JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2024

B.Tech – III[rd] Semester (BT)

COURSE CODE (CREDITS):18B11CE311(3) MAX. MARKS: 25

COURSE NAME: Chemistry

COURSE INSTRUCTORS: Dr. Poonam Sharma MAX. TIME: 1 Hour 30 Minutes

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1(a)	Elucidate surface tension and interface tension.	CO-2	2
(b)	Elaborate the applications of Colloids.	CO-2	3
Q2(a)	Explain the solubility and various factors affecting it.	CO-2	2
(b)	Discuss various remedial measures to control Ozone depletion.	CO-6	3
Q3(a)	How exhaust vehicular emission can be reduced by correct Air/fuel ratio?	CO-6	3
(b)	The density and associated percent crystallinity for two nylon 6,6 materials are as follows: ρ (g/cm3) crystallinity (%) 1.188 67.3 1.152 43.7 (a) Compute the densities of totally crystalline and totally amorphous nylon 6,6. (b) Determine the density of a specimen having 55.4% crystallinity.	CO-4	5
Q4(a)	Calculate the normality of NaOH solution formed by dissolving 0.2 gm NaOH to make 250ml solution	CO-2	3
(b).	If 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 5 molecules of molecular mass each = 25000 Calculate its number average and weight average molecule mass of polymer and PDI	CO-4	4