

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-I EXAMINATION- February 2022

B.Tech VI Semester (Open Elective)

COURSE CODE: 18B1WBT636

COURSE NAME: Industrial Chemistry

COURSE CREDITS: 3

MAX. MARKS: 15

MAX. TIME: 1:00Hr

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

- Q1(a) Mention medical use of Zeolites. 1
- (b) Why Zeolites can accommodate a wide variety of cations? 1
- (c) What is the effect of temperature on the structure and behavior of thermoplastics? 1
- Q2(a). Discuss the purpose of making of alloys. 2
- (b). Explain the use of Aluminium alloys. 1
- Q 3(a). Elaborate the industrial importance of ceramics. 2
- (b). Elucidate the heat treatment of steel with the help of diagram. 2
- (c). Differentiate between Thermoplastics and thermosetting polymers. 2
- Q4. The density and associated percent crystallinity for two polytetrafluoroethylene materials are as follows:
- | ρ (g/cm ³) | crystallinity (%) |
|-----------------------------|-------------------|
| 2.144 | 51.3 |
| 2.215 | 74.2 |
- (a) Compute the densities of totally crystalline and totally amorphous polytetrafluoroethylene.
- (b) Determine the percent crystallinity of a specimen having a density of 2.26 g/cm³ 3