RAYALASEEMA UNIVERSITY COLLEGE OF ENGINEERING, KURNOOL – 518007

B.Tech I Semester (RU23) I Sessional Examinations – Oct 2024

CHEMISTRY (23ASH9901T)

(Computer Science & Engineering)

Time: 90 min **Date: 15/10/2024 AN** **Max. Marks: 30**

Answer ONE FULL question from each unit ****All the Questions Carry EQUAL marks****

Q. No		Question	Unit	BT Level	CO covered	Marks Allotted
1	a)	Derive Schrodinger wave equation for particle in one dimensional box.	I	L5	CO1	(8M)
	b)	State Planks quantum theory	I	L1	CO1	(2M)
		(OR)				
2	a)	Draw the molecular orbital diagrams for O_2 and CO molecules.	I	L5	CO1	(8M)
	b)	Calculate the bond order for NO molecule.	I	L3	CO1	(2M)
3	a)	Draw the molecular orbital diagram for π conjugated molecule	II	L5	CO1	(8M)
	b)	Write the significance of ψ & ψ^2 ?	II	L1	CO1	(2M)
		(OR)				
4	a)	What is meant by super capacitor? Give it classification and applications.	II	L1	CO1	(8M)
	b)	Write any four applications of semi conductors	II	L1	CO1	(2M)
5	a)	Explain Band theory in detail with neat diagram.	III	L5	CO2	(8M)
	b)	Define Super conductor.	III	L1	CO2	(2M)
		(OR)				
6	a)	Write short notes on CNT & Fullerenes.	III	L5	CO2	(8M)
	b)	Define nano material. Give an example.	III	L1	CO2	(2M)

RAYALASEEMA UNIVERSITY COLLEGE OF ENGINEERING, KURNOOL – 518007

B.Tech I Semester (RU23) II Sessional Examinations – December 2024

CHEMISTRY (23AASH9901T)

(Computer Science & Engineering)

Time: 90 min **Date: 12/12/2024 (AN)** **Max. Marks: 30**

Answer ONE FULL question from each unit ****All the Questions Carry EQUAL marks****

Q. No		Question	Unit	BT Level	CO covered	Marks Allotted
1	a)	Explain about electrochemical sensors.	III	L5	CO3	(8M)
	b)	Define conductance.	III	L1	CO3	(2M)
		(OR)				
2	a)	Explain the working of Lithium ion battery.	III	L5	CO3	(8M)
	b)	Primary batteries are not reused but secondary batteries are reused. Justify it.	III	L4	CO3	(2M)
3	a)	Illustrate the preparation, properties and applications of following polymers i) Bakelite ii) Nylon 6, 6	IV	L5	CO4	(8M)
	b)	Thermoelastic plastics are recyclable but thermosetting plastics are not recyclable. Explain it?	IV	L5	CO4	(2M)
		(OR)				
4	a)	Explain mechanism of conduction and applications of polyacetylene as conducting polymer.	IV	L5	CO4	(8M)
	b)	Write the preparation of polyethylene.	IV	L1	CO4	(2M)
5	a)	Draw the schematic diagram for IR spectrophotometer. Explain its principle and applications IR spectroscopy.	V	L5	CO5	(8M)
	b)	Draw the electromagnetic spectrum.	V	L5	CO5	(2M)
		(OR)				
6	a)	Demonstrate the principle, types and applications of HPLC	V	L1	CO5	(8M)
	b)	Define Beer-Lamberts Law.	V	L1	CO5	(2M)