

**ENGINEERING CHEMISTRY**

(Common to all branches)

Time: 3 hours

Max. Marks: 70

**Part – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 M)
- Why is calgon conditioning better than phosphate conditioning?
  - Write short note on chlorination.
  - Give brief note on electroplating.
  - What is anodic protection? Give suitable examples.
  - What is addition polymerization?
  - How nature rubber is processed?
  - Define cetane number. What is its significance?
  - Explain manufacture of coke.
  - Define aniline point and pour point.
  - Write brief note on rocket propellants.

**Part – B**  
(Answer all five units, 05 X 10 = 50 M)**Unit - I**

- 2 What is the principle of EDTA method? Describe the estimation of hardness of water by EDTA method.

OR

- 3 (a) Explain scale and sludge formation.  
(b) What is priming and foaming?

**Unit - II**

- 4 Describe the method employed for the refining of crude oil with diagram.

OR

- 5 The percentage composition of a sample of coal by weight was found to be C=75%: H=6.2%, O=12.8%: N=2.5% S=1.4%, the remaining being ash. Calculate the minimum (a) weight and (b) volume at NTP of air necessary for complete combustion of 1 kg of coal and percentage composition by weight of dry products; if 50% excess air is supplied.

**Unit - III**

- 6 (a) Distinguish the thermoplastics and thermo settings.  
(b) Discuss the preparation of PVC and nylons.

OR

- 7 (a) Explain conducting polymers, with examples.  
(b) Write note on compounding of rubber.

**Unit - IV**

- 8 Explain factors effecting the corrosion.

OR

- 9 Explain dry and wet corrosion with example.

**Unit - V**

- 10 What are the constituents of cement? Discuss the mechanism of setting and hardening of cement.

OR

- 11 How will you manufacture portland cement by wet process?

