

**PARUL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**B.Sc., Winter 2017-18 Examination**

**Semester: 4****Subject Code: 11100251****Subject Name: Chemistry-IV****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.

**Date: 03/01/2018****Time: 02:00PM to 04:30PM****Total Marks: 60**

- Q.1. A) Essay type (Each of 04 marks) (08)**  
(a) Name the element of first transition series. Give their electronic configuration.  
(b) Explain the Rusting of Iron. How may Rust proofing may be accomplished.
- Q.1. B) Answer the following questions (Any two) (04)**  
(a) Short note (Each of 02 marks) (04)  
1. Explain Occurrence of Zirconium in nature.  
2. How is Gold extracted from its ores.  
(b) Write a short note on Tungsten. (04)  
(c) Write a short note on Mercury. (04)
- Q.2. A) Answer the following questions. (04)**  
(a) Brief note (Each of 02 marks) (04)  
1. Rosenmund reaction  
2. Benzoin condensation  
(b) Define annealing and tempering. (04)
- Q.2. B) Answer the following questions (Any two) (03)**  
(a) (Each of 01 marks) (03)  
1. Write formula of 3-Bromo-5-Nitro Benzaldehyde  
2. Write formula of Benzyl Alcohol  
3. Write formula of Benzophenone  
(b) Write short note on Clemmensen reduction (03)  
(c) Write short note on the Conversion of Chlorobenzene to Phenol (03)
- Q.3. A) Brief note (Each of 04 marks) (08)**  
(a) What happens when Acetaldehyde is treated with hydroxylamine.  
(b) What happens when Ethyl Alcohol is treated with Diazomethane.
- Q.3. B) Answer the following questions (Any two) (04)**  
(a) Brief note (Each of 02 marks) (04)  
1. Friedel-Craft reaction  
2. Clemmensen reduction  
(b) Cannizzaro's reaction & its Mechanism (04)  
(c) Reactions of Carboxylic acid (04)
- Q.4. A) Answer the following questions. (04)**  
(a) (Each of 02 marks) (04)  
1. Write formula of Two Grignard reagent.  
2. Brief note on the Salient features of different Spectrophotometers  
(b) Brief note on Electromagnetic radiation (04)
- Q.4. B) Answer the following questions (Any two) (03)**  
(a) (Each of 01 marks) (03)  
1. Write formula of Acetic Anhydride  
2. Write formula of Allyl Alcohol  
3. Write formula of Ethanoic acid  
(b) Brief note on Dipole moment (03)  
(c) Brief note on Magnetic Susceptibility (03)