CHEMISTRY

AAKASH INSTITUTE ENGLISH

MOCK TEST 39

Example

1. The correct order of boiling points of isomeric amines is

A. tertiary gtsecondary gtprimary

B. secondarygt primarygt tertiary

C. primary gtsecondarygt tertiary

D. secondary gttertiary gtprimary

Answer: C

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2. The correct order of value of pk_b the following amines is (i)$C_2H_5NH_2$(ii) $(C_2H_5)_2NH$(iii)$(C_2H_5)_3N$

A. (i)gt(ii)gt(iii)

B. (iii)gt(ii)gt(i)

C. (ii)gt(i)gt(iii)

D. (i)gt(iii)gt(ii)

Answer: D

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3. The decomposition of N_2O_5 in CCl_4 solution was studied. $N_2O_5 \rightarrow 2NO_2 + \frac{1}{2}O_2$. The rate constant of the reaction is 6.2 x

$10^{-4}\,\mathrm{sec}^{-1}$. Calculate the rate when the concentration of N_2O_5 is 1.25 molar.

A. 6.45 x 10^{-4}

B. 7.45 x 10^{-4}

C. 6.75 x 10^{-4}

D. 7.75 x 10^{-4}

Answer: A

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4. which amines form foul smelling compound on heating with chloroform and ethanol KOH?

A. 

B. 

C. 

D. Both(1)&(3)

Answer: D

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5. For the reaction $X \rightarrow Y + Z$, the rate constant is 0.00058 s-1. What percentage of X will be decomposed in 50 minutes?

A. 90.02 %

B. 82.44 %

C. 88.82 %

D. 82.67 %

Answer: B

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6. Compound (s) is used for the distinction of primary, secondary and tertiary amines is/are

A. alkaline chloroform

B. benzenesulphonyl chloride

C. p-toluenesulfonyl chloride

D. both (2)& (3)

Answer: D

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7. A first-order reaction was 70 percent complete in 20 minutes. What is the rate constant of the reaction?

A. 0.07 min-1

B. 0.06 min-1

C. 0.08 min-1

D. 0.09 min-1

Answer: D

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8. The product which is obtained in least amount on the direct nitration of aniline is

A. 

B. 

C. 

D. both (2) and (3)

Answer: A

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9. The major product formed when aniline reacts with concentrated H_2SO_4 followed by heating with H_2SO_4 at 453-473k is

A. 

B. 

C. 

D. 

Answer: A

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10. What is the time required for 75 percent completion of a first-order reaction?

A. $3 \times t_{50}$

B. $4 \times t_{50}$

C. $2 \times t_{50}$

D. $5 \times t_{50}$

Answer: D

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11. Which of the following statement is incorrect?

A. benzenediazonium chloride is a colourless crystalline solid

B. benzenediazonium chloride is readily soluble in water

C. benzenediazonium fluoroborate is soluble in water

D. benzene diazonium fluoroborate is stable at room temperature

Answer: C

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12. The rate constant of a reaction is $6 \times 10^{-3} s^{-1}$ at 50° and $9 \times 10^{-3} s^{-1}$ at 100° C. Calculate the energy of activation of the reaction.

A. 6.123 kJ mol^{-1}

B. 8.124 kJ mol^{-1}

C. 12.357 kJ mol^{-1}

D. 18.256 kJ mol^{-1}

Answer: B

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13. The activation energy of a reaction is 50 kJ mol-1 and the value of rate constant at 300 K

is $2.5\times10^{-5}\,\mathrm{sec}^{-1}$. What is the value of the frequency factor, A?

A. 4228.53 S^{-1}

B. 3829.53 S^{-1}

C. 7596.45 S^{-1}

D. 6565.53 S^{-1}

Answer: A

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14. Coupling of benzene diazonium chloride and phenol to form p- hydroxy azobenzene (orange dye) is an example of

A. elimination reaction

B. electrophilic substitution reaction

C. nucleophilic substitution reaction

D. electrophilic addition reaction

Answer: B

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15. What is the value of rate constant k if the value of the activation energy Ea and the frequency factor A are 49 kJ / mol and $9 \times 10^{10} S^{-1}$ respectively? (T = 313 K)

A. $6 \times 10^{2} S^{-1}$

B. $9 \times 10^{2} S^{-1}$

C. $3 \times 10^{2} S^{-1}$

D. $6 \times 10^{-2} S^{-1}$

Answer: C

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