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Name.....

Reg. No.....

**COMBINED FIRST AND SECOND SEMESTER B.Tech. (ENGINEERING)
DEGREE EXAMINATION, DECEMBER 2006**

EN 04-104 B—ENGINEERING CHEMISTRY (B)

(CE, ME, PE, AM—2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

- I. 1 Give the uses of Tungsten and Chromium.
2 Write a note on special cements.
3 Explain copolymerisation giving an example.
4 What are the polymers involved in the following :—
Explosives, textiles, Biotransplants, Squeeze bottles, Switches, Ion exchangers.
5 Write down the derivation of phase rule equation.
6 Write a note on refractory metals.
7 Give the chemistry PAN formation.
8 Define COD and BOD.

(8 × 5 = 40 marks)

Part B

- II. (A) (i) Suggest a chemical method to extract tungsten from its ore. (7 marks)
(ii) Explain the setting and hardening of cement. (8 marks)
Or
(B) (i) Explain water softening process by Lime Soda Process. (7 marks)
(ii) Name some ores of uranium. Explain the extraction of uranium from its ore. (8 marks)
- III. (A) (i) Discuss on the properties of synthetic lubricants ? How do they attain special properties ? (7 marks)
(ii) Explain anionic mechanism of polymerisation. (8 marks)
Or
(B) (i) Give the preparation, properties and uses of any *two* synthetic rubbers. (8 marks)
(ii) Write a note on oil dag aqua dag and greases. (7 marks)

Turn over

IV. (A) (i) What are the special effects caused by the alloying elements on the properties of steel ?

(7 marks)

(ii) Write a neat sketch explain the phase diagram of a "one component system". (8 marks)

Or

(B) (i) Explain Pattinson's process of desilverisation of lead. (8 marks)

(ii) Discuss on the properties and uses of nickel alloys. (7 marks)

V. (A) (i) Explain the biological treatment of sewage. (7 marks)

(ii) What are (a) Microbiological corrosion ; (b) Galvanic corrosion. (8 marks)

Or

(B) (i) What are the sources and effects of air pollution ? (8 marks)

(ii) What are the reasons for ozone depletion ? Suggest some remedy for it. (7 marks)

[4 × 15 = 60 marks]