

22611

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answer with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) List any four names of refineries.
 - b) Define :-
 - i) Octane number
 - ii) Cetane number.
 - c) Define cracking process.
 - d) List out two petrochemicals derived from C3.
 - e) List the names of four oil producing countries in the world with their percentage share in world crude oil production.
 - f) List any two petrochemicals derived from aromatics with its structure.
 - g) Give any two uses of –
 - i) Methanol
 - ii) Vinyl Chloride

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Differentiate between petroleum refinery and petrochemicals industry. (Any four points)
 - b) Describe vacuum distillation of crude oil.
 - c) Describe esterification process in refineries.
 - d) Draw the flowsheet for high pressure platinum catalyst reforming process.
- 3. Attempt any THREE of the following:** **12**
- a) Give any four test properties of –
 - i) Diesel
 - ii) Kerosene.
 - b) Draw the flowsheet of manufacturing of styrene.
 - c) Describe isomerization process with flowsheet and reactions involved in it.
 - d) Give any eight fractions obtained from crude oil distillation with their boiling point ranges and any two uses.
- 4. Attempt any THREE of the following:** **12**
- a) Give the composition of crude oil.
 - b) Describe with a flow diagram MTBE (Methyl Tertiary Butyl Ether).
 - c) Differentiate between catalytic cracking and thermal cracking.
 - d) Describe fluidized bed catalytic cracking process.
 - e) Describe Udex process for recovery of BTX from reformat gasoline.
- 5. Attempt any TWO of the following:** **12**
- a) Describe atmospheric distillation unit with diagram.
 - b) Describe manufacturing of butadiene with flowsheet and reactions.
 - c) List any two petrochemicals obtained from C1 and describe manufacturing of methanol with flowsheet and reactions.

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[3]

Marks

6. Attempt any TWO of the following:

12

a) Define :-

i) Smoke point

ii) Pour point

iii) Flash point

iv) Aniline point

b) Describe cascade sulfuric acid alkylation process.

c) Describe with a flow diagram manufacturing of propylene oxide.
