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M.E. / M.TECH. DEGREE EXAMINATIONS, DEC 2019

First Semester

CL18003 – DOWN STREAM PROCESSES IN PETROLEUM ENGINEERING*(Chemical Engineering)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

PART A - (10 X 2 = 20 Marks)

	CO	RBT
1. Mention the significance of OPEC countries.	1	R
2. List any four products from the atmospheric distillation column.	1	R
3. Define: Cetane number.	2	R
4. Classify crude oil based on API gravity.	2	U
5. Mention the significance of FCC.	3	U
6. How do you prefer catalytic cracking in place of hydrocracking?	3	U
7. List a few solvents used in extraction of lubes?	4	R
8. Mention any two finishing processes for lube products.	4	R
9. Mention the dry adsorbent processes for acid gas removal.	5	R
10. List atleast two air pollution control equipments, with specific application in refineries.	5	U

PART B - (5 X16 = 80 Marks)

11. (a) Discuss in detail about the various steps involved in the exploration and production of crude oil. (16) 1 U

(OR)

- (b) Write a detailed note on the various reserves and deposits of petroleum in the world. (16) 1 U

12. (a) Discuss in detail about the classification of crude oil, based on atleast four major properties. (16) 2 U

(OR)

- (b) Explain the specifications and testing methods for light distillates. (16) 2 U

13. (a) Discuss in detail about any four pretreatment methods of crude oil before distillation. (16) 3 AP

(OR)

- (b) Explain fluidized catalytic cracking process with a neat sketch, with a special mention on the FCC catalysts. (16) 3 AP

14. (a) List out the important properties of lubricating oils and explain the significance of any six. (16) 4 AP

(OR)

- (b) Explain in detail, the propane deasphalting process with a neat diagram. Also Compare the advantages of propane over any other solvent. (16) 4 AP

15. (a) Discuss in detail, the hydrogen production by steam reforming process with a neat flow sheet. (16) 5 U

(OR)

- (b) Mention the various sources of solid waste from a refinery and discuss the methodologies of its disposal. (16) 5 U