Maximum Marks: 10   **(OBJECTIVE TYPE)**   Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1. **In zero order reaction, the rate is independent of:**
   (a) Temperature of reaction   (b) Concentration of reactants
   (c) Concentration of products   (d) None of these

2. **The order of decomposition of nitrogen pentaoxide ($2N_2O_5 \rightarrow 2N_2O_4 + O_2$) is:**
   (a) First order   (b) Second order   (c) Third order   (d) Zero order

3. **Half life period of $_{92}U^{235}$ is:**
   (a) 710 million years   (b) 720 million years   (c) 810 million years   (d) 820 million years

4. **Radioactive disintegration reactions are always _____ order reactions.**
   (a) First   (b) Second   (c) Zero   (d) Fractional

5. **The half-life period of a reaction is equal to $\dfrac{1}{ka}$. The order of reaction is:**
   (a) 1   (b) 2   (c) 3   (d) 0

6. **The reaction intermediate formed during the reaction $NO_2 + CO \rightarrow NO + CO_2$ is:**
   (a) N_2O_4 (b) N_2O (c) N_2O_5 (d) NO_3

7. **Just before collision:**
   (a) P.E. & K.E. of the system increase   (b) P.E. & K.E. of the system decrease
   (c) P.E. increases while K.E. decreases   (d) P.E. decreases while K.E. increases

8. **For exothermic reaction, the E_a of reverse reaction is _____ that of forward reaction.**
   (a) Greater than   (b) Smaller than   (c) Equal to   (d) All

9. **The elements of group IA are _____ reactive than that of IIA.**
   (a) More   (b) Equally   (c) Less   (d) None

10. **In darkness, the reaction between H_2 and Cl_2 is:**
    (a) Slow   (b) Moderate   (c) Explosive   (d) Negligible

Maximum Marks: 20   **(SUBJECTIVE TYPE)**   Time Allowed: 40 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (12)

  i. Rate of reaction is changing every moment. Explain.

 ii. What are pseudo first order reactions? Explain with an example.

iii. Half-life period of radioactive decay is independent of the amount of the substance. Explain.

 iv. What are the conditions for a collision to be effective?

  v. Describe method of large excess for finding the order of reaction?

 vi. Name the factors which affect the rate of reaction.

SECTION-II

NOTE: Attempt All Questions: (08)

Q.3: Describe half life method for finding the order of reaction.

Q.4: Explain the effect of temperature on the rate of reaction by Arhenius equation.