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

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

B.Sc. Summer 2017-18 Examination

Semester: 2 **Date: 07/05/2018**
Subject Code: 11100151 **Time: 10:30 am to 1:00 pm**
Subject Name: Chemistry-II **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 a detailed note on the following questions. **(08)**
(a) Mention main postulates on VSEPR Theory.
(b) Write a note on the Born-Haber cycle with proper diagrammatic representation.

Q.1. B) Answer the following questions (Any two)
(a) Write a short note on followings. **(04)**
1. State Fajan's rule.
2. Define: Covalent bond and Electronegativity.

(b) Draw M.O. diagram for CO molecule. Calculate its Bond order. **(04)**
(c) Write a note on H-Bonding. Explain its types also. **(04)**

Q.2. A) Answer the following questions.
(a) Answer the followings: **(04)**
1. Define: Electrophiles and Nucleophiles with examples.
2. Explain Hyperconjugation.

(b) Define Hybridization. Explain Hybridization in Methane. **(04)**

Q.2. B) Answer the following questions (Any two)
(a) Write a short note on Van der Waal's Interaction forces. (Any two types) **(03)**
(b) Write a note on Homolytic and Hetrolytic bond fission. **(03)**
(c) Explain any three types of Organic reactions. **(03)**

Q.3. A) Write a detailed note on the following questions. **(08)**
(a) Write a note on the stereochemistry of *threo* and *erythro* compounds with an example.
(b) Write a note on the conformational analysis of Cyclohexane with all diagrams.

Q.3. B) Answer the following questions (Any two)
(a) Answer the followings: **(04)**
1. Differentiate between configurational and conformational isomerism.
2. Explain Meso isomers with structures.

(b) Write a short note on R- & S-system of nomenclature with an example. **(04)**
(c) Explain Geometrical isomerism with diagrams. **(04)**

Q.4. A) Answer the following questions.
(a) Answer the following: **(04)**
1. Mention the conditions for an Ideal gas.
2. Write Van der Waals equation of Ideal gas with all important terms.

(b) Write a note on Kinetic theory of gases. **(04)**

Q.4. B) Answer the following questions (Any two)
(a) Explain Maxwell's distribution of molecular velocities. **(03)**
(b) Define with equation: Mean free path and Collision number. **(03)**
(c) Describe Root mean square (RMS) velocities. **(03)**