CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 46

Chemistry

1. Compound having the lowest dipole moment is

A. cis-2-butyne

B. 2-butyne

C. 1-butyne

D. $H_2C = CH - C \equiv CH$

Answer: B

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2. If electronegativity of A,B,C and D are 1.0,1.2,2.5 and 2.8, then the most basic compound from the following is
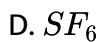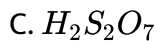
A. AOH

B. BOH

C. COH

D. DOH

Answer: A

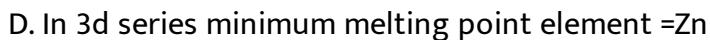**3.** Which of the following gives H_2O_2 on hydrolysis

A. SO_3

B. H_2SO_5

C. $H_2S_2O_7$

D. SF_6

Answer: B

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4. Correct statement is

A. Ag_2CO_3 on strong heating gives $Ag_2O + CO_2$

B. $(NH_4)_2Cr_2O_7$ & NH_4Cl both gives same gases on heating

C. In $NaNO_2$, one coordinate bond is present

D. In 3d series minimum melting point element =Zn
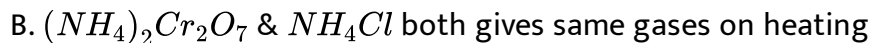
Answer: D

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5. Which of the following pair gives same gaseous product on heating?

A. KNO_3 and Pb $(NO_3)_2$

B. NH_4NO_2 and NaN_3

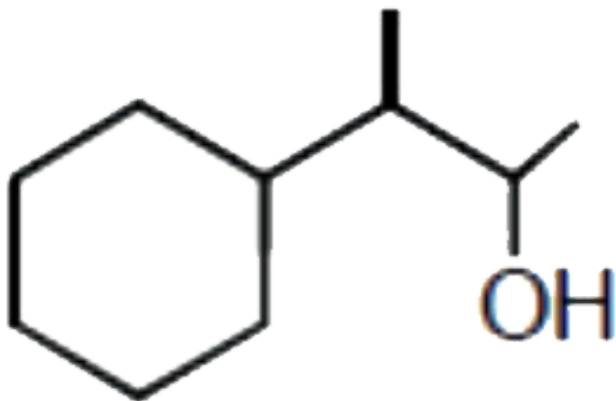C. $(NH_4)_2Cr_2O_7$ and NH_4NO_3
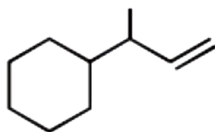
D. Na_2CO_3 and $BeCO_3$

Answer: B
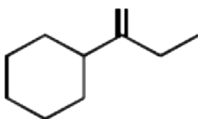
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6. Determine the major product obtained during the dehydration of
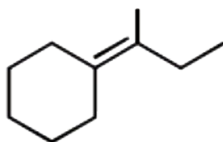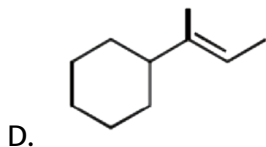

A.

B.

C.

D.

Answer: C

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7. 2-butanone can be reduced ot n-butane by:

    A. The meerwein-Ponndroff reduction

    B. The wolf Kishner reduction

    C. $Mg - Hg, H_2O$

    D. All of the above

Answer: B

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8. Arrange the following in decresing order of their reactivity towards nucleophile:

Benzoyl chloride
(I)

Benzyl chloride
(II)

Chloro benzene
(III)

A. $I > II > III$

B. $II > I > III$
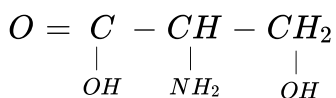
C. $II > III > I$

D. $I > III > II$

Answer: A

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9. As per the IUPaC convention the name of the following compound is

$$O = C - CH - CH_2$$
$$\quad\quad | \quad\quad | \quad\quad |$$
$$\quad OH \quad NH_2 \quad OH$$

A. 3-amino-2-hydroxypropanoic acid

B. 2-aminoprpoan-3-ol-1-oic acid

C. 2-amino-3-hydroxypropanoic acid

D. Amino hydroxypropanoic acids

Answer: C

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10. For the first order reaction $(A) \rightarrow$ Products, the concentration of A changes from 0. M to 0.025 M in 40 min. The rate of reaction when the concentration of A is 0.01 M is

A. $1.73 \times 10^{-5} moldm^{-3} min^{-1}$

B. $3.47 \times 10^{-4} moldm^{-3} min^{-1}$

C. $3.47 \times 10^{-5} moldm^{-3} min^{-1}$

D. $1.73 \times 10^{-4} moldm^{-3} min^{-1}$

Answer: B

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11. If $E^{\circ}_{MnO_4^- / Mn^{2+}} = 1.51V$ then calculate the E_{cell} of

$Pt, H_2(g, 0.1\text{bar})\big|H^+\left(aq, 10^{-3}M\right)\big|\big|MnO_4^-\left(aq, 0.1M\right), Mn^{2+}\left(aq, 0.01M\right)$

A. $-1.54V$

B. $+1.48V$

C. $+1.84V$

D. $-1.91V$

Answer: B

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12. If p^H of 1 L pure water at 298 K is 7, then what is the molarity of H^+

ions in pure water (500 ml) at $25°$ C.

A. $\dfrac{10^{-7}}{2}M$

B. $2 \times 10^{-7} M$

C. $10^{-7} M$

D. $10^{-14} M$

Answer: C

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13. What is the oxidation number o Fe in $Na_2[Fe(CN)_5 NO]$,

A. zero

B. $+1$

C. $+2$

D. $+3$

Answer: C

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14. Some physical properties of crystalline solids lik refractive index or electrical resistance show different value on measuring along different directions I the same crystal. This property is called

    A. Isotropic in nature

    B. Anisotropic in nature

    C. Cryoscopic in nature

    D. None of these

Answer: B

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15. The vapour presure of benzene at $80°C$ C is lowered by 10 mm by dissolving 2g of a non -volatile substance in 78 g of benzene. The vapour pressure of pure benzene at $80°C$ is 750 mm. The molecular masss of the substance will be:

A. 15

B. 150

C. 1500

D. 148

Answer: D

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16. The volume of gas released in reaction of CH_3OH with CH_3MgI is 1.04 ml at STP. What is he mass of CH_3OH initially consumed?

A. 1.485mg

B. 2.98mg

C. 3.71mg

D. 4.47mg

Answer: A

17. Which of the following property of small drop of mercury can be used to explain the spherical shape of mercury droplets?

    A. viscosity

    B. surface tension

    C. capillary effect

    D. vapour pressure

Answer: B

18. The ionisation potential of ground state of hydrogen atom is 13.6eV, then calculate the ionisation potential of He^+

    A. 54.4eV

B. 6.8eV

C. 13.6eV

D. 24.5ev

Answer: A

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19. An As_2S_3 sol carries a negative charge the maximum precipitating power for this sol is shown by

A. K_2SO_4

B. $CaCl_2$

C. Na_3PO_4

D. $AlCl_3$

Answer: D

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20. For a reversible thermodynamic process for monoatomic gas $PV^x =$ constant If for this process $x = \dfrac{C_p}{C_v}$, then heat capacity for the process is

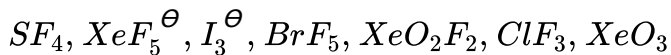A. $\dfrac{3R}{2}$

B. $\dfrac{5R}{2}$

C. 0

D. ∞

Answer: C

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21. The number of unpaired electrons in high spin octahedral comlexes of $CO^{3+} (d^6)$ is

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22. Find the total number of chemical species which are non plant & lone pair of central atom ocupy equitorial orbital.

$SF_4, XeF_5{}^{\ominus}, I_3{}^{\ominus}, BrF_5, XeO_2F_2, ClF_3, XeO_3$

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23. Total number of ore of iron present in following compounds are

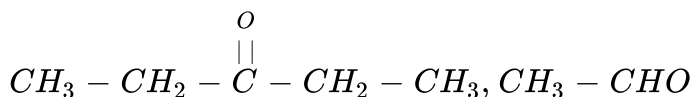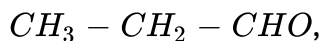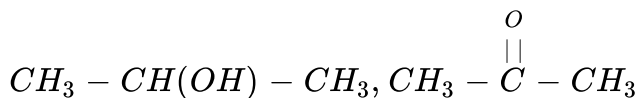Haematite, dolomite, malachite, magnetite, limonite, siderite, azurite

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24. Find the difference in number of moles of H_2O required during partial and complete hydrolysis of 1 mole of PCl_5.

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25. The number of compounds that give positive iodoform test among the following are

$$CH_3 - CH(OH) - CH_3, \ CH_3 - \overset{\overset{\displaystyle O}{\|}}{C} - CH_3$$

$$CH_3 - CH_2 - CHO,$$

$$CH_3 - CH_2 - OH$$

$$CH_3 - CH_2 - \overset{\overset{\displaystyle O}{\|}}{C} - CH_2 - CH_3, \ CH_3 - CHO$$

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26. How many of the following monosaccharides are examples of aldose?

Furctose, Ribulose, Erythrose, Ribose, Glucose

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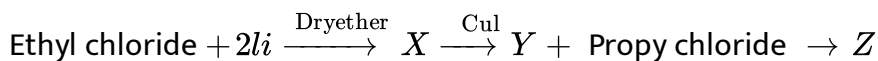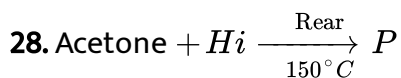**27.** Alcohol+Lucas reagent $\rightarrow$ Immediate turbidity

Calculate how many of the following will give above test positive?

2-Methylpropane -2-ol, butan-1-ol,

2-methylpropan-1-ol,2,2-

dimethylpentan-2-ol, propan-1,3-diol

28. Acetone $+ Hi \xrightarrow[150°C]{\text{Rear}} P$

Ethyl chloride $+ 2li \xrightarrow{\text{Dryether}} X \xrightarrow{\text{Cul}} Y +$ Propy chloride $\rightarrow Z$

Product P and Z are homologues of each other and they differ in

molecular mass by ....u.

29. In a molecule of Xe_{F_6}, Xe contains ....lone pairs of electrons.