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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Second Semester

CY16252 – CHEMISTRY FOR TECHNOLOGISTS*(Biotechnology)***(Regulation 2016)****Time: Three Hours****Maximum : 100 Marks**Answer **ALL** questions**PART A - (10 X 2 = 20 Marks)**

		CO	RBT
1.	Calgon conditioning is better than phosphate conditioning. Give reason.	1	R
2.	Compare BOD and COD.	1	AP
3.	Mention the various steps involved in detergency.	2	U
4.	Provide the role of surfactant in spreading.	2	AP
5.	Give any two requirements of a good lubricant.	3	U
6.	Bring out the significances of saponification value.	3	AP
7.	What is available chlorine?	4	R
8.	Give the two parts of a surfactant.	4	U
9.	Define the term auxochrome.	5	R
10.	What are vat dyes?	5	R

PART B - (5 X16 = 80 Marks)

11.	(a) (i) Describe the ion-exchange process for water softening.	(8)	1	AP
	(ii) Explain the desalination process by reverse osmosis method.	(8)	1	U
	(OR)			
	(b) (i) State the zeolite process of softening of hard water.	(8)	1	AP
	(ii) Discuss in brief the boiler corrosion. How is it removed?	(8)	1	AP
12.	(a) (i) Write a note on adsorption isotherms.	(8)	2	R
	(ii) Explore the role of adsorption in foaming and defoaming.	(8)	2	AP

(OR)

- (b) (i) Elucidate the various factors which affect the adsorption of a gas on solid adsorbent. **(8) 2 R**
- (ii) Derive Langmuir adsorption isotherm. **(8) 2 U**
13. (a) (i) Explain the determination of acid value and its significances. **(8) 3 U**
- (ii) Discuss the lubricating action of graphite. **(8) 3 U**
- (OR)**
- (b) (i) How is lithium grease obtained? Give its properties and uses. **(8) 3 U**
- (ii) Suggest a method for the determination of drop point with a neat diagram. **(8) 3 AP**
14. (a) (i) Describe the method of manufacturing sodium hypochlorite. **(8) 4 AP**
- (ii) Classify the surfactants with examples. **(8) 4 R**
- (OR)**
- (b) (i) Give the experimental procedure for the determination of hydrogen peroxide. **(8) 4 U**
- (ii) How will you estimate the available chlorine in hypochlorite bleach liquor? **(8) 4 AP**
15. (a) (i) Discuss the Otto Witt's theory of colour and constitution. **(8) 5 U**
- (ii) Propose a synthetic method for methyl red. **(8) 5 AP**
- (OR)**
- (b) (i) Write a short note on the classification of dyes based on applications. **(8) 5 U**
- (ii) State the synthetic steps involved in the synthesis of aniline yellow. **(8) 5 AP**