

Printed Pages : 3



ECH062

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 151856

Roll No.

--	--	--	--	--	--	--	--	--	--

B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
PETROLEUM REFINING TECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

- Note :**
- (1) Attempt **all** questions.
 - (2) **All** questions carry equal marks.
 - (3) Assume suitable data wherever not provide.

1 Attempt any four parts of the following : 5×4=20

- (a) What are the various theories for the genesis petroleum ?
- (b) How is crude oil recovered from an oil well ?
- (c) Give the classification of crude oils.
- (d) Explain Copper-strip corrosion test.
- (e) What are the various additives used in gasolines ?
- (f) Write short note on Aviation Turbine Fuels.

2 Attempt any four parts of the following : 5×4=20

- (a) Define cetane number and octane number.

- (b) What is diesel index ? What is its importance and how is it measured ?
- (c) How is the softening point of bitumen determined experimentally ?
- (d) Write short notes on Cloud Point and Pour Point.
- (e) Write the composition of Fuel Oils. Briefly discuss about their main properties.
- (f) Write properties and uses of LPG.

3 Attempt any two parts of following : 10×2=20

- (a) Explain electrical desalting of crude oils and its importance.
- (b) What is Visbreaking ? Describe the conventional visbreaking process with a neat flowsheet.
- (c) What is delayed coking process ? Explain this in detail.

4 Attempt any two parts of the following : 10×2=20

- (a) What do you understand by Fluid catalytic cracking process ? Explain with neat sketch.
- (b) What are the chemical reactions involved in the catalytic alkylation ? Also explain an alkylation process with suitable diagram.
- (c) Write the process used to convert hydrogen sulphide to sulphur. Discuss the Claus Sulphur Conversion process with the help of neat flow sheet.

5 Attempt any two parts of the following : 10×2=20

- (a) How are bitumens manufactured from crude oil ?
Discuss the process in detail.
 - (b) With the help of neat process flow diagram,
describe the solvent dewaxing process ?
 - (c) Describe the process which is used to remove
furfural and phenol from lube oils. Also draw a
neat flow – diagram of the process.
-