

B.Tech I Year I Semester (R15) Supplementary Examinations June/July 2019

ENGINEERING CHEMISTRY

(Common to ECE, ME, EIE & IT)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- (a) What is hard water? Write its disadvantage.
- (b) Define scale and sludge.
- (c) Write any two applications of nylons.
- (d) Write any two applications of polyaniline.
- (e) Define concentration cell corrosion.
- (f) What is electroless plating?
- (g) Write any two characteristics of solid fuel.
- (h) What is power alcohol?
- (i) Write classification of refractory.
- (j) What are fullerenes?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) Write about caustic embrittlement and boiler corrosion.
- (b) Explain about demineralization of brackish water by electrodialysis.

OR

- 3 (a) How do you estimate alkalinity in water?
- (b) Describe briefly about phosphate and carbonate treatment.

UNIT – II

- 4 Write the preparation and properties of Bakelite and Teflon.

OR

- 5 Write the preparation and properties of Buna-S and Buna-N.

UNIT – III

- 6 (a) Explain the construction and electrode reactions takes place in lead – acid battery.
- (b) Explain about the corrosion inhibitors.

OR

- 7 How do you prevent corrosion by cathodic protection method and electroplating method? Give suitable examples.

UNIT – IV

- 8 (a) Explain about ultimate analysis of coal.
- (b) Write about flue gas analysis by Orsat's apparatus.

OR

- 9 (a) How do you prepare synthetic petrol by Bergius process?
- (b) Explain about octane and cetane number.

UNIT – V

- 10 (a) Write the composition and wet process preparation of cement.
- (b) Write notes on carbon nanotubes.

OR

- 11 (a) Explain thin and thick film theory of lubrication.
- (b) What are carbon clusters? Give an example.