Code No: **R201215** **R20** **SET - 1**

I B. Tech II Semester Supplementary Examinations, January/February - 2023

APPLIED CHEMISTRY

(CSE, CSE-CS&T, IT, CSE-CS, CSE-IOT&CS Incl BCT, CSE-CS&BS, CSE-IOT, Cyber Security)

Time: 3 hours Max. Marks: 70

Answer any FIVE Questions ONE Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1.	a)	Explain reasons why e-waste is also known as 'waste to wealth'.	[7M]
	b)	Explain the preparation of Kevlar and discuss the applications of bullet proof plastics.	[7M]
		(OR)	
2.	a)	Discuss the preparation, properties and applications of polyurethanes.	[7M]
	b)	Discuss the role of lipids and nucleic acids as biopolymers.	[7M]

UNIT-II

3.	a)	Discuss the working of calomel electrode.	[7M]
	b)	Discuss the metal oxide layers formed when metal is exposed to atmosphere with suitable examples.	[7M]
		(OR)	
4.	a)	Explain the working of a Li-ion battery.	[7M]
	b)	List the different constituents of paints and mention their functions.	[7M]

UNIT-III

5.	a)	Explain the distillation and ion implantation methods for preparation of pure and dope semiconductors.	[7M]
	b)	What are superconductors? Discuss its types.	[7M]
		(OR)	
6.	a)	Explain p-n junction diode.	[7M]
	b)	Explain how surface area can be determined by BET.	[7M]

UNIT-IV

7.	a)	Explain briefly Frank-condon principle.	[7M]
	b)	Discuss why geothermal power is one of the best sources of energy. Discuss also its drawbacks.	[7M]
		(OR)	
8.	a)	Mention the applications of UV spectroscopy.	[7M]
	b)	Discuss the instrumentation in IR spectroscopy.	[7M]

UNIT-V

9.	a)	Explain the terms rotaxanes and catenanes as artificial molecular machines.	[7M]
	b)	List out the different basic prototypes and explain.	[7M]
		(OR)	
10.		Explain linear motions in rotaxanes.	[14M]

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