

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (C-104)

TIME: 3hrs

Total Marks:80

PART-A

Instructions: (1) Answer all questions. (2) Each question carries Three marks.
3x10=30M

1. Draw the atomic structures of Si and Ge. (CO1)
2. Write the anomalous electronic configuration of Chromium and Copper. (CO1)
3. State the limitations of Arrhenius theory of acids and bases. (CO1)
4. Define solution. Classify solutions based on solubility. (CO1)
5. State the applications of Li-ion batteries. (CO2)
6. List the factors that influence the rate of corrosion of metals. (CO2)
7. Mention disadvantages of hard water used in industries. (CO3)
8. State any three applications of nanotubes. (CO4)
9. Write the composition and uses of LPG. (CO4)
10. What is e-waste? State the sources of e-waste. (CO5)

PART – B

Instructions: (1) Answer any five questions. (2) Each question carries Ten marks.
10x5=50M

11. Explain the significance of quantum numbers. (CO1)
12. Define molarity and normality. Calculate the molarity and normality of 250 ml of solution that contains 5.3 gm of sodium carbonate. (CO1)
13. a) Define ionic bond. Explain the formation of ionic bond in NaCl. (CO1)
b) Define Buffer solution. Give any two examples and applications. (CO1)
14. a) Explain the construction and working of Fuel cells. (CO2)
b) State any four differences between electrolytic cells and Galvanic cells. (CO2)
15. a) Explain mechanism of rusting of iron. (CO2)
b) Write a short note on Sacrificial anodic method of prevention of corrosion. (CO2)
16. Define hard water. Explain ion-exchange of softening of hard water with a neat diagram. (CO3)
17. a) Define elastomer. Write a method of preparation and any two applications of Buna-s. (CO4)
b) What are Liquid Crystals? Give any two examples and applications. (CO4)

18. a) Define deforestation. State the impacts of deforestation. (C05)
- b) Write a short note on Ozone layer depletion. (C05)