

MODEL QUESTION PAPER

Seventh Semester B.Tech. Degree Examination

13.703: PETROLEUM REFINERY ENGINEERING (H)

CHEMICAL ENGINEERING BRANCH

(2013 Scheme)

Time: 3 Hours

Max. Marks: 100

PART A

Answer all questions. Each question carries 2 marks.

1. List and explain the classification of petroleum crude
2. Write briefly about the catalysts used in cracking
3. Write a note on white spirit
4. Distinguish between fire point and smoke point
5. Differentiate between thermal cracking and visbreaking
6. Explain how the API scale is useful in evaluating crude
7. Compare isomerization and reforming
8. Give the purpose of clay treatment in petroleum processing
9. Draw a neat flow diagram of isoprene production
10. How is Phthalic anhydride made? Give its uses? (10x2=20 Marks)

PART B

Answer any one full question from each module. Each full question carries 20 Marks

Module – 1

11. a) Discuss the various theories related to the origin of petroleum. 10
b) Write a note on petroleum drilling operations 10
12. Explain the different methods employed for the primary recovery, secondary recovery and enhanced oil recovery 20

Module – 2

13. a) What is sweetening? With reference to petroleum processing describe any sweetening process with a neat flow sheet. 12
b) Write a note on solvent extraction of kerosene. 8

14. With a neat flow diagram, explain the furfural process for the manufacture of lubricating oil 20

Module – 3

15. a) With a neat flow diagram, explain the fluid catalytic cracking process 12

b) Discuss the following refining processes 8

i. Alkylation

ii. Thermal Cracking

16. a) Write short notes on

i. Dealkylation

ii. Hydrocracking

iii. Isomerization

iv. Dehydrogenation 10

b) What is reforming? Explain in detail catalytic reforming 10

Module- 4

17. a) Describe the manufacture of acetylene from hydrocarbons 13

b) Write short notes on petroleum waxes 7

18. With the help of a neat flow sheet, describe the synthesis of methanol 20
