

22611

23242

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 answers 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) Name any four petroleum refinery products.
 - b) List out two apparatus used for crude oil viscosity measurement and their selection criteria.
 - c) Define thermal cracking.
 - d) List out any four petrochemicals derived from C_1 hydrocarbons.
 - e) Write the names of any two Indian companies operating in the field of petroleum sector.
 - f) List out any four petrochemicals derived from aromatics.
 - g) Write two processes used for manufacturing of ethanol.

P.T.O.

2. Attempt any THREE of the following: 12
- Explain classification of crude oil.
 - Illustrate the importance of distillation operation in oil refining process.
 - Describe manufacturing of acetaldehyde.
 - Explain Hydrocracking process used in refineries.
3. Attempt any THREE of the following: 12
- Draw ASTM distillation curve and explain significance of boiling point range.
 - Draw the flow sheet for manufacture of propylene oxide from propylene.
 - Give the names of two types of Thermal cracking processes. State the basic difference between them. (Three point)
 - List any four fractions obtained from crude oil with their boiling point range.
4. Attempt any THREE of the following: 12
- Explain the composition of crude oil.
 - Write chemical reaction involved in the following manufacturing.
 - Butadiene
 - Benzoic acid
 - Describe any one process of alkylation with flow diagram.
 - Explain process of visbreaking with flow diagram.
 - Explain the manufacturing of aniline from phenol with a neat flow diagram.

5. Attempt any TWO of the following:**12**

- a) Define:
 - i) Smoke point
 - ii) Pour point
 - iii) Octane number
- b) Explain under process for recovery of BTX from reformate gasoline.
- c) Write two uses each of the following:
 - i) Ethanol
 - ii) Propylene oxide
 - iii) Formaldehyde

6. Attempt any TWO of the following:**12**

- a) Explain desalting of crude oil with flow diagram.
 - b) Explain the manufacturing process of ethylene oxide with flow diagram.
 - c) Describe principle of reforming with reactions involved in it.
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