

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

Semester: 3

Date: 19/12/2017

Subject Code: 11100201

Time: 10:30am to 1:00pm

Subject Name: Chemistry-III

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) Answer the following questions (Each of 04 marks) (08)**
- (a) Write electronic configuration of alkali metals.
 - (b) Explain structure of XeF_2 molecule.
- Q.1. B) Answer the following questions (Any two)**
- (a) Explain Dehydration of alcohol with 3 step mechanism. (04)
 - (b) Write electronic configuration of noble gases. (04)
 - (c) Write classification of Dienes with suitable example of each. (04)
- Q.2. A) Answer the following questions.**
- (a) Explain Diels-Alder reaction giving suitable reaction. (04)
 - (b) State Markovnikov's Rule. Give one reaction of it. (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Write structural formula for (Each of 01 marks) (03)
 1. Penta-1,4-diene
 2. 1,2-dibromopropane
 3. Cyclohexa-1,3-diene
 - (b) Explain how XeF_2 is prepared in laboratory. (03)
 - (c) Write Nitration of Benzene. (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
- (a) Write reaction of Friedal-crafts alkylation and acylation.
 - (b) Explain structure of Benzene.
- Q.3. B) Answer the following questions (Any two)**
- (a) Convert Benzene to Benzene sulfonic acid. (04)
 - (b) What is full form of TNT? Write its structure and mention its use? (04)
 - (c) State Saytzeff Rule. Give reaction based on it. (04)
- Q.4. A) Answer the following questions.**
- (a) What is Grignard reagent? What do you get when water is added to Grignard reagent? (04)
 - (b) What is peroxide effect? Write reaction showing this effect. (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) What is rate of reaction? Explain first order rate of reaction. (03)
 - (b) Explain structure of Anthracene. (03)
 - (c) Convert Benzene to cyclohexane. (03)