

22611

21222

3 Hours / 70 Marks

Seat No.

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15 minutes extra for each hour

- 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) List any four Indian petroleum refinery.
- b) Give compositions of crude oil.
- c) Define flash and fire point.
- d) Define cracking.
- e) Define hydrogenation ?
- f) List chemicals derived from C₃ hydrocarbon. (any four)
- g) Give two uses each of the following.
- i) Benzene
- ii) Butadiene
2. **Attempt any THREE of the following.** **12**
- a) Explain crude oil Reserves available in India.
- b) Explain fractions obtained from crude oil with their boiling range.
- c) Explain visbreaking with the help of flow sheet.
- d) Describe with neat flow sheet manufacture of Acetaldehyde.

P.T.O.

- 3. Attempt any THREE of the following. 12**
- Explain desalting of crude oil with diagram.
 - Describe manufacturing of methanol with flow sheet.
 - Explain fluidised bed catalytic cracking.
 - Explain any one method for oil removal of waste water from oil refinery.
- 4. Attempt any THREE of the following. 12**
- State any two properties of the following refinery products -
 - Natural gas
 - Gasoline
 - Give chemical reactions involved in the manufacturing of
 - Benzoic Acid from Toluene.
 - Aniline from phenol
 - Explain Alkylation process by using sulfuric acid.
 - Define
 - Cloud Point.
 - Pour Point.
 - Drop Point.
 - Smoke Point.
 - List any two chemicals obtained from aromatics. Give two uses of each.
- 5. Attempt any TWO of the following. 12**
- Explain atmospheric and vacuum distillation of crude.
 - Describe with sketch the procedure to measure flash and fire point of oil with pensky marten's apparatus.
 - Give two uses of following chemicals
 - Formaldehyde.
 - Ethylene oxide.

22611

[3]

Marks

6. Attempt any TWO of the following.

12

- a) Explain production and separation of Benzene, Toluene and Xylene.
- b) Draw flow sheet for manufacturing of vinyl chloride. Explain the process.
- c) Define.
 - i) Octane Number.
 - ii) Cetane Number.
 - iii) Aniline Point.

Give the significance of each.
