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Question Paper Code : 63233

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

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. Humidity of air is a culprit for corrosion — Substantiate.
4. Differentiate between oxide coating and anodized coating.
5. What is vulcanization?
6. What are Kevlar fibers? What are its important applications?
7. What is knocking?
8. What are the requisites of metallurgical coke?
9. Define bond length and bond angle.
10. What is SMILES notation?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Give an account of classification of refractories. (10)
(ii) Explain the following properties of lubricants such as Viscosity index, cloud and pour point, flash and fire point. (6)

Or

- (b) (i) Discuss briefly the preparation properties and uses of Alumina bricks. (8)
- (ii) Write a short account of Graphite and Molybdenum disulphide as Solid lubricant. (8)
12. (a) Why corrosion be prevented? Discuss the methods of corrosion control.
- Or
- (b) What is paint? What are its constituents? Explain the functions of each constituent.
13. (a) (i) Elaborate on the principle and process of vulcanization of rubber. (8)
- (ii) Highlight the steps in free radical polymerization and provide names of any three free radical initiator. (8)
- Or
- (b) (i) How are Bakelite and epoxy resins prepared? (8)
- (ii) Explain the methods of injection and compression moulding and their applicability. (8)
14. (a) Explain the Orsat's apparatus, its construction and working in detail. (16)
- Or
- (b) (i) Describe the Fischer Tropsch method with a neat sketch. (8)
- (ii) Explain the process of petroleum refinery. (8)
15. (a) (i) What are structure keys? How it is helpful in describing the chemical composition? (8)
- (ii) Write a note on
- (1) MOL format (4)
- (2) PDB format. (4)
- Or
- (b) (i) Explain the applications of chem.informatics in drug designing. (8)
- (ii) Write informative notes on SMILEYS notation (8)