



Name of the Program: B.Sc. in IPE
Semester: 2nd

Date: 22 February, 2023
Time: 2:00 – 03:30 pm

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

Mid-Semester Examination
Course No.: Chem 4215
Course Title: Chemistry of Engineering materials

Summer Semester, A. Y. 2021-2022
Time: 1 hour 30 minutes
Full Marks: 75

There are **3 (three)** questions. Answer all **3 (three)** questions. The symbols have their usual meanings. Programmable calculators are not allowed. Marks of each question and corresponding COs and POs are written in the brackets.

1. a) Describe organic coatings method for the prevention of corrosion. 7
CO1
PO1
- b) Define localized corrosion. Explain the Pitting corrosion and Differential aeration corrosion with example. 8
CO2
PO1
- c) Define the term monomer and polymer. Write the classification of polymers. 10
CO3
PO2
2. a) Define latex stating its composition and explain the converting technique of latex into rubber. 7
CO1
PO1
- b) Write the raw material (ethylene) preparation of LDPE polymer and discuss the manufacturing procedure of LDPE polymer. 8
CO2
PO1
- c) Explain the term polymerization and hence Interpret the mechanism of addition polymerization. 10
CO3
PO2
3. a) Define glass and write the physical and chemical properties of glass. Explain (i) Soda lime glass (ii) Pyrex glass and (iii) Safety glass. 7+8
CO1
CO2
PO1
- c) Show all reactions involved during melting of glass raw materials when (i) the batch material contain only soda, limestone and silica and (ii) the batch materials is composed of salt cake, limestone silica and carbon. 10
CO3
PO2