SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Ananthapuramu)

I B.Tech I Semester (SVEC-16) Regular/Supplementary Examinations December - 2018

ENGINEERING CHEMISTY

[Civil Engineering, Mechanical Engineering, Computer Science and Engineering, Information Technology, Computer Science and Systems Engineering]

Time: 3 hours **Max. Marks: 70**

Answer One Question from each Unit
All questions carry equal marks

UNIT-I

1	a)	Explain estimation of water hardness by EDTA method.	7 Marks
	b)	Discuss advanced purification method developed for obtaining reliable drinking water from challenging water sources.	7 Marks
		(OR)	
2	a)	Give the specifications of water for "steam generation". Explain Caustic embrittlement, Priming and Foaming	7 Marks
	b)	What is desalination? Describe one method available for desalination.	7 Marks

UNIT-II

3		What are biodegradable polymers? Formulate the mechanism of degradation of biodegradable polymers and mention their applications.	14 Marks
		(OR)	
4		Classify the conducting polymers and write their applications in electronics and medical sectors.	14 Marks

UNIT-III

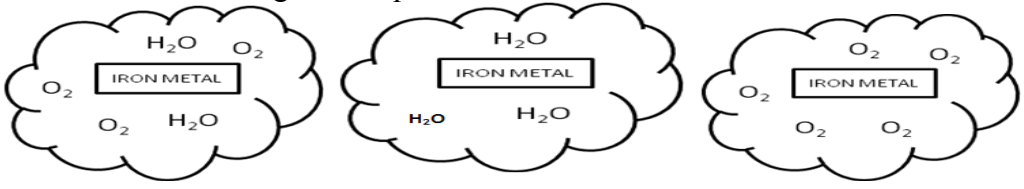
5	a)	Discuss the twelve principles of GREEN CHEMISTRY.	12 Marks
	b)	Mention the merits and demerits of sol-gel method.	2 Marks
		(OR)	
6	a)	"GREEN CHEMISTRY is also called benign chemistry or sustainable chemistry". Comment.	6 Marks
	b)	Summarize the applications of nano tubes, nano wires, nano composites, nano dendrimers.	8 Marks

UNIT-IV

7	a)	Briefly outline the types of battery, chemistry involved and their role in our day to day life.	7 Marks
	b)	Explain the construction and working of potentiometric sensor.	7 Marks
		(OR)	
8		Define Battery. Explain lithium polymer batteries and mention their applications.	14 Marks

UNIT-V

9	a)	Explain what type of corrosion occurs when: i) Screw and washer are made of different metals. ii) Presence of NaOH in mild steel boiler under stress.	10 Marks
	b)	Write a short note on Lubrication.	4 Marks
		(OR)	
10	a)	Identify and explain in detail mechanism of the possible type of corrosion that Iron metal will undergo in the pictured environment.	9 Marks



Assume that only the given molecules exist in the environment.

	b)	Discuss the role of Galvanizing in corrosion control methods.	5 Marks

❀ ❀ ❀