

B.Tech I Year II Semester (R15) Supplementary Examinations December 2019

ENGINEERING CHEMISTRY

(Common to CE, EEE, & CSE)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define the term Alkalinity. Write the types of alkalinity.
 - (b) What is the difference between carbonate and non-carbonate hardness?
 - (c) Recall the term degree of polymerization.
 - (d) Mention any two uses of epoxy resin.
 - (e) How Ni-Cd battery is constructed?
 - (f) Define inhibitor. What are the types of inhibitors?
 - (g) Distinguish between proximate and ultimate analysis.
 - (h) Indicate the composition of water gas and producer gas.
 - (i) What is setting and hardening of cement?
 - (j) Define refractoriness.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 Explain the determination of hardness of water by EDTA method.

OR

- 3 Explain internal conditioning of boiler treatment.

UNIT – II

- 4 (a) How natural rubber processing? Explain vulcanization of rubber.
(b) Write note on compounding of rubber.

OR

- 5 Elucidate the preparation and properties of epoxy resin and Nylon-66.

UNIT – III

- 6 Explain the chemistry of charging and discharging of lead acid batteries.

OR

- 7 Explain the sacrificial anodic protection and impressed current method with neat diagram.

UNIT – IV

- 8 Analyze and infer on the results of coal by proximate method.

OR

- 9 Demonstrate the analysis of flue gases after combustion by using Orsat's apparatus.

UNIT – V

- 10 Discuss in detail about any five properties of refractories.

OR

- 11 Explain any two types of mechanism of lubrication with neat sketch.
