

## CHEMISTRY

### QUESTION SET – 2

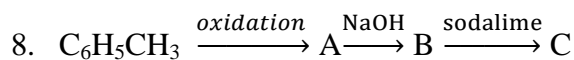
- Bond order of  $O_2^-$  is
  - 2.5
  - 1.5
  - 2
  - 0
- Which of the following reagent can be used to convert benzene diazonium chloride to benzene?
  - Phosphorus acid
  - Phosphoric acid
  - Hypophosphoric acid
  - Metaphosphoric acid
- Which of the following will give primary amine on hydrolysis
  - Nitroparaffin
  - Alkyl cyanide
  - Oxime
  - Alkyl isocyanide
- Which of the following is a condensation polymer?
  - Polystyrene
  - Neoprene
  - PAN
  - Nylon-6,6
- $N_2 + 3H_2 \rightleftharpoons 2NH_3 + \text{heat}$ 

What is the effect of the increase of temperature on the equilibrium of the reaction?

  - equilibrium shifts towards left
  - equilibrium shifts towards right
  - equilibrium is unaltered
  - reaction rate does not change
- The expression for the solubility product of  $Ag_2CO_3$  will be
  - $K_{sp} = S^2$
  - $K_{sp} = 4S^3$
  - $K_{sp} = 27S^4$
  - $K_{sp} = S$
- Uncertainty in the position of an electron (mass =  $9.1 \times 10^{-31}$  kg) moving with a velocity  $300 \text{ ms}^{-1}$ , accurate upon 0.001 % will be ( $h = 6.63 \times 10^{-34}$  Js)

- a.  $19.2 \times 10^{-2}$  m  
c.  $1.92 \times 10^{-2}$  m

- b.  $5.76 \times 10^{-2}$  m  
d.  $3.84 \times 10^{-2}$  m



The product C is

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

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

9. Ozone layer is Present in

- I. Mesosphere  
III. Troposphere

- II. Hydrosphere  
IV. Strato sphere

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  $\text{CaCO}_3$  is dissolved in 5L of solution. The approximate concentration of solution is

- a. 25ppm  
c. 1ppm

- b. 2500 ppm  
d. 5ppm

12. What will be the weight of silver deposited, if 96.5A of current is passed into aqueous solution of  $\text{AgNO}_3$  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  $\text{O}_2$ ,  $\text{N}_2$  and  $\text{H}_2$  are  $498 \text{ kJ mol}^{-1}$ ,  $946 \text{ kJ mol}^{-1}$ ,  $435.8 \text{ kJ mol}^{-1}$  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.  $\text{O} > \text{N} > \text{C} > \text{F}$

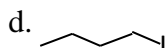
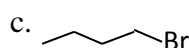
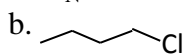
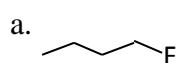
- b.  $\text{O} > \text{F} > \text{N} > \text{C}$   
d.  $\text{O} > \text{C} > \text{F} > \text{N}$

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

- a. 4yr  
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  $\text{CaCO}_3$  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  $\alpha$  and  $\beta$  particles emitted in the nuclear reaction  ${}_{90}\text{Th}^{228}$  to  ${}_{83}\text{Bi}^{212}$  are

(a)  $4\alpha$  and  $1\beta$

(b)  $3\alpha$  and  $7\beta$

(c)  $8\alpha$  and  $1\beta$

(d)  $4\alpha$  and  $7\beta$

ANSWER OF SET-7

1.B

2.C

3.D

4.A

5.A

6.B

7.C

8.B

9.C

10.B

11.B

12.B

13.A

14.B

15.B

16.A

17.D

18.D

19.C

20.A

