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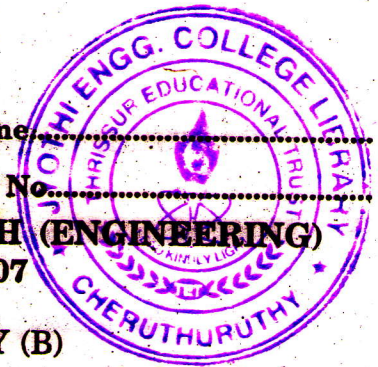
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COMBINED FIRST AND SECOND SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, JUNE 2007

EN 04 104 B—ENGINEERING CHEMISTRY (B)

For CE, ME, PE, AM

[2004 admissions]

Time : Three Hours   Maximum : 100 Marks

I. (a) Explain the term slaking.

  (b) Write short note on safety glass.

  (c) Why is plasticizer used during moulding of plastics ?

  (d) Why does graphite act as a good lubricant on the surface of the moon ?

  (e) Why is the eutectic alloy called a mixture ?

  (f) What is meant by triple point and eutectic point ?

  (g) State and explain Pilling Bedworth rule .

  (h) Write short note on photochemical smog.

                                                       (8 × 5 = 40 marks)

II. (A) (a) Compare the process of setting and hardening in cement and lime.

                                                       (8 marks)

    (b) Describe the extraction and refining of Thorium. Indicate its uses.

                                                       (7 marks)

Or

(B) (a) What are the main ores of titanium ? How is it extracted from one of its ores ? Give its important uses.

                                                       (8 marks)

    (b) Write a note on acid rain and green house effect.

                                                       (7 marks)

III. (A) (a) Write a note on constituents of plastics.

                                                       (7 marks)

    (b) Give a detailed account of conducting polymers.

                                                     (8 marks)

Or

(B) a. Bring out the differences between thermoplastics and thermosetting plastics. Give two examples for each type.

                                                       (7 marks)

Turn over

(b) What do you mean by viscosity of lubricating fluid ? How does it change with temperature?

(8 marks)

IV. (A) (a) Sketch Gibb's phase rule and explain the term involved.

(7 marks)

(b) Write a neat phase diagram, explain a system with compound formation.

(8 marks)

Or

(B) (a) Discuss the application of phase rule to sulphur system.

(8 marks)

(b) Derive phase rule.

(7 marks)

V. (A) (a) What are cathodic and anodic protection for controlling corrosion ? Discuss their merits and demerits.

(8 marks)

(b) How is ozone formed and dipleted in nature ? What are the consequences of depletion of O_3 layer in the atmosphere.

(7 marks)

Or

(B) (a) Define BOD and COD. How is BOD determined ? Explain with equation. (8 marks)

(b) Explain the mechanism of drying oil paints.

(7 marks)

[4 × 15 = 60 marks]