

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc. Winter 2018-19 Examination

Semester: I**Date: 12/12/2018****Subject Code: 11107111****Time: 10:30 AM to 1:00 PM****Subject Name: Chemistry****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) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Define hybridization. Write a note on various types of hybridization.
 (b) Explain the steam distillation with diagram.
- Q.1. B) Answer the following questions (Any two) (04)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. Explain the term activation energy.
 2. Define Electrophoresis.
 (b) Differentiate thermoplastic and thermosetting polymers. (04)
 (c) Define electron affinity property and its change along the period and along the group. (04)
- Q.2. A) Answer the following questions. (04)**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
 1. Explain van der waals forces with example.
 2. Define octane number.
 (b) Short note on Chromatography and about its types. (04)
- Q.2. B) Answer the following questions (Any two) (03)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. Write an order in which atomic orbitals are filled.
 2. Activation energy depends on-
 a) Rate b) temperature c) time
 3. State the first law of thermodynamics.
 (b) Short note on viscosity. (03)
 (c) Write a note on ionisation energy. (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Compare the properties of s- block and p-block elements along the group and along the period.
 (b) Define insecticide. Write a note on classification of insecticides.
- Q.3. B) Answer the following questions (Any two) (04)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. Differentiate addition and condensation polymerization.
 2. How alkane and other hydrocarbons are made from coal?
 (b) Write the full form of IUPAC. State the rules to give a name for alkanes with examples. (04)
 (c) Discuss various steps in gravimetric analysis. (04)
- Q.4. A) Answer the following questions. (04)**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
 1. There are _____ groups and _____ periods in modern periodic table.
 2. The principle which states that no two electron can have same four electronic quantum number is _____.
 (b) Define the following terms: monomer, polymer, homopolymer, copolymer. (04)
- Q.4. B) Answer the following questions (Any two) (03)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. State and explain Hund's principle.
 2. Define plasticizers.
 3. Draw the structure of toluene.
 (b) Define tacticity. Write a note on various types of it. (03)
 (c) Short note on surface tension. (03)