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

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B. Tech. Winter 2022 - 23 Examination

Semester: 3rd **Date: 03/10/2022**
Subject Code: 203103201 **Time: 2:00 to 4:30**
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 **Objective Type Questions** - (Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark) **(15)**

1. The reactant and catalyst both are in the Different phases it's called_____.
   (a) Heterogeneous catalyst (b) Homogeneous catalyst
   (c) Both (d) none
2. $Alcl_3$ catalyst use in _____ reaction.
   (a) Nitration (b) Halogenation
   (c)oxidation (d) None
3. Which is the example of thermosetting polymer.
   (a) Polyethylene (b) Phenol formaldehyde.
   (c) Polypropylene (d) None.
4. What is the role of catalytic Inhibitor in chemical reaction?
   (a) stop the reaction (b) slow the reaction
   (c) Destroyed the reaction (d) All of these.
5. Which reagent use in Sulphonation of benzene?
   (a) Fuming sulphuric acid (b) Sulphonic acid
   (c) Nitric acid (d) None
6. What is the role of positive catalyst in chemical reaction_____.
7. What is the principle of chromatography?
8. Define:polymer
9. Define:oxidaion
10. Write any one Difference between paper chromatography and TLC.
11. Define: Auto catalyst.
12. What is the full form of TLC?
13. Define:Chromatography
14. What is the application of Alkylation reaction?
15. Give the principle of IR spectroscopy.

Q.2 Answer the following questions. (Attempt any three) **(15)**

A) Difference between Homogeneous and Heterogeneous catalysis.
B) Explain mechanism of Alkylation of Benzene.
C) Give preparation of nylon 5 10.
D) Explain mechanism of Reductive alkylation of Aniline.

Q.3 A) Write the reaction and mechanism of Nitration reaction. **(07)**
B) Explain any six principle of Green chemistry **(08)**

OR

B) Explain polyethylene and writes its two chemical properties and two electrical properties. **(08)**

Q.4 A) Write synthesis of terephthalic acid from p- xylene. **(07)**

OR

A) What is the full form of HPLC? Draw diagram of HPLC and give the uses and principle of HPLC. **(07)**
B) Explain paper chromatography with diagram. **(08)**