



PART B — (5 × 16 = 80 marks)

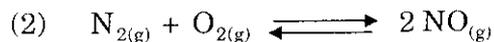
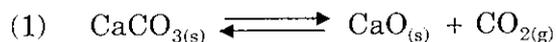
11. (a) (i) Give an account of electrochemical series and its applications (8)  
(ii) Discuss the application of EMF measurements (8)

Or

- (b) Explain the following terms :
- (i) Transport number (4)  
(ii) Standard hydrogen electrode (4)  
(iii) Variation of specific and equivalent conductance with dilution. (8)
12. (a) (i) Explain Arrhenius equation. Discuss Arrhenius concept of activation energy. Give graphical representation of activation energy diagram. (8)  
(ii) Write a note on kinetics of enzyme catalysed reactions (8)

Or

- (b) (i) Discuss the kinetics of opposing reactions. (8)  
(ii) Explain the absolute reaction rate theory. (8)
13. (a) (i) Draw and discuss the phase diagram for water system. (10)  
(ii) Determine the number of components, number of phases and the degrees of freedom for the following systems. (6)



Or

- (b) (i) Draw and discuss the phase diagram for sulphur system. (8)  
(ii) Draw a cooling curve in a two component system with eutectic point and explain the terms. (8)

14. (a) (i) What are colloidal electrolytes and explain their uses. (8)  
(ii) Write notes on Donnan-membrane equilibrium. (8)

Or

- (b) (i) Derive BET isotherm equation. (8)  
(ii) Discuss the various types of catalytic reactions. (8)
15. (a) (i) Write the application of catalysts in industries. (8)  
(ii) State and explain Lambert and Beer's law. (8)

Or

- (b) (i) Discuss the kinetics of Hydrogen-bromine photochemical reactions. (8)  
(ii) Write notes on : (8)  
(1) Electro kinetic phenomena.  
(2) Actinometry.
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