



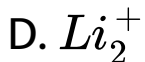
CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 105

Chemistry

1. Which one of the following species does not exist :-



Answer: B



View Text Solution

2. Predict the group of the periodic table of the element, if successive ionization enthalpies are given by 940 (first),

2080, 3090, 4140, 7030, 7870, 16000 and
19500kJ mol⁻¹

A. 14

B. 15

C. 16

D. 17

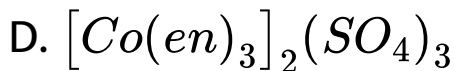
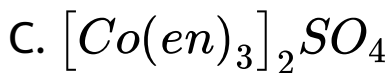
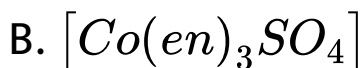
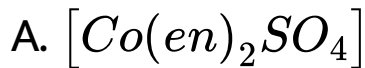
Answer: C



View Text Solution

3. The formula of complex

Tris(ethylenediamine) cobalt sulphate:-



Answer: D



View Text Solution

4. For which of the following oxide, carbon reduction is not used for its commercial extraction ?

A. PbO

B. SnO_2

C. ZnO

D. MgO

Answer: D



View Text Solution

5. Which is incorrectly matched ? Substance Use/property

A.

Substance	Use/property
Silica gel	Drying agent

B.

Substance	Use/property
Silicones	Naturally existing minerals

C.

Substance	Use/property
Quartz	Piezoelectric crystal

D.

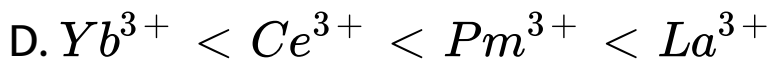
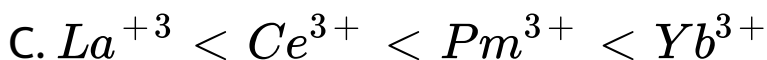
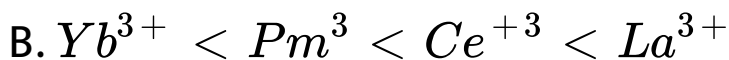
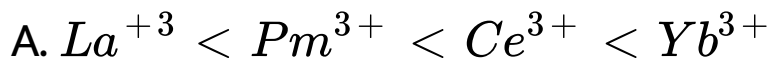
Substance	Use/property
Silicones	Hydrophobic

Answer: B



View Text Solution

6. The correct order of ionic radii of Ce, La, Pm and Yb in +3 oxidation state is :

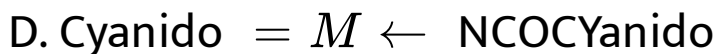
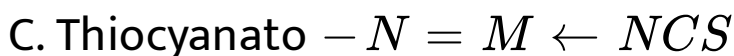
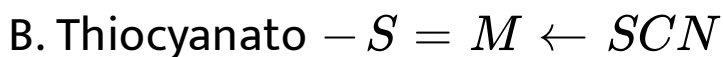


Answer: B



View Text Solution

7. Which of the following match is incorrect ?



Answer: D



View Text Solution

8. Which of the following statements is correct

?

A. In the Castner's process of sodium extraction, NaCl is used as an electrolyte.

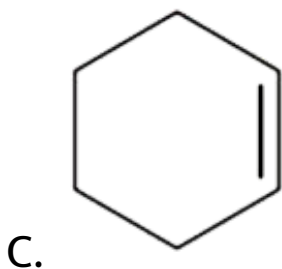
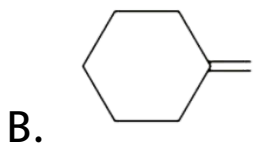
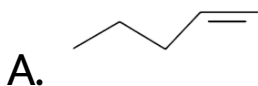
B. Sodium reduces CO_2 to carbon.

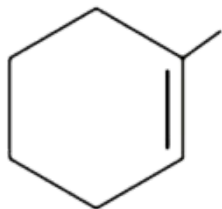
C. Mg reacts with cold water and liberates hydrogen

D. Magnalium is an alloy of Mg and Zn.

Answer: B

9. Hydroboration oxidation, oxymercurationdemercuration and acid catalysed hydration will give same product in:-



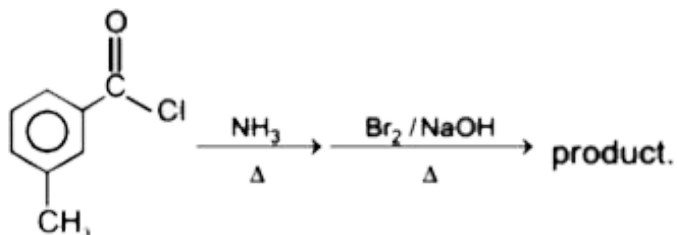


D.

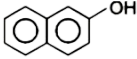
Answer: C

 [View Text Solution](#)

10. Which of the following does not give positive test with formation of final product.



A. $(CHCl_3 + KOH) / \Delta$ (Carbyl amine test)

B. HNO_3  Oc1ccc2ccccc2c1

C. $Ph - SO_2Cl / NaOH$ (Hinsberg test)

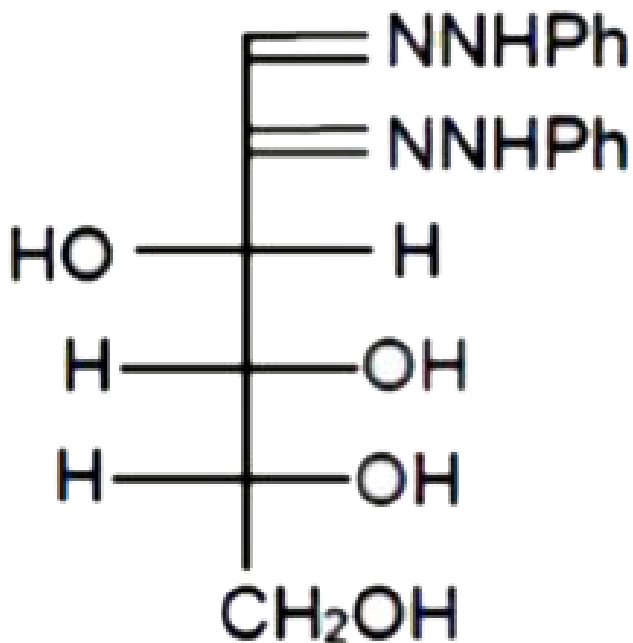
D. Neutral $FeCl_3$ test

Answer: D



[View Text Solution](#)

11. Among the given carbohydrates, which pair can form the same osazone as given below:



A. Glucose and galactose

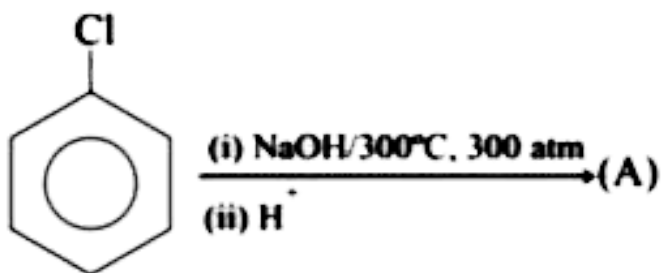
B. Glucose and mannose

C. Galactose and fructose

D. Sucrose and galactose

Answer: B

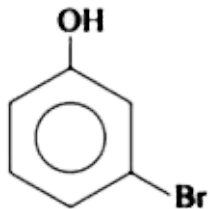
 [View Text Solution](#)



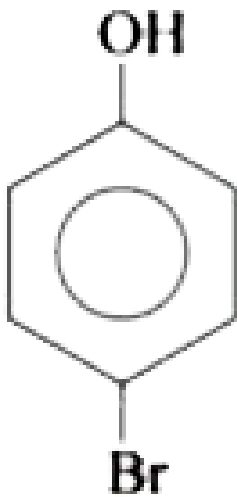
12.

Compound 'B' in above reaction is:

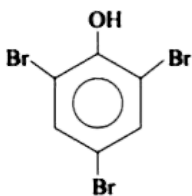
A.



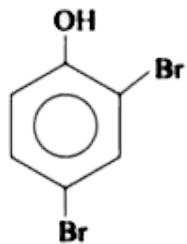
B.



C.



D.

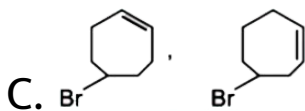
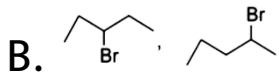
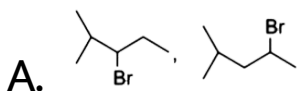


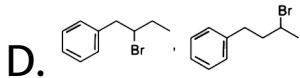
Answer: B



View Text Solution

13. For E_2 elimination reaction in base, identify which pair contains second alkyl halide more reactive than first ?

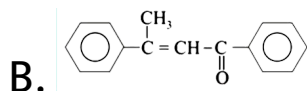
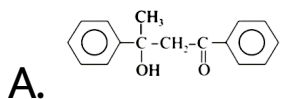


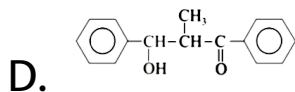
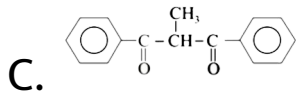


Answer: C

 [View Text Solution](#)

14. Of the following which is the product formed when acetophenone undergoes aldol condensation followed by heating ?

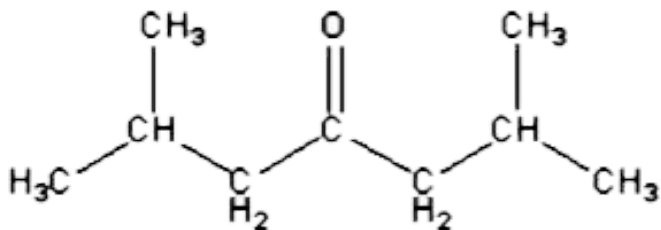




Answer: B

 [View Text Solution](#)

15. Find the IUPAC name and type & number of carbon atoms, in the following compound.



A. 2, 6-Dimethylheptan-4-ol, One primary,
two secondary and one tertiary

B. 2, 6-Dimethylheptan-4-one(Four primary,
one secondary and two tertiary

C. 2, 6-Diethylheptan-4-one, One primary,
one secondary, one tertiary and one
quaternary

D. 6,2-Dimethylheptan-4-one, Five primary,
one secondary, one tertiary and one
quaternary

Answer: B



View Text Solution

16. Aluminium oxide on electrolytic reduction at high temperature gives Al metal (atomic mass = 27 amu, 1 F = 96,500 C). To prepare 5.12 kg of Al, would require

A. $5.49 \times 10^1 C$

B. $5.49 \times 10^4 C$

C. $1.83 \times 10^7 C$

$$D. 5.49 \times 10^7 \text{ C}$$

Answer: D



View Text Solution

17. The total vapour pressure of mixture obtained by mixing 2 moles of A and 3 moles of B will be given: $P_A^\circ = 100$ torr and $P_B^\circ = 80$ torr

A. 440 torr

B. 460 torr

C. 180 torr

D. 88 torr

Answer: D



View Text Solution

18. The reaction of calcium with water is represented by the equation:



What volume of H_2 at STP would be liberated

when 8g of calcium completely reacts with water ?

A. 0.2cm^3

B. 0.4cm^3

C. 224cm^3

D. 4480cm^3

Answer: D



View Text Solution

19. $\text{PCl}_5(\text{g})$

A. $5 \times 10^{-3} \text{ M}$

B. $2.5 \times 10^{-5} \text{ M}$

C. $5 \times 10^{-4} \text{ M}$

D. 0.1 M

Answer: C



View Text Solution

20. Of the following, the ion having the most negative value of enthalpy of interaction with water is:



Answer: C



View Text Solution

21. The bond order of O_2 molecule on the basis of molecular orbital theory is_____.



[View Text Solution](#)

22. Elements of p-block have the valence shell electronic configuration as ns^2np^1 to x . The value of 'x' is:



[View Text Solution](#)

23. The reagent(s) which can be used to distinguish acetophenone from benzophenone is/are_____.

2,4 -dinitrophenylhydrazine.



[View Text Solution](#)

24. How many of the following compounds react with red phosphorus to form ethane?

Acetaldehyde, acetone, methanol, acetyl chloride, acetamide





[View Text Solution](#)

25. Find how many metamers can be represented by formula $C_5H_{12}O$? (Exclude their stereoisomers if any).



[View Text Solution](#)

26. The solubility product (K_{sp}) of the sparingly soluble salt (MX) at 298 K is 2.50×10^{-9} . The solubility of the salt at this

temperature is $x \times 10^{-5} \text{ mol L}^{-1}$. The value of x is _____



[View Text Solution](#)

27. Solid catalysts are selective in their action. Carbon monoxide on reaction with $H_2(g)$ in the presence of $Cu/ZnO - Cr_2O_3$ gives compound 'X' while in the presence of Cu gives compound 'Y'. The difference in the molar mass of 'X' and 'Y' is _____.



[View Text Solution](#)

28. In a compound, atoms of element Y form ccp lattice and those of element X occupy $\frac{2}{3}$ rd of tetrahedral voids. How many atoms of X are present in one formula unit of the compound ?



[View Text Solution](#)

29. The number of unpaired electrons in the Fe^{3+} ion is ____.



[View Text Solution](#)

30. For a zero order reaction, the rate law is expressed as,

$$\text{Rate} = k[A]^x[B]^y[C]^z.$$

If the value of $x = 3/2$ and the value of $y = -1/2$, then the value of z is ____.



View Text Solution