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Question Paper Code: 41004

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

First Semester

14UCY104 – ENGINEERING CHEMISTRY

(Common to Civil and Mechanical Branches)

(Regulation 2014)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- Which of the following may be used as initiator in addition polymerization?
(a) Potassium di chromate (b) Potassium sulphate
(c) Benzoyl peroxide (d) Sodium hydroxide
- Polycarbonate is also called as _____
(a) Perlon-U (b) Fluon (c) HDPE (d) Lexan
- Which of the following is a neutral refractory?
(a) Fire clay (b) Bakelite (c) Magnesite (d) Graphite
- The example of solid lubricant is
(a) Grease (b) Vaseline (c) MoS₂ (d) Castor oil
- A steel screw in a brass marine hardware corrodes, due to
(a) Galvanic corrosion (b) Differential aeration corrosion
(c) Waterline corrosion (d) Dry corrosion
- As the acidity increases, the rate of corrosion
(a) No effect (b) Increases (c) Decrease (d) Remaining the same

7. Sorption means
- (a) adsorption (b) adsorption & desorption
(c) adsorption & absorption (d) absorption
8. Multilayer adsorption occurs in
- (a) Physical adsorption (b) Chemical adsorption
(c) Both (d) Ion-exchange adsorption
9. AAS technique is limited to only
- (a) Non-metals (b) Metals
(c) Halogen (d) Gaseous elements
10. Atomic structure of the crystal is founded by
- (a) XRD (b) UV spectroscopy
(c) IR spectroscopy (d) Flame photometry

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Describe the steps involved in formation of polyethylene by free radical mechanism. (8)
12. What are solid lubricants? Explain the structure of any one solid lubricant. (8)
13. What is cathodic protection? Explain the sacrificial anode and impressed current method. (8)
14. Distinguish between physical adsorption and chemical adsorption. (8)
15. What are the types of electronic transitions? (8)