Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year II Semester Supplementary Examinations February-2022
CHEMISTRY
(Common to CE, EEE, ME & AGE)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

1	a	Define aromaticity and non aromaticity.	2M
	b	Define internal energy.	2M
	c	Define hard water and soft water.	2M
	d	Why thermosetting plastics cannot be reused and restored?	2M
	e	What are the limitations of Beer-Lambert's law?	2M

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	a	Illustrate the postulates of crystal field theory.	2M
	b	Explain the crystal field splitting of orbital's in octahedral, tetrahedral and square planar fields in complexes.	8M

OR

3	Explain HSAB concept and its applications.	10M

UNIT-II

4	a	Write a note on sacrificial anodic protection.	5M
	b	Discuss about Impressed Current Cathodic protection.	5M

OR

5	Define cell potential. Derive Nernst equation for the calculation of cell emf. What are its applications?	10M

UNIT-III

6	a	What is Priming and Foaming?	5M
	b	Explain sludge and Scale formation in boilers.	5M

OR

7	Describe the Ion exchange process for demineralization of water, what are the advantages and disadvantages of ion exchange process?	10M

UNIT-IV

8	Briefly outline the various methods of moulding process.	10M

OR

9	a	What is substitution reaction?	2M
	b	Explain different types of substitution reactions with examples.	8M

UNIT-V

10	Give an account on principle and instrumentation of IR spectroscopy. Explain stretching and bending vibrations.	10M

OR

11	Draw the schematic diagram of a flame photometer. Explain the determination of sodium by using flame photometer.	10M

END