

CHEMISTRY TEST PAPER

CHEMICAL KINETICS & HALOGENS

DATE: 13/MARCH/2021

- Which one the following statement for the order of a reaction is incorrect?
 - Order of reaction is always whole number
 - Order can be determined only experimentally
 - Order is not influenced by stoichiometric coefficient of the reactant
 - Order of reaction is sum of power to the concentration terms of the reactants to express the rate of reaction
- In a zero order reaction for every 10° rise of the temperature, the rate is doubled. If the temperature is increased from 10°C to 100°C , the rate of reaction will become
 - 64 times
 - 512 times
 - 256 times
 - 128 times
- The rate constant of the reaction $A \rightarrow B$ is 0.6×10^{-3} mole per second. If the concentration of A is 5 M, then concentration of B after 20 min is
 - 0.36 M
 - 0.72 M
 - 1.08 M
 - 3.60 M
- The rate of first order reaction is $0.04\text{ mol L}^{-1}\text{s}^{-1}$ at 10 second and $0.03\text{ mol L}^{-1}\text{s}^{-1}$ at 20 second after initiation of the reaction. The half- life period of the reaction is?
 - 54.1s
 - 24.1s
 - 34.1 s
 - 44.1s
- If doubling the concentration of the reaction "A" increase the rate 4 time and tripling the concentration OF "A" increases the rate 9 times the rate is proportional to
 - concentration of "A"
 - square of concentration of "A"
 - under root of concentration of "A"
 - cube of concentration of "A"
- A first order reaction which is 30% complete in 30 minute half- life period of
 - 24.2min
 - 58.2 min
 - 102.2min
 - 120min
- The rate constant of a reaction is 0.69×10^{-1} and the initially concentration is 0.2 mol L^{-1} . The half-life period is
 - 400 sec
 - 600sec
 - 800sec
 - 1200sec
- A first order reaction is half completed in 45 minute. How long does it need 99.9% of the reaction to be completed

a) 5hour b) 7.5 hour c) 10hour d) 20 hour

9) A substance "A" decomposes by the first order reaction start initially with $[A] = 2.00 \text{ m}$ and after 200 min $[A] = 0.15\text{m}$. For this reaction what is the value of k ?

a) $1.29 \times 10^{-2} \text{min}^{-1}$ b) $2.29 \times 10^{-2} \text{min}^{-1}$ c) $3.29 \times 10^{-2} \text{min}^{-1}$ d) $4.40 \times 10^{-2} \text{min}^{-1}$

10) For the reaction $A \rightarrow x P$, when $[A] = 2.2\text{M}$, the rate was found to be 2.4nMs^{-1} . On reducing concentration of A to be half, the rate changes to 0.6nMs^{-1} . The order of the reaction with respect to A is

a) 1.5 b) 2.0 c) 2.5 d) 3.0

11) If a substances with the half-life 3 days is taken at other place in 12 days. What amount of substance is left now?

a) 1/4 b) 1/8 c) 1/16 d) 1/32

12) 2-Chlorobutane obtained by chlorination of butane, will be

a) meso-form b) *d*-form c) racemic form d) *l*-form

13. Chloropicrin is obtained by the reaction of

a) chlorine on picric acid b) Nitric acid on chloroform
c) Steam on carbon tetrachloride d) Nitric acid on chlorobenzene

14. Chloroform, when kept open, is oxidized to

a) O_2 b) COCl_2 c) O_2, C_2 d) None of these

15. Acetone is mixed with bleaching powder to give

a) Chloroform b) Acetaldehyde c) Ethanol d) Phosgene

16. Among the following, the one which reacts most readily with ethanol is

a) *p*-nitrobenzy bromide b) *p*-chlorobenzyl bromide
c) *p*-methoxybenzyl bromide d) *p*- methylbenzyl bromide

17. Which of the following is used in fire extinguishers?

a) CH_4 b) CHCl_3 c) CH_2Cl_2 d) CCl_4

18. The bad smelling substance formed by the action of alcoholic caustic potash on chloroform and aniline is

a) phenyl isocyanide b) nitrobenzene c) phenyl cyanide d) phenyl isocyanate

