



CHEMISTRY

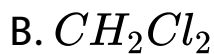
BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 113

Chemistry

1. Among the following the molecule with highest dipole moment is ?

A. CH_3Cl

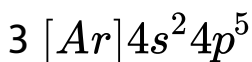
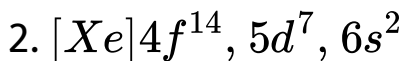


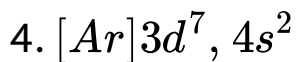
Answer: A



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2. The electron configuration of four elements are given below:





Among the following statements about these elements which one statement is not correct?

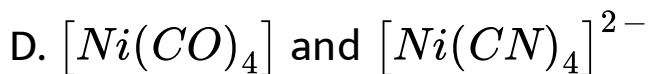
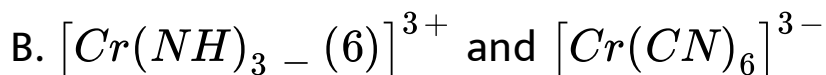
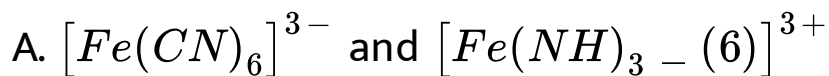
- A. 1 is a strong reducing agent
- B. 2 is a block element.
- C. 3 has high electron affinity
- D. The compound formed between 1 and 3 is ionic.

Answer: B



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3. Which of the following pair the EAN of central metal atom is not same?



Answer: D



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4. Van Arkel process and Mond's process are respectively used for refining of

A. Zr and Ti

B. Ni and Zr

C. Ti and Ni

D. Ni and Fe

Answer: C



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5. Which of the following statement is not correct?

A. The anionic parts of $PCl_5(s)$ are octahedral in shape

B. maximum number of atoms in same plane in B_2H_6 are 6

C. Graphite is conductor

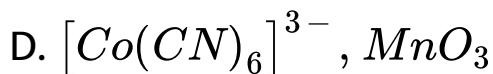
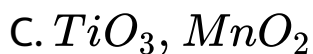
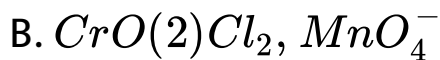
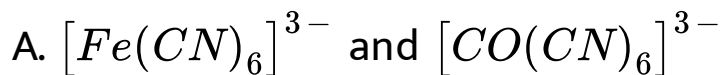
D. In Buckminster fullerene (C_{60}) all 60 carbon atoms are involved in 5 membered rings.

Answer: D



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6. The pair of the compounds in which both the metals are in the highest oxidation state:

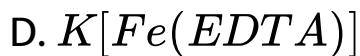
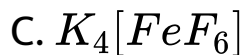
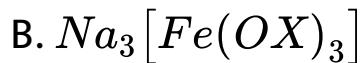
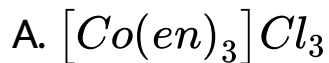


Answer: B



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7. Select most stable complex:



Answer: D



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8. Based on trends in density, identify the correct answer among the following:

A. $Li > Na$

B. $Na > K$

C. $K > Rb$

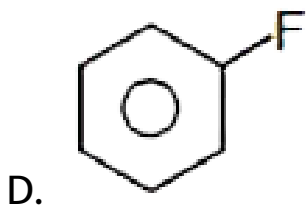
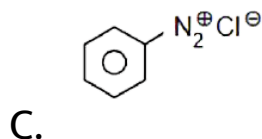
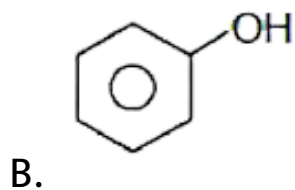
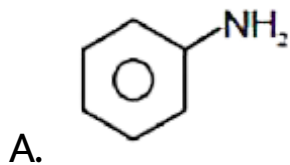
D. $Rb > Cs$

Answer: B



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9. What is the product of Balz Schiemann reaction?



Answer: D



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10. Choose the incorrect statement regarding glucose

A. Glucose is an aldohexose

B. Glucose shows mutarotation

C. Glucose on reaction with HI/Δ gives 1-hexane

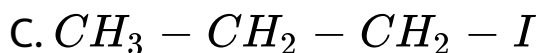
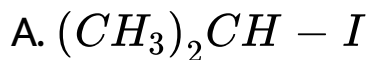
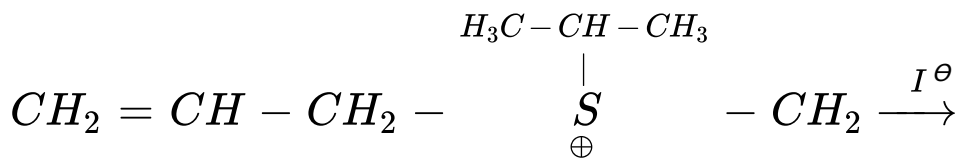
D. $\alpha - D$ -glucose is monomer of cellulose

Answer: D



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11. In the following reaction the major product is



D.

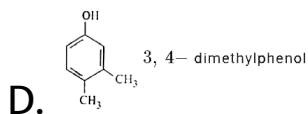
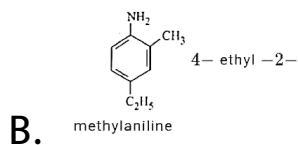
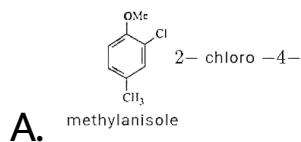


Answer: B



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12. Incorrect IUPAC naming is founding in which of the following compounds



Answer: C



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13. At 25°C the standard emf of a cell involving 2 electron exchange, is found to be 0.295V. Calculate the equilibrium constant of the reactio.

A. 9.51×10^8

B. 10

C. 1×10^{10}

D. 9.51×10^9

Answer: C



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14. The possible products when the azeotropic mixture of water (boiling point $100^{\circ}C$) and HCl (boiling point $85^{\circ}C$) which boils at 108.5° is separated:

A. Pure HCl

B. Pure water

C. Pure water as well as HCl

D. Neither HCl nor H_2O in their pure states

Answer: D



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15. If pure methanol has density 1.6g/ml . Then molarity of methanol is

A. $55.55M$

B. $10M$

C. $50M$

D. $100M$

Answer: C



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16. What is the minimum pH necessary to cause a precipitate of

$Pb(OH)_2$ ($K_{sp} = 1.2 \times 10^{-5}$) to form in a $0.12M PbCl_2$ solution?

A. 12.4

B. 10.8

C. 12

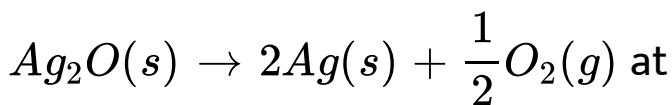
D. 11.1

Answer: C



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17. Calculate the temperature at which the reaction



1atm pressure will be in equilibrium?

The value of ΔH and ΔS for the reaction are

$30.58kJ$ and $66.11JK^{-1}$

respectively.(These values do not change much with

temperature)

A. 462.6K

B. 486.4K

C. 364.5K

D. 521.2K

Answer: A



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18. In how many of the following the central atom has more than 1 lone pair of electrons ?

IF_7 , IF_3 , PCl_5 , H_2O , SF_4 , SO_2

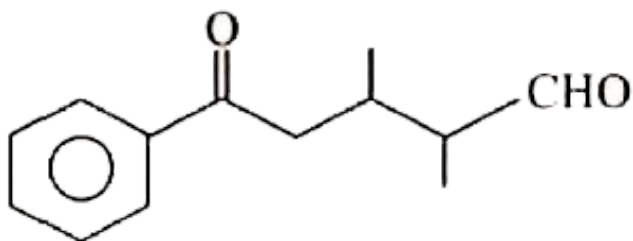


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19. The number of water molecules per $AlCl_3$ in hydrated $AlCl_3$ is



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Wolff–Kishner reaction
→ Product

20.

The number of chiral carbon atom(s) in the product is



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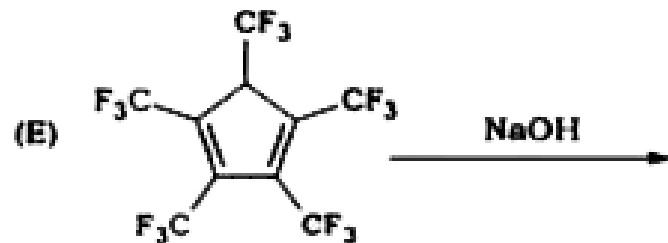
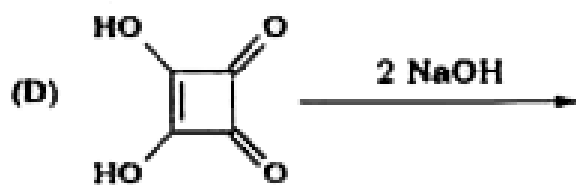
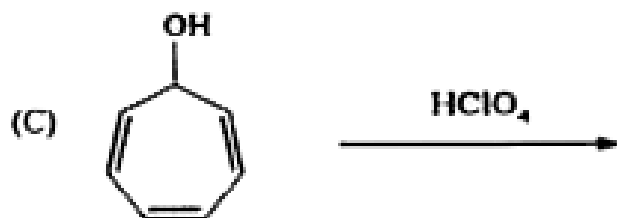
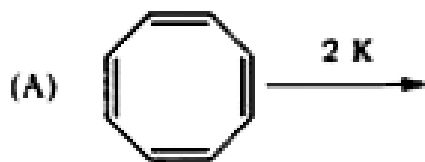
21. In how many of the following compounds will Markovnikov's addition be observed?

cis-But-2-ene, 2-methylpropene, propene, hex-3-ene, 3-methylbut-1-ene, ethene, trans-but-2-ene, pent-2-ene



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22. Find the total number of reaction that produce aromatic compounds is



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23. pK_a of a weak acid (HA) and pK_b of a weak base (BOH) are 3.2 and 3.4 respectively. The pH of their salt (AB) solution is



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24. Maltose $\xrightarrow{\text{Matare}} X \xrightarrow{\text{Zwwee}} \text{Ethyl alcohol} + \text{CO}_2$

How many moles of ethyl alcohol can be obtained from one mole of maltose?



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25. Edge length of a bcc crystal is 300 pm. Its body diagonal would bepm.



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26. A particle of mass 100g moving at a velocity of 100cm s^{-1} had de Broglie wavelength of approximately

6.6×10^{-x} cm. Find the value of x.....



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27. If the initial concentration of 0.6M and the rate constant is $2 \times 10^4 \text{ Ms}^{-1}$ the half life of the reaction isminutes.



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