CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA JEE MOCK TEST 103

Chemistry

1. Food preservatives prevent spoilage of food due to microbial growth. The commonly used preservatives are :

A. Salts of sorbic acid and propanoic acid

B. Vegetable oils and sodium benzoate (C_6H_5COONa).

C. Table salt and sugar

D. All of these

Answer: D

▶ **Watch Video Solution**

2. The correct order of solubility of the sulphates of alkaline earth metals in water is

A. $Mg > Ca > Ba > Be > Sr$

B. $Be > Mg > Ca > Sr > Ba$

C. $Be > Ca > Mg > Ba > Sr$

D. $Mg > Be > Ba > Ca > Sr$

Answer: B

▶ **Watch Video Solution**

3. The splitting of spectral lines in an external

magnetic field is known as the

A. Stark effect

B. Photoelectric effect

C. Zeeman effect

D. Ramn effect

Answer: C

▶ **Watch Video Solution**

4. When phosphate radical with ammonium molybdate, the colour of precipitate obtained as

A. Green

B. Pink

C. Canary yellow

D. Violet

Answer: C

▶ **Watch Video Solution**

5. Fluorine reacts with water to give

A. HF and O_2

B. HF and O_3

C. HF and OF_2

D. HF, O_2 and O_3

Answer: D

▶ **Watch Video Solution**

6. Calculate the octane number of gasoline fuel, which contains 25% n - heptane and 75% is iso - octane.

A. 25

B. 50

C. 75

D. 100

Answer: C

▶ **Watch Video Solution**

7. Which of the following shows positive deviation from Raoult's law ?

A. Water - hydrochloric acid

B. Water - nitric acid

C. Benzene - methanol

D. Acetone - chloroform

Answer: B

▶ **Watch Video Solution**

8. According to Langmuir adsorption isotherm, the amount of gas adosobed at very high pressure

A. goes on increasing with pressure

B. goes on decreasing with pressure

C. increases first and decreases later with
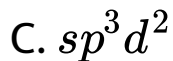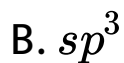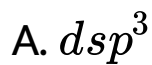
pressure

D. reaches a constant limiting value

Answer: D

▶ **Watch Video Solution**
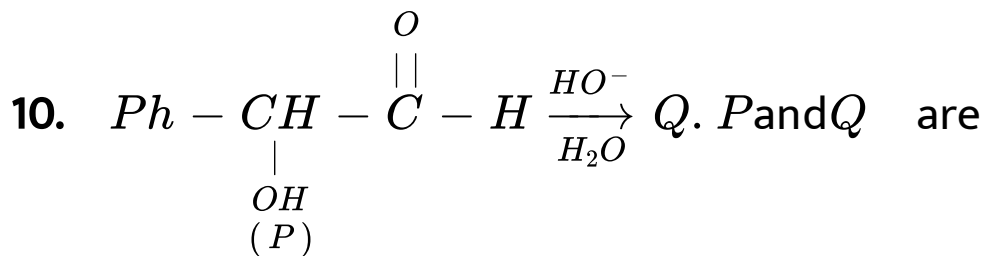
9. What is the hybridization of Fe in complex

$K_3Fe(CN)_6$ is ?

A. dsp^3

B. sp^3

C. sp^3d^2

D. d^2sp^3

Answer: D

▶ **Watch Video Solution**

10. $Ph - \underset{\underset{(P)}{\underset{|}{OH}}}{CH} - \overset{\overset{O}{||}}{C} - H \xrightarrow[H_2O]{HO^-} Q.$ P and Q are

isomers. Identify Q

A. $Ph - CH_2 - \overset{\overset{\displaystyle O}{||}}{C} - OH$

B. $PH - \overset{\overset{\displaystyle O}{||}}{C} - OCH_3$

C. $Ph - \overset{\overset{\displaystyle O}{||}}{C} - CH_2OH$

D. $H - \overset{\overset{\displaystyle O}{||}}{C} - CH_2 - O - PH$
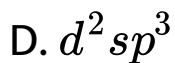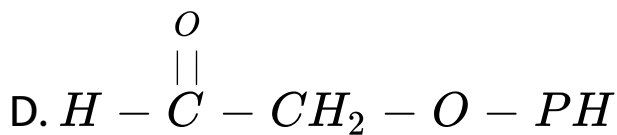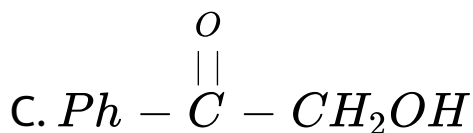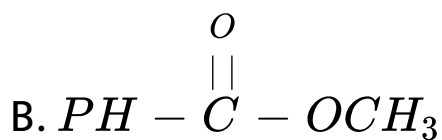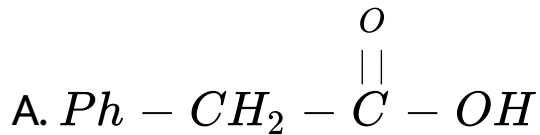
Answer: C

▶ **Watch Video Solution**

11. The bond order depends on the number of

electrons in the bonding and antibonding

orbitals. Which of the following statement is/are correct about bond order ?

A. Can have a negative quantity

B. Has always an integral value

C. Is a non zero quantity

D. Can assume any positive or integral or fractional value including zero

Answer: D

▶ Watch Video Solution

12. Which is incorrect statements among the following?

A. Zinc blends and Galena are sulphides

B. Argentite and cuprite are oxides

C. Calamine and siderite are carbonates

D. Malachite and azuite are ores of copper

Answer: B

▶ Watch Video Solution

13. Natural rubber belongs to which class of polymer

    A. Addition polymer

    B. Condensation polymer

    C. Co - ordination polymer

    D. Co - polymer

Answer: A

▶ **Watch Video Solution**

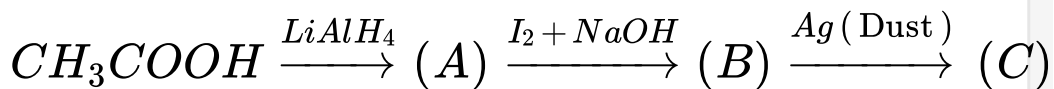**14.** Which of the following is an example of intensive property?

A. Enthalpy

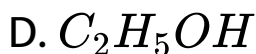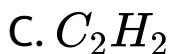B. Energy
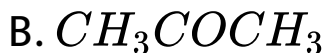
C. Mass of substance

D. Surface tension

Answer: D

▶ **Watch Video Solution**

15. In the reaction

$$CH_3COOH \xrightarrow{LiAlH_4} (A) \xrightarrow{I_2+NaOH} (B) \xrightarrow{Ag(\text{Dust})} (C)$$

, the final product C is:-

A. C_2H_5I

B. CH_3COCH_3

C. C_2H_2

D. C_2H_5OH
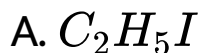
Answer: C

> ▶ **Watch Video Solution**

16. Given, standard electrode potentials

$$Fe^{2+} + 2e^- \rightarrow Fe, \; E^\circ = -0.440V$$

$$Fe^{3+} + 3e^- \rightarrow Fe, \; E^\circ = -0.036V$$
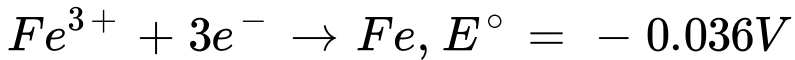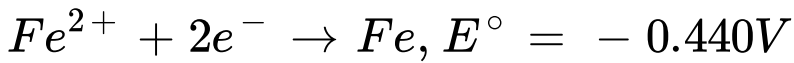
The standard potential (E°) for

$$Fe^{2+} + e^- \rightarrow Fe^{2+}, \text{ is}$$
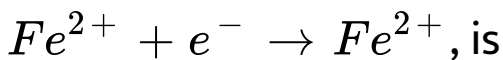
A. $+0.772V$

B. $-0.404V$

C. $+0.404V$

D. $-0.476V$

Answer: A

17. Which is the correct relation between glucose and mannose?

A. Structual isomers

B. Disaccharides

C. Epimers

D. Anomers

Answer: C

18. A solution of (+)-2-chloro-2-phenyl ethane in toluene racemises slowly in the presence of small amount of $SbCl_5$, due to the formation of:

A. Carbanion

B. Carbocation

C. Free radical

D. Carbene

Answer: B

 Watch Video Solution

19. $100ml$ of $0.2MH_2SO_4$ is added to $100ml$ of $0.2MNaOH$. The resulting solution will be

A. Neutral

B. Slightly basic

C. Basic

D. Acidic

Answer: D

20. Determine the product formed when phosphine gas is mixed with chlorine gas

A. The mixture only cools down

B. $PH_3 . Cl_2$ adduct is formed with warming up

C. PCl_5 and HCl are formed and the mixture cools down

D. PCl_3 and HCl are formed and the mixture warms up

Answer: C

21. If 400 gm radioactive Iodine is taken initially. Then calculate the amount the $(53)I^{128}\left(t_{\frac{1}{2}} = 25\text{ min}\right)$ left after 75 minutes

22. Calculate the amount of bromine required to convert 10 g of phenol into 2, 4, 6 -

tribromophenol (Report your answer as whole number only)

23. The equivalent conductance of 1M benzoic acid is $12.8 ohm^{-1}cm^2$ and if the conductance of benzoate ion and H^+ ion at infinite dilution are $42 ohm^{-1}cm^2$ and $288.42 ohm^{-1}cm^2$ respectively . Then its degree of dissociation is
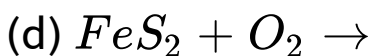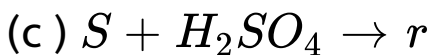
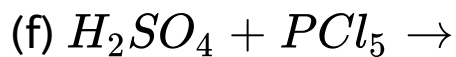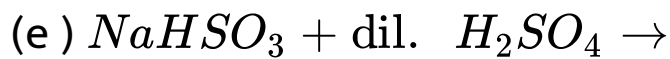**24.** Total number of optically inactive stereoimers of succinic acid are

25. The number of reactions that gives SO_2 gas :

(a) $Cu + $ conc. $H_2SO_4 \rightarrow$

(b) $Zn + $ dil. $H_2SO_4 \rightarrow$

(c) $S + H_2SO_4 \rightarrow r$

(d) $FeS_2 + O_2 \rightarrow$

(e) $NaHSO_3 + \text{dil. } H_2SO_4 \rightarrow$

(f) $H_2SO_4 + PCl_5 \rightarrow$