R20

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year I Semester Supplementary Examinations November-2021
APPLIED CHEMISTRY
(Common to EEE & ECE)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Calculate the single electrode potential of zinc in 0.05M ZnSO4 solution at 25 ^{0}C. E^0 Zn/Zn^{2+} = 0.763V.	L3 6M
	b	Write a note on Potentiometric Titrations (Redox Titrations)	L2 6M

OR

2	Define Electrode Potential. Derive the Nernst equation for a single electrode potential and write its applications.	L2 12M

UNIT-II

3	a	Explain Heisenberg Uncertainty principle.	L2 6M
	b	Construct the molecular orbital energy level diagram of H_2, H_2^+.	L3 6M

OR

4	a	Write the postulates of molecular orbital theory.	L1 6M
	b	Write short note on Wave-Particle duality of an electron.	L2 6M

UNIT-III

5	a	Explain the following mechanism of Free radical addition polymerization.	L3 6M
	b	Explain the following mechanism of Co-ordination or Ziegler-Natta polymerization.	L3 6M

OR

6	a	Distinguish between Thermoplastics and Thermosetting plastics.	L4 6M
	b	Describe the preparation, properties and uses of Nylon-6,6.	L3 6M

UNIT-IV

7	a	Explain the main components of gas chromatography.	L2 6M
	b	Write a short note on Beer-Lambert's Law.	L1 6M

OR

8	a	Explain the principle and instrumentation of Gas Chromatography.	L2 8M
	b	Write any four applications of Gas Chromatography	L1 4M

UNIT-V

9	a	Write an account on Carbon Nano Tubes.	L1 6M
	b	What is basic lock and key principle?	L1 6M

OR

10	a	Explain the applications of supramolecules in Sensors and Gas storage.	L2 6M
	b	Define Dielectrics? What are the characteristics of Electrical Insulators?	L2 6M

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