Reg. No. : ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚

Question Paper Code : 86614

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Second Semester

Civil Engineering

HS 1153 – ENGINEERING CHEMISTRY – II

(Common to ALL Branches)

(Regulations 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Define flash point.

2.   What is meant by refractoriness?

3.   What are the important constituents of paint?

4.   What is galvanic corrosion?

5.   What is compounding?

6.   Define degree of polymerization.

7.   Define octane number.

8.   Define gross calorific value of a fuel.

9.   What is the use of chem-informatics?

10. What is a finger print?

PART B — (5 × 16 = 80 marks)

11. (a)   (i)   What are the characteristics of good lubricants? Explain the lubrication mechanism.   (8)

           (ii) Describe the manufacture and characteristics of magnesite bricks.   (8)

Or

(b) (i) Write a note on silicon carbide and boron carbide. (8)

(ii) Write briefly on the preparation, properties and uses of zirconia brick. (8)

12. (a) (i) What is cathodic protection? Explain sacrificial anode method of controlling corrosion. (8)

(ii) Write short notes on electroplating. (8)

Or

(b) (i) What is meant by electrochemical corrosion? Explain its mechanism. (10)

(ii) Discuss briefly on corrosion inhibitors. (6)

13. (a) (i) Distinguish between addition and condensation polymerization. (8)

(ii) What are the structure properties and applications of Nylon 66 and SBR? (8)

Or

(b) Derive the free radical Polymerization mechanism. Explain the salient features of each step with Suitable examples. (16)

14. (a) Explain the Orsat's apparatus, its construction and working in detail.

Or

(b) (i) Describe the Fischer Tropsch method with a neat sketch. (8)

(ii) Explain the process of petroleum refinery. (8)

15. (a) Elaborately discuss use of Chem-informatics in the fields of engineering. (16)

Or

(b) Explain the following :

(i) MOL and PDB formats (8)

(ii) Chem-informatics in drug designing. (8)

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