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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B.Tech. CE+RP

Subject (Course): Petroleum Refining Technology

Course Code : CHEG 437

No. of page/s: 02

Semester – V

Max. Marks : 100

Duration : 3 Hrs

Note: (i) This question paper has three sections- A, B and C. All questions of each section are compulsory.

(iii) Attempt all the sub-parts of a question together.

SECTION-A (20 Marks)

- Q1. Explain how vacuum is maintained in the vacuum distillation unit. [5]
- Q2. Why is hydro treatment necessary in petroleum refinery? [5]
- Q3. Catalytic Cracking is preferred over Thermal Cracking”, explain. [5]
- Q4. Explain and give the significance of isomerization process. [5]

SECTION-B (60 Marks)

- Q5. A) Explain the semi-regenerative process for catalytic reforming. [6]
- B) Define the term alkylation. Hence with a neat labeled diagram, explain the process of HF alkylation. [6]
- Q6. A) Explain the necessity of dewaxing of lube oil. Discuss the ketone dewaxing process with neat flow diagram. [8]
- B) Why is propane a preferred solvent in the deasphalting of lube oil base stock? [4]
- Q7. Write in detail the process of fluid catalytic cracking giving operating Conditions and neat flow diagram. [12]
- Q8 A) What is furfural extraction? Discuss it with a diagram. [6]
- B) Define and discuss importance of the following: [6]

(i) Cloud point

(ii) Pour point

Q9A). Describe fluid coking process with flow diagram. [6]

B). What are the fractions obtained from petroleum distillation? Write their approximate boiling point ranges. [6]

SECTION-C (20 Marks)

Q10. A) “Blending is an important operation in refinery” justify the statement. How effective blends can be produced? Explain briefly about gasoline blending. [10]

B) Explain the important reactions that take place in a catalytic reformer. [10]