



C 5804

(Pages : 2)

Name.....

Reg. No.....

COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)  
DEGREE EXAMINATION, JUNE 2010

EN 2K 104 (A)—ENGINEERING CHEMISTRY (A)

(Common to AI, CS, EE, EC, IT and IC)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) How are the atoms arranged in a crystalline solid like NaCl ?  
(b) Explain clearly, giving an example. What are liquid crystals ?  
(c) What is electrochemical series ? Give its application.  
(d) What is a reference electrode ? Mention its uses.  
(e) Zinc is more readily corroded when coupled with copper than with lead-Why ?  
(f) How to corrosion prevented by an oxide film ?  
(g) What do you mean by glass transition temperature ?  
(h) What is lubrication ? Describe fluid film lubrication.
- (8 × 5 = 40 marks)
- II. A (a) What are conductors and resistors ? What are their application. (7 marks)  
(b) What are Frenkel and Schottky defects ? (8 marks)
- Or
- B (a) Discuss in detail on superconductors. (7 marks)  
(b) Derive Bragg's equation. (8 marks)
- III. A (a) What are buffer solutions ? Give examples for each type. Explain the buffer action of any one of them. (7 marks)  
(b) Write an account of H<sub>2</sub>-O<sub>2</sub> fuel cell. (8 marks)
- Or
- B (a) Explain the construction and working of lead storage battery. (8 marks)  
(b) Represent a concentration cell and explain the source of e.m.f. in such a cell. (7 marks)
- IV. A (a) Write a note on the corrosion inhibitors. Explain their functions. (7 marks)  
(b) Discuss in detail about the corrosion a dry and wet atmosphere. (8 marks)
- Or
- B (a) What do you mean by galvanic corrosion ? Discuss the various methods of corrosion protection. (7 marks)

(7 marks)

Turn over

(b) What is meant by electroplating? What are its objectives? Explain the factors influencing the electrodeposits.

(8 marks)

V. A (a) Discuss the important properties of polymers.

(7 marks)

(b) Define polymerisation. Discuss the various types of polymerisation with examples.

(8 marks)

Or

B (a) Write a note on solid lubricants.

(7 marks)

(b) Distinguish thermoplastics and thermosetting plastics.

(8 marks)

[4 × 15 = 60 marks]