CLASS XII
SAMPLE PAPER
CHEMISTRY

TEST/ASSI.-U-4 (CHEMICAK KINETICS)

1. Define threshold energy.

2. Write the expression for average and instantaneous rates for the following reaction-
$$4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$$

3. Define (i) Activation energy (ii) Collision frequency

4. How does catalyst affect rate of reaction?

5. Name the factors, which affect the rate of reaction.

6. The rate constant of a reaction is $5.0 \times 10^{-5} L$ mol^{-1} min^{-1}. What is the order of reaction?

7. What is -(i) Rate law expression? (ii) Rate determining step?

8. Why rate of reaction does not remain constant throughout?

9. What is the order of reaction whose rate constant has the same units as the rate of reaction?

10. Write Arrhenius equation.

11. Define rate constant or specific reaction rate.

12. The reaction A + 3B $\longrightarrow$ 2c obeys the rate equation Rate = k $[A]^{1/2}$ $[B]^{3/2}$ What is the order of this reaction?

13. Why cooking of rice in an open vessel takes more time at a hill station?

14. What are zero order reactions? Give an example. What are units of k for zero order reaction?

15. What are the units of rate constant for a first order reaction?

16. Give one example of a reaction where order and molecularity are equal.

17. What do you understand by half-life period of a reaction?

18. Hydrolysis of ethyl acetate with NaOH is a reaction of second while with HCl, it is of first order. Why?

19. A reaction is 50% complete in 2 hrs and 75% complete in 4 hrs. What is the order of reaction.

20. Give one example of a first order reaction?

21. A first order reaction is 75% complete after 32 minutes. When was 50% of the reaction completed?

22. The half-life period of reaction is 10 minutes. How long it will take for concentration of reactant to be reduced to 10% of   original.

23. The activation energy of reaction was found to be 12.49 k cal mol^{-1}.   If temperature is increased from 295K to 305K. Find the increase in rate of reaction.

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