

Reg. No.

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B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2023

Third Semester

CH18404 – CHEMICAL PROCESS INDUSTRIES II*(Chemical Engineering)***(Regulation 2018A)****TIME:3 HOURS****MAX. MARKS: 100**

- CO1** Impart knowledge on the manufacture of paper, various processes involved in the sugar industry, and starch derivatives.
- CO2** Acquire knowledge on oils, fats, soaps and detergents and the various processes involved in their production.
- CO3** Discuss about processes in petrochemical industries and various types of explosives.
- CO4** Discuss the manufacture of rubbers and their role in industries.
- CO5** Explore the various processes adopted in synthetic fibre and film industries.

PART- A(10x2=20Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. Illustrate the technical difference between Sulfate(Kraft) Process and Sulfite Process.	1	3
2. Differentiate sulfitation and carbonation clarification process in sugar manufacturing process.	1	3
3. Indicate the iodine value range for the oils?	2	2
4. Identify the sources of soap with a example.	2	2
5. Write important feed and product characterization properties in refinery.	3	2
6. Indicate the desired properties of lubricating oils.	3	2
7. Define bulk polymerization.	4	2
8. Differentiate synthetic and natural rubber.	4	3
9. Mention the uses of polyester.	5	1
10. List the processes by which polyethylene is manufactured.	5	2

PART- B (5x 14=70Marks)

	Marks	CO	RBT LEVEL
11. (a) Elucidate the kraft pulping process with a neat process flow diagram and mention the reaction involved in the process.	(14)	1	4
(OR)			
(b) Explain the beet sugar manufacturing process with a neat process flow diagram.	(14)	1	4

12. (a) Explain the hydrogenation and refining process of vegetable oils with a neat process flow diagram. (14) 2 3
- (OR)
- (b) Differentiate soaps and detergents and elaborate the manufacture of soap with a neat process flow sheet. (14) 2 3
13. (a) With a neat sketch, explain the various products obtained in a petroleum refining. (14) 3 3
- (OR)
- (b) Explain the alkylation process using sulfuric acid catalyst. Compare sulfuric acid and HF alkylation process. (14) 3 3
14. (a) Elaborate the manufacturing of styrene-butadiene rubber with a neat flow sheet and give its uses. (14) 4 3
- (OR)
- (b) Explain the manufacture of Nitrile Rubber with a neat process flow sheet and mention its applications (14) 4 3
15. (a) With the help of a neat process flow sheet, explain the manufacture of Nylon 6,6. and differentiate Nylon 6 with Nylon 6,6 (14) 5 3
- (OR)
- (b) Explain the manufacture of Viscose Rayon with a neat process flow diagram (14) 5 3

PART- C(1x 10=10Marks)

(Q.No.16 is compulsory)

- | | Marks | CO | RBT
LEVEL |
|--|-------|----|--------------|
| 16. Asses the methods available to produce various valuable products from wood and plant materials | (10) | 1 | 5 |
