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SF-7645

B. E. - IV (Sem - VIII) Examination

May/June – 2011

Petroleum Refining and Petrochemicals

(New Course)

Time : Hours] [Total Marks :

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. - IV (Sem - VIII)**

Name of the Subject :

☛ **Petroleum Refining and Petrochemicals**

☛ Subject Code No. : **7 6 4 5** ☛ Section No. (1, 2,.....) : **1, 2**

Seat No. :

Student's Signature

(2) Answer to each section must be written in separate answer book.
(3) Figure to the right indicate full marks.
(4) Draw neat figures, sketches or flow sheet wheerver requisted.

SECTION - I

1 (a) Answer in briefly : **10**

(i) What is the Boiling Range of Gasoline and kerosene.
(ii) Impurities present in crude petroleum.
(iii) What is the meaning of pump around and pump back reflux.
(iv) Mention the std. flash and fire point of kerosene.
(v) What is gum content ?

(b) Explain catalylic cracking in details. **6**

2 Answer any two of the following : **18**

(i) Composition of petroleum.
(ii) Discuss about lead doctoring of Gasoline.
(iii) Explain phenol extraction of lubrication oil with neat flow diagram.

3 Answer any four of the following: **16**

(i) Aniline point and smoke point.

(ii) Pipe still heater.

(iii) Additives for gasoline.

(iv) Sweetining by copper petrochemical industries.

SECTION - II

4 Attempt the following :

(a) Answer the following : **6**

(i) Vinyl choloride is made by thermal pyrolysis of_____

(ii) What is temperature and pressure for production of formaldehyde.

(iii) Methods of production of isoprene.

(iv) Which catalyst is used in the manufacturing of cumene form benzene ?

(v) _____ is used as a catalyst for ethylone glycol.

(vi) What is conversion for production of acetaldehyde from acetylene ?

(b) Match A with B **4**

A	B
(i) Dehydrogenation of ethyl Benzene	(a) Phenol
(ii) Cumene peroxidation- hydrolysis	(b) Butadiene
(iii) Alkylation of benzene	(c) Styrene
(iv) Dehydrogenation of butane	(d) Cumene
	(e) Butanol

(c) Explain with a neat flow diagram production of methanol along with the major engineering problems involved in the process. **8**

5 Answer the following : (Any two) **16**

(a) Explain production of cumene with its major engineering problems.

(b) With neat flow diagrams explain acetone production, also discuss the major engineering problems.

(c) With a neat diagram explain vcm (vinyl chloride monomer) production.

6 Attempt the following : (Any four) **16**

(i) Butadiene production.

(ii) Explain seperation of BTX.

(iii) Ethylene derived petrochemicals.

(iv) Production of Ethanolamine.

(v) Discuss major engineering problems of production of propylene oxide.
