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Seventh Semester B.E. Degree Examination, June/July 2023

Petrochemicals

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Elaborate on the milestones of petrochemicals industries considering world scenario. (10 Marks)
- b. What are the various feed stocks for production of petrochemicals? Explain salient features of at least four feed stocks. (10 Marks)

OR

- 2 a. Explain the manufacturing of methanol with neat diagram. (10 Marks)
- b. With a neat sketch, explain the thermal chlorination of methane. (10 Marks)

Module-2

- 3 a. Describe the manufacturing process of ethanol amines. Mention its applications. (10 Marks)
- b. Explain the production of ethyl alcohol with neat diagram. (10 Marks)

OR

- 4 a. Describe the production process of acetylene in detail. (10 Marks)
- b. Describe the production process of polyethylene by low pressure Ziegler process. (10 Marks)

Module-3

- 5 a. Explain the production of acetone by dehydrogenation of isopropanol with a neat flow diagram. (10 Marks)
- b. With a neat flow sheet, explain the production of acrylonitrile. (10 Marks)

OR

- 6 a. With a neat sketch, explain the production of Isopropanol by indirect hydration method. (10 Marks)
- b. Describe the process of producing propylene oxide with neat flow sheet. (10 Marks)

Module-4

- 7 a. With a neat process flow diagram, explain the manufacturing process of butadiene. (10 Marks)
- b. Discuss the major engineering problems encountered in manufacturing of butylene. (10 Marks)

OR

- 8 a. Explain the Benzene production using hydro-dealkylation route with a neat flow diagram. (10 Marks)
- b. Explain steam cracking of naphtha to produce olefins with all major engineering problems. (10 Marks)

Module-5

- 9 a. Explain the production of phenol by cumene peroxidation process. (10 Marks)
- b. With a neat flow diagram, explain the production of nitrobenzene. (10 Marks)

OR

- 10 a. Explain the production of phthalic anhydride with neat flow diagram. (10 Marks)
- b. Explain the production of aniline with neat flow diagram. (10 Marks)

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