

GBCS SCHEME

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18CH642

Sixth Semester B.E. Degree Examination, July/August 2022 Petroleum Refinery Engineering

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Discuss in detail ASTM, TBP and EVP analysis of Petroleum Crude and Compare. (15 Marks)
b. Give a brief account on diesel fuel additives. (05 Marks)

OR

- 2 a. Discuss in detail various classification of petroleum gases. (08 Marks)
b. List out the various additives used for gasoline and highlight their function. (06 Marks)
c. Discuss the test method used for Analyzing Oxidation Stability of gasoline. (06 Marks)

Module-2

- 3 a. What are the different methods of dehydration and desalting of crude oil? (02 Marks)
b. With neat sketch, explain the various components and function of a pipe still heater in detail. (08 Marks)
c. Explain with neat sketch, dehydration and desalting of crude oil by Electrostatic method. (10 Marks)

OR

- 4 a. Define ASTM GAP. (02 Marks)
b. Outline the process design aspects of Atmospheric distillation unit. (18 Marks)

Module-3

- 5 a. Explain Merox Sweetening Process with neat flow sheet. (10 Marks)
b. Explain in detail Acid gas removal process with a neat flow sheet. (10 Marks)

OR

- 6 a. Explain in detail furfural extraction process adopted for lube oil treatment. (10 Marks)
b. Discuss Copper Chloride treatment process with neat flow diagram. (10 Marks)

Module-4

- 7 a. Give a brief note on Chemistry of Thermal Cracking process. (04 Marks)
b. Explain in detail catalytic reforming process with neat flow sheet. (10 Marks)
c. List out the various factors influencing the properties of cracked materials. (06 Marks)

OR

- 8 a. What is visbreaking? (02 Marks)
b. Discuss in detail any two visbreaking processes with neat flow charts. (18 Marks)

Module-5

- 9 a. Differentiate Thermal Cracking and Catalytic Cracking process. (04 Marks)
b. Explain in detail the delayed coking process with neat flow sheet. (10 Marks)
c. Give a note on orthoflow reactor. (06 Marks)

OR

- 10 Explain in detail:
a. Flexi coking process (10 Marks)
b. Fluid coking process (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8=50, will be treated as malpractice.