



Rate of a reaction

23. The rate of a chemical reaction depends upon
 (a) Time (b) Pressure
 (c) Concentration (d) All of these
24. The rate of disappearance of SO_2 in the reaction $2SO_2 + O_2 \rightarrow 2SO_3$ is $1.28 \times 10^{-3} g/sec$ then the rate of formation of SO_3 is
 (a) $0.64 \times 10^{-3} g/sec$
 (b) $0.80 \times 10^{-3} g/sec$
 (c) $1.28 \times 10^{-3} g/sec$
 (d) $1.60 \times 10^{-3} g/sec$
25. When the concentration of A in the reaction $A + B \rightleftharpoons AB$ is doubled, the rate of reaction will be
 (a) Doubled
 (b) Decreased by half
 (c) Unchanged
 (d) Increased by four times
26. The velocity of the chemical reaction doubles every $10^\circ C$ rise of temperature. If the temperature is raised by $50^\circ C$, the velocity of the reaction increases to about
 (a) 32 times (b) 16 times
 (c) 20 times (d) 50 times
27. An increase in temperature by $10^\circ C$, generally increases the rate of a reaction by
 (a) 2 times (b) 10 times
 (c) 9 times (d) 100 times
28. The temperature coefficient for reaction in which food deteriorates is 2. Then food deteriorates times as rapidly at $25^\circ C$ as it does at $5^\circ C$
 (a) Two (b) Four
 (c) Six (d) Twenty
29. The rate of a reaction is doubled for every 10° rise in temperature. The increase in reaction rate as a result of temperature rise from 10° to 100° is
 (a) 112 (b) 512
 (c) 400 (d) 614
30. A catalyst increases the rate of a chemical reaction by
 (a) Increasing the activation energy
 (b) Decreasing the activation energy
 (c) Reacting with reactants
 (d) Reacting with products
31. Velocity constant of a reaction at $290 K$ was found to be 3.2×10^{-3} . At $310 K$ it will be about
 (a) 1.28×10^{-2} (b) 9.6×10^{-3}
 (c) 6.4×10^{-3} (d) 3.2×10^{-4}



- 32.** The temperature coefficient of a reaction is
- Specific reaction rate at 25°C
 - Rate of the reaction at 100°C
 - Ratio of the rate constants at temperatures 35°C and 25°C
 - Ratio of the rate constants at two temperatures differing by 1°C
- 33.** The main function of a catalyst in speeding up a reaction is
- To increase the rate of the forward reaction
 - To change the reaction path so as to decrease the energy of activation for the reaction
 - To reduce the temperature at which the reaction can occur
 - To increase the energy of the molecules of the reactants
- 34.** The rate of a reaction
- Increases with increase in temperature
 - Decreases with increase in temperature
 - Does not depend on temperature
 - Does not depend on concentration
- 35.** Which of the following statements is false in relation to enzyme
- pH affects their functioning
 - Temperature affects their functioning
 - They always increase activation energy
 - Their reactions are specific
- 36.** A reaction is catalysed by 'X'. Here 'X'
- Decreases the rate constant of reaction
 - Does not affect the equilibrium constant of reaction
 - Decreases the enthalpy of reaction
 - Decreases the activation energy
- 37.** Which reaction characteristics are changing by the addition of a catalyst to a reaction at constant temperature
- Activation energy
 - Equilibrium constant
 - Reaction entropy
 - Reaction enthalpy
- (i) Only
 - (iii) only
 - (i) and (ii) only
 - All of these
- 38.** The velocity constant of a reaction at 290 K was found to be 3.2×10^{-3} . At 300 K it will be
- 1.28×10^{-2}
 - 6.4×10^{-3}
 - 9.6×10^{-3}
 - 3.2×10^{-4}





39. In which of the following cases, does the reaction go farthest to completion

- (a) $K = 10^3$ (b) $K = 10^{-2}$
(c) $K = 10$ (d) $K = 1$

40. Rate of reaction

- (a) Decreases with increase in temperature
(b) Increases with increase in temperature
(c) May increase or decrease with increase in temperature
(d) Does not depend on temperature

41. For the reaction $2N_2O_{5(g)} \rightarrow 4NO_{2(g)} + O_{2(g)}$, if concentration of NO_2 in 100 seconds is increased by $5.2 \times 10^{-3} M$. Then rate of reaction will be

- (a) $1.3 \times 10^{-5} ms^{-1}$
(b) $5 \times 10^{-4} ms^{-1}$
(c) $7.6 \times 10^{-4} ms^{-1}$
(d) $2 \times 10^{-3} ms^{-1}$
(e) $2.5 \times 10^{-5} ms^{-1}$

42. A first order reaction complete its 10% in 20 minutes then time required to complete its 19% is

- (a) 30 minutes (b) 40 minutes
(c) 50 minutes (d) 38 minutes
(e) 45 minutes

