Code No: R201115 **R20** SET - 1

I B. Tech I Semester Regular Examinations, July/August - 2021

APPLIED CHEMISTRY

(Common to ECE, EIE, ECT, CSE-AI&ML, CSE-AI, CSE-DS, CSE-AI&DS, AIDS)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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1.	a)	Discuss preparation, properties and applications of Bakelite.	(7M)
	b)	List the functions of the different constituents added during compounding of plastics with examples.	(7M)
		Or	
2.	a)	Discuss the pearl or suspension polymerization method.	(7M)
	b)	How are bullet proof plastics prepared? Mention its applications and properties.	(7M)
3.	a)	Discuss the construction and working of dry cell and its drawbacks.	(7M)
	b)	Explain the formation of different oxide layers formed in dry corrosion.	(7M)
		Or	
4.	a)	Write about (i) stress corrosion (ii) coating of Ni by electroless plating	(7M)
	b)	What are fuel cells? Discuss about H_2-O_2 fuel cell.	(7M)
5.	a)	Describe (i) arc discharge method (ii) characterization of Nano Particles by SEM	(7M)
	b)	Write notes on (i) junction transistor (ii) zone refining process of semiconductors.	(7M)
		Or	
6.	a)	Describe the different steps involved in the sol-gel method for preparation of nanomaterials.	(7M)
	b)	Write notes on (i) ferro and ferrimagnetism (ii) distillation process for preparation of pure semiconductor	(7M)
7.	a)	Explain the theory of electronic spectroscopy.	(7M)
	b)	Discuss the working of hydropower plant with a neat sketch and mention its advantages.	(7M)
		Or	
8.	a)	Discuss applications of IR.	(7M)
	b)	Give a brief notes on (i) chromophores (ii) Hypo and hyperchromic shifts.	(7M)
9.	a)	Write notes on computational chemistry.	(7M)
	b)	Explain the characteristics of molecular motors.	(7M)
		Or	
10	a)	Write about on artificial and natural molecular machines.	(7M)
	b)	Discuss acid-base controlled molecular shuttle.	(7M)
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