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Question Paper Code: 31105

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

First Semester

Computer Science and Engineering

01UCY105 – APPLIED CHEMISTRY

(Common to EEE, ECE, EIE, ICE and IT)

(Regulation 2013)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Anode of galvanic cell is made up of
(a) *Zn* (b) *Cu* (c) *Mg* (d) *Al*
2. Which of the following is to convert chemical energy into electrical energy
(a) Electrode (b) Electrolytic cell
(c) Electrochemical cell (d) Voltmeter
3. Printed Circuit Board (PCB) and Microprocessor are fabricated by
(a) Electroplating (b) Photolithography
(c) Adsorption (d) Galvanisation
4. The substance which initiate a photochemical reaction but itself does not undergo any chemical change is called
(a) Catalyst (b) fluorescent (c) sensitizer (d) none of the above

5. Which of the following metals could provide cathodic protection to iron: Al, Zn, Cu, Ni?
- (a) Al and Zn (b) Cu and Ni
(c) Cu (d) All of the above
6. Why Iron is corroded faster than aluminium even though iron is placed below aluminium in electrochemical series
- (a) form Non-Porous of Al_2O_3 (b) form Porous of Al_2O_3
(c) form mixed porous Layer of Al_2O_3 (d) None of the above
7. Freundlich adsorption isotherm relationship is
- (a) $x/m = KP$ (b) $x/m = KP^n$ (c) $x/m = K(P)^{1/n}$ (d) $x/m = K$
8. What is the effect of adsorption with respect to surface area
- (a) Greater the surface area, greater is the adsorption
(b) Lesser the surface area, greater is the adsorption
(c) Greater the surface area, lesser is the adsorption
(d) none of these
9. Chromospheres are responsible for
- (a) Colour of the compound (b) Formation of salt
(c) Loan pair of electrons (d) Hyperchromic shift
10. Which among the following is used to find the atomic structure of a crystal?
- (a) XRD (b) UV-Visible
(c) AAS (d) Flame photometry

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. What is the principle underlying conductometric titration? Explain acid-base titrations conductometrically. (8)
12. State Stark-Einstein law of photochemical equivalence. How quantum yield is determined experimentally? Explain the conditions and causes for low and high quantum yield. (8)

13. Distinguish between electroplating and electroless plating. Mention any two advantages of electroless plating. (8)
14. Explain in detail the adsorption chromatography. (8)
15. Explain briefly the principle, instrumentation and estimation of sodium by flame photometry. (8)

