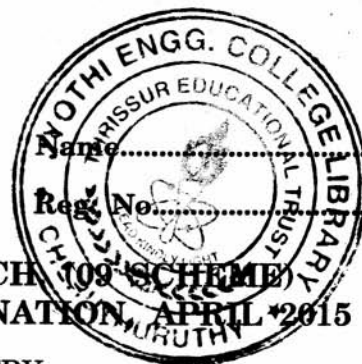


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**COMBINED FIRST AND SECOND SEMESTER B.TECH (109 SCHEME)
(ENGINEERING) DEGREE [SUPPLEMENTARY] EXAMINATION, APRIL 2015**

PTEN/EN 09 104—ENGINEERING CHEMISTRY

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. What is a semiconductor ? Give examples.
2. Give the important applications of liquid crystals.
3. What is Zeigler-Natta catalyst ?
4. What is meant by pH of a solution ?
5. Give the significance of BOD and COD.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. What are the defects of using hard water boilers ?
7. Distinguish between Cloud and Pour point.
8. Define thermoplastic polymers and give two examples.
9. What is standard electrode potential ? Give its importance.
10. Give the mechanism of rusting of iron.
11. What is anodising ? Explain anodising of aluminium.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. What are stoichiometric and nonstoichiometric semiconducting compounds ? Explain with examples.

Or

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

13. Explain with examples the different types of polymerisation.

Or

Discuss the important properties of lubricants and indicate the significance of these properties.

Turn over

14. Describe the working of hydrogen-oxygen fuel cell.

Or

How will you determine pH of a solution using glass electrode.

15. Explain the factors affecting corrosion.

Or

What are the sources of air-pollution and how can it be controlled ?

(4 × 10 = 40 marks)