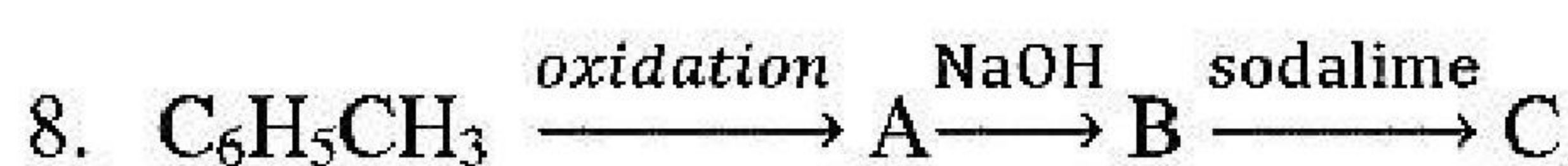


CHEMISTRY
QUESTION SET – 2

1. Bond order of O_2^- is
 - (a) 2.5
 - (b) 1.5
 - (c) 2
 - (d) 0
2. Which of the following reagent can be used to convert benzene diazonium chloride to benzene?
 - (a) Phosphorus acid
 - (b) Phosphoric acid
 - (c) Hypophosphoric acid
 - (d) Metaphosphoric acid
3. Which of the following will give primary amine on hydrolysis
 - (a) Nitroparaffin
 - (b) Alkyl cyanide
 - (c) Oxime
 - (d) Alkyl isocyanide
4. Which of the following is a condensation polymer?
 - (a) Polystyrene
 - (b) Neoprene
 - (c) PAN
 - (d) Nylon-6,6
5. $N_2 + 3H_2 \rightleftharpoons 2NH_3 + \text{heat}$
What is the effect of the increase of temperature on the equilibrium of the reaction?
 - a. equilibrium shifts towards left
 - b. equilibrium shifts towards right
 - c. equilibrium is unaltered
 - d. reaction rate does not change
6. The expression for the solubility product of Ag_2CO_3 will be
 - a. $K_{sp} = S^2$
 - b. $K_{sp} = 4S^3$
 - c. $K_{sp} = 27S^4$
 - d. $K_{sp} = S$
7. Uncertainty in the position of an electron (mass = 9.1×10^{-31} kg) moving with a velocity 300 ms^{-1} , accurate upon 0.001 % will be ($h = 6.63 \times 10^{-34} \text{ Js}$)

- a. 19.2×10^{-2} m
c. 1.92×10^{-2} m

- b. 5.76×10^{-2} m
d. 3.84×10^{-2} m



The product C is

- a. $\text{C}_6\text{H}_5\text{OH}$
c. $\text{C}_6\text{H}_5\text{COONa}$

- b. C_6H_6
d. $\text{C}_6\text{H}_5\text{ONa}$

9. Ozone layer is Present in

- I. Mesosphere
III. Troposphere

- II. Hydrosphere
IV. Stratosphere

Select the correct option :

- a. I and II
c. only IV

- b. II and III
d. I, II, and III

10. Frenkel and Schottky defects are shown by

- a. non ionic solids
c. Neither (a) nor (b)

- b. ionic solids
d. both (a) and (b)

11. 25 mg of CaCO_3 is dissolved in 5L of solution. The approximate concentration of solution is

- a. 25 ppm
c. 1 ppm

- b. 2500 ppm
d. 5 ppm

12. What will be the weight of silver deposited, if 96.5A of current is passed into aqueous solution of AgNO_3 for 100s?

- a. 1.08 g
c. 108 g

- b. 10.8 g
d. 1080 g

13. Which of the following compounds has square planar geometry?

- a. $[\text{Ni}(\text{CN})_4]^{2-}$
c. $[\text{Ni}(\text{CO})_4]$

- b. $[\text{NiCl}_4]^{2-}$
d. both a and b

14. If the bond enthalpy of O_2 , N_2 and H_2 are 498 kJ mol^{-1} , 946 kJ mol^{-1} , $435.8 \text{ kJ mol}^{-1}$ respectively. Choose the correct order of decreasing bond strength

- a. $\text{H}_2 > \text{N}_2 > \text{O}_2$
c. $\text{O}_2 > \text{H}_2 > \text{N}_2$

- b. $\text{N}_2 > \text{O}_2 > \text{H}_2$
d. $\text{H}_2 > \text{O}_2 > \text{N}_2$

15. The correct order of second ionization potential of C, O, F are

- a. $\text{C} > \text{N} > \text{O} > \text{F}$
c. $\text{O} > \text{N} > \text{C} > \text{F}$

- b. $\text{O} > \text{F} > \text{N} > \text{C}$
d. $\text{O} > \text{C} > \text{F} > \text{N}$

16. 10 g of radioactive isotope is reduced to 1.25 g in 12 yr. Calculate the half life period of isotope.

- a. 4 yr
c. 8 yr

- b. 3 yr
d. 24 yr

17. Which of the following undergoes $\text{S}_{\text{N}}2$ reaction faster?



18. 25 mg of CaCO_3 is dissolved in 5 L of solution. The approximate concentration of solution is

a. 25 ppm

b. 2500 ppm

c. 1 ppm

d. 5 ppm

19. Recently discovered allotrope of Carbon is

(a) Diamond

(b) Graphite

(c) Fullerene

(d) Carbon Nano Tube

20. The number of α and β particles emitted in the nuclear reaction ${}_{90}\text{Th}^{228}$ to ${}_{83}\text{Bi}^{212}$ are

(a) 4α and 1β

(b) 3α and 7β

(c) 8α and 1β

(d) 4α and 7β

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