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Name.....

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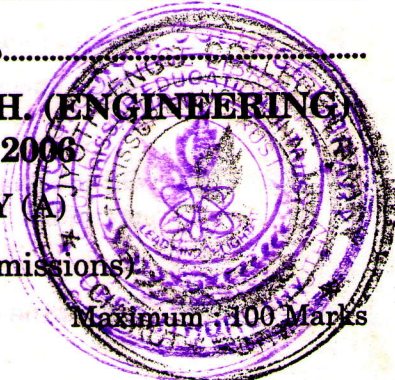
**COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, DECEMBER 2006**

EN 04-104 A—ENGINEERING CHEMISTRY (A)

(For AI, CS, EE, EC, IT, IC, BM, BT, PT—2004 admissions)

Time : Three Hours

Maximum : 100 Marks



Part A

Answer all questions.

- I. 1 "Electrical conductivity of a metal decreases with the increase of temperature". Explain this statement.
- 2 Write a note on different types of liquid crystals.
- 3 Distinguish between Nylon 6,6 and Teflon.
- 4 With a neat diagram, explain the properties and uses of solid lubricants.
- 5 Describe the construction and working of calomel electrode.
- 6 What is the effect of electrolyte concentration on electrode potential ?
- 7 How is diffusion coating of iron materials carried out ?
- 8 Explain the chemistry of ozone depletion.

(8 × 5 = 40 marks)

Part B

- II. (A) (i) What are miller indices ? Explain a method to determine miller indices for a plane of cubic crystal. (7 marks)
- (ii) Suggest a suitable method to prepare semiconductors. (8 marks)
- Or
- (B) (i) Write short note on Frankel and Scotty defect. (7 marks)
- (ii) Explain the properties and applications of superconductor. (8 marks)
- III. (A) (i) How is natural rubber isolated from latex ? (7 marks)
- (ii) Distinguish between viscosity, index and viscosity, cloud and power point. (8 marks)
- Or
- (B) (i) Explain the mechanism involved in the preparation of high density polypropylene. (7 marks)
- (ii) How are lubricants classified ? (8 marks)

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- IV. (A) (i) Explain any *two* applications of e.m.f. measurements. (7 marks)
(ii) Write short note on different types of electrodes. (8 marks)

Or

- (B) (i) On the basis of Nernst theory of solution pressure explain the origin of single electrode potential. (7 marks)
(ii) Discuss the different types of potentiometric titrations with a graph diagrams. (8 marks)

- V. (A) (i) What are the factors influencing corrosion? (7 marks)
(ii) Give an account of acid rain and greenhouse effect. (8 marks)

Or

- (B) (i) Distinguish between (i) Electroplating and anodization ; (b) Tinning and galvanising. (7 marks)
(ii) Give a detailed account of sources of air pollution. (8 marks)

[4 × 15 = 60 marks]