each of 02 marks) **04**
1.Write the Full Name & structure of DMDO
2.Define Reduction.
(b) Short note on Oxidation of Olefins. **04**

Q.2. B) Answer the following questions (Any two)
(a) Multiple choice questions. (Each of 01 marks) **03**
1.The reaction in which Oxidation & Reduction takes place simultaneously is called ---------
a) Redox Reaction b) Hydrogenation c) Sulphonation d) Polymerizaion
2. Primary Alcohols on Oxidation produce --------
a) Aldehydes b) Ketones c) Ether d) Ozone
3. The other name of alkenes is -----
a) Olefins b) Aldols c) Ketals d) Resins
(b) Write Difference between $LiAlH_4$ & $NaBH_4$ **03**
(c) Short note on Meerwein-Ponndorf-Verley reduction. **03**

Q.3. A) Write Brief note on: (Each of 04 marks) **08**
(a) Write Note on Darzon Condensation
(b) Write Note on Mannich reaction.

Q.3. B) Answer the following questions (Any two)
(a) Answer the Following (Each of 02 marks) **04**
1.Define Organometallics.
2.Give uses of Palladium.
(b) Short note on Michael addition. **04**
(c) Short note on Knoevenagel condensation with mechanism. **04**

Q.4. A) Answer the following questions.
(a) Write Short answers (Each of 02 marks) **04**
1. Write uses of Titanium Complexes.
2. What is 18 electron rule.
(b) Short note on Wacker Process. **04**

Q.4. B) Answer the following questions (Any two)
(a) Multiple choice questions. **(Each of 01 marks)** **03**
1.Which reagent is a good nucleophile.
a) HBr b) NH_3 c) Br_2 d) BH_3
2. Enamine shows which type of behavior?
a) Basic b) Nucleophilic c) Nucleophilic & basic d)Electrophilic
3.In Mannich reaction the iminium derivative of the aldehyde is ----------in the reaction.
a)Acceptor b) Donor c) Both a & b d) None
(b) Short note on Heck reaction. **03**
(c) Short note on Sonogashira reaction. **03**