

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
T3 EXAMINATION- Dec 2021
B.Tech III Semester (Civil)

COURSE CODE: 18B11CE311

MAX. MARKS:35

COURSE NAME: Chemistry

COURSE CREDITS: 3

MAX. TIME: 2 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Use of calculator is allowed.

- Q1(a). Elucidate the applications of ceramics. 3
- (b). Discuss the raw materials and different steps for the formation of glass. 3
- Q2(a). Discuss the impact of heavy metals as air pollutants. 3
- (b). Describe the harmful effects of carbon monoxide. 3
- Q3(a). Discuss the classification of polymers based upon molecular forces. 3
- (b). How proper designing of articles is helpful to control rate of corrosion? 3
- Q4(a) What happens when a drop of HCl is added to a mixture of sodium acetate and acetic acid? 2
- (b). Calculate the mole fraction of ethanol and water in a sample of 100 gm of rectified spirit which contains 46% ethanol by mass. 3
- Q4(a). If a polymer sample has population as
- 10 molecules of molecular mass each = 5000
20 molecules of molecular mass each = 7500
20 molecules of molecular mass each = 10000
25 molecules of molecular mass each = 15000
20 molecules of molecular mass each = 20000
10 molecules of molecular mass each = 25000
- Calculate the number average and weight average molecular mass of polymer. 4
- (b) Differentiate between: 8
- (i). Integrated rate law and differential rate law.
- (ii). Crystal systems and Bravais lattices
- (iii). Molecular crystals and Metallic crystals
- (d). Adsorption isotherms and Adsorption isobars.