

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Regular Examinations July-2021**ENGINEERING CHEMISTRY**

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the process of scale and sludge formation in boilers. L2 6M
b How water gets hardness. Distinguish between hard water and soft water? L4 6M

OR

- 2 a What are the specifications of the drinking water BIS and WHO Standards? L1 6M
b Explain about demineralization of brackish water by Reverse Osmosis. L2 6M

UNIT-II

- 3 a What is primary Battery? Write a note on Zinc-air battery. L1 6M
b What is Differential Aeration cell corrosion? Give the suitable Examples. L1 6M

OR

- 4 a Describe the Construction and Working of Methanol – Oxygen Fuel cell. L3 6M
b What is electroplating? Explain electroplating of Nickel and copper. L2 6M

UNIT-III

- 5 a Explain the mechanism of addition polymerization. L2 8M
b Write a note on Octane value and Cetane value. L1 4M

OR

- 6 a Distinguish between Thermoplastics and thermosetting plastics. L4 6M
b What is significance of the Fuels for IC Engines? L1 6M

UNIT-IV

- 7 a What are Refractories? Write their Classification. L1 6M
b Explain in detail about setting and hardening of Portland cement? L2 6M

OR

- 8 a Determine the viscosity of lubricating oil by Redwood Viscometer. L2 8M
b What is cement? How do you classify the cement? L1 4M

UNIT-V

- 9 a What are the factors influencing Adsorption of gases on solids? L2 6M
b Explain principle and applications X-ray diffraction. L2 6M

OR

- 10 a Explain principle and applications of Scanning Electron microscopy (SEM). L2 8M
b Write an account on carbon nano tubes. L1 4M

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