Techno India Batanagar
Basic Science and Humanities

Model Questions

Subject Name: Chemistry **Subject Code:** CH 201

Short Answer Type Questions

1. Define thermodynamic system.
2. Name the different types of system.
3. What is meant by closed system? Give an example
4. Define a open system, Give an example.
5. Define an isolated system
6. Define: Specific heat capacity at constant pressure.
7. Define: Specific heat capacity at constant volume.
8. What is meant by surroundings?
9. What is boundary?
10. What is meant by thermodynamic property?
11. Name and explain the two types of properties.
12. What is meant by thermodynamic equilibrium?
13. Explain Mechanical equilibrium.
14. Explain Chemical equilibrium.
15. Explain Thermal equilibrium.
16. Define Path function.
17. Prove that for an isolated system, there is no change in internal energy.
18. What are the limitations of first law of thermodynamics?
19. Define the term enthalpy?
20. Define the term internal energy
21. Is it correct to say 'total heat' or 'heat content' of a closed system?
22. Define Clausius statement.
23. Define Kelvin Planck Statement.
24. State Carnot theorem.
25. What is meant by reversible process?
26. What is meant by irreversible process?
27. Explain entropy?
28. What are Electronic Conductors?
29. What are Electrolytes?
30. What are types of Electrolytes?
31. What are Functions of salt bridge?
32. What is Transport number?
33. What is Molar Conductivity?
34. Explain Kohlrausch's Law.
35. Derive Nernst Equation.
36. Explain Pseudo First Order Reaction.
37. Explain Arrhenius Equation. How can you evaluate activation energy graphically?
38. Write down the Factors Affecting Rate of Reaction.

39. Explain the concept of Collision Theory.
40. What is rate of Reaction?
41. Show that for 1st order reaction half- life is independent of initial concentration.
42. What is the relation between Equilibrium constant and cell potential?
43. Define degree of dissociation of an electrolyte.
44. Write down the cell reaction of lead storage cell.
45. Write down the cell reaction of Hydrogen-Oxygen Fuel Cell.
46. The rate constant of a reaction is 1.2 x 10-3 sec-1 at 300 C and 2.1 x 10-3 sec-1 at 400 C. calculate the energy of activation of the reaction.
47. A first order reaction is 40% complete in 50 minutes. Calculate the value of the rate constant. In what time the reaction will be 80% complete?
48. What is the role of temperature in the spontaneity of the reaction?
49. What will be the change of enthalpy in a chemical reaction at constant pressure?
50. A Carnot engine has the same efficiency (i) between 100 K and 500 K and (ii) between T K and 900 K. Calculate the temperature T of the sink.