CHEMISTRY

NTA MOCK TESTS ENGLISH

NTA JEE MOCK TEST 103

Chemistry

1. Food preservatives prevent spoilage of food due to microbial growth. The most 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

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2. The right order of the solubility of 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

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3. Splitting of spectral lines under the influence of magnetic field is called

A. Stark effect

B. Photoelectric effect

C. Zeeman effect

D. Ramn effect

Answer: C

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

A. Green

B. Pink

C. Canary yellow

D. Violet

Answer: C

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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

6. What is the octane number fuel contains 25% n - heptane and 75% iso - octane ?

A. 25

B. 50

C. 75

D. 100

Answer: C

7. Which of the following liquid paires shows a positive deviation from Raoult's law /

A. Water - hydrochloric acid

B. Water - nitric acid

C. Benzene - methanol

D. Acetone - chloroform

Answer: B

8. According of Langmuir adsorption isotherm amount of gas adsorbed at very low pressure

    A. goes on increasing with pressure

    B. goes on decreasing with pressure

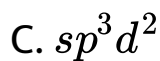   C. increases first and decreases later with
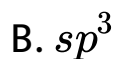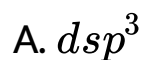
       pressure

    D. reaches a constant limiting value
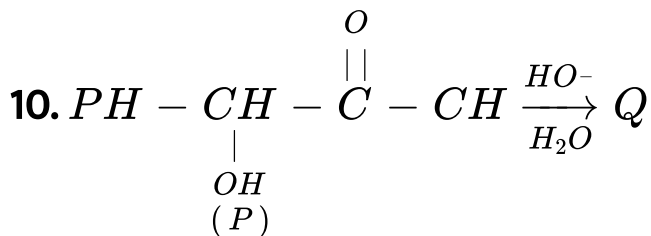
Answer: D

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9. The hybridization of iron atom in $\left[Fe(CN)_6\right]^{3-}$ complex is

A. dsp^3

B. sp^3

C. sp^3d^2

D. d^2sp^3

Answer: D

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10. $PH - \underset{\underset{(P)}{\underset{|}{OH}}}{CH} - \overset{\overset{O}{\|}}{C} - CH \xrightarrow[H_2O]{HO^-} Q$
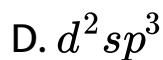
Where P and Q are isomers , then identify Q

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

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

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

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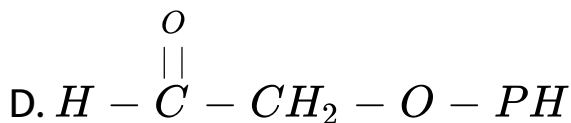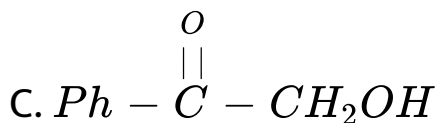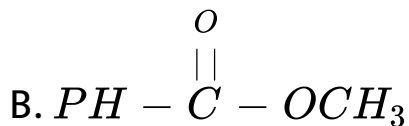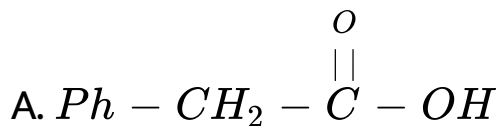
Answer: C

11. Bond order depends on the number of electrons in the bonding and antibonding molecular orbitals. Which of the following statements about bond order is correct .

A. Can have a negative quantity

B. Has always an integral value

C. Is a non zero quantity

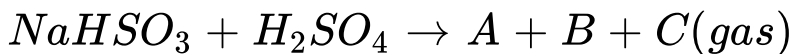D. Can assume any positive or integral or fractional value including zero

Answer: D

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

13. Identify A, B and C:

$$NaHSO_3 + H_2SO_4 \rightarrow A + B + C(gas)$$

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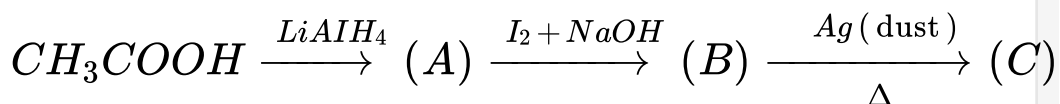**14.** Which of the following is an example of intensive property?

A. Enthalpy

B. Energy

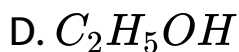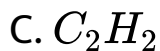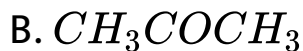C. Mass of substance

D. Surface tension

Answer: D

15. In the reaction,

$$CH_3COOH \xrightarrow{LiAIH_4} (A) \xrightarrow{I_2 + NaOH} (B) \xrightarrow[\Delta]{Ag\,(\text{dust})} (C)$$

.

The final product (C) is

A. C_2H_5I

B. CH_3COCH_3

C. C_2H_2

D. C_2H_5OH
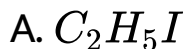
Answer: C

16. Given standard electrode potentials:

$Fe^{3+} + 3e^- \rightarrow Fe, E^\circ = -0.036$ volt

$Fe^{2+} + 2e^- \rightarrow Fe, E^\circ = -0.040$ volt
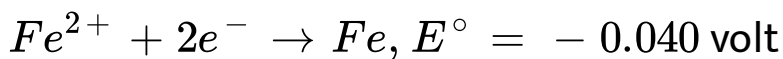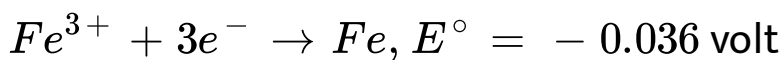
The standard electrode potential E° for

$Fe^{3+} + e^- \rightarrow Fe^2$ is:-
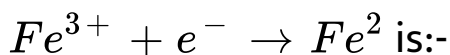
A. $+0.772V$

B. $-0.404V$

C. $+0.404V$

D. $-0.476V$

Answer: A

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17. The relation between glucose and mannose is

    A. Structual isomers

    B. Disaccharides

    C. Epimers

    D. Anomers

Answer: C

18. A solution of (+)2-chloro-2-phenylethane 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

19. 100 ml of $0.2MH_2SO_4$ is added to 100 ml of 0.2

M NaOH. The resulting solution will be

A. Neutral

B. Slightly basic

C. Basic

D. Acidic

Answer: D

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20. What product is 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. Calculate the amount of $.53^{I^{128}}$ $(t_{1/2} = 25 \text{ min })$ left after 75 minutes.

22. Identify A and B: $CaSO_4 + Na_2CO_3 \rightarrow A + B$

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

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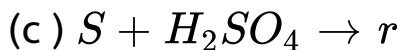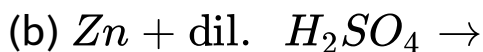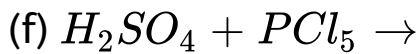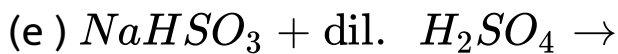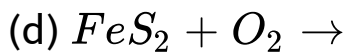
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24. Identify A and B: $Mg_3 N_2 + H_2O \rightarrow A + B(gas)$

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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) $H_2SO_4 + PCl_5 \rightarrow$

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