



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 68

Chemistry

1. Along which axis the molecular orbital approach each other appropriately, so that a π – bond may form between two P_x orbitals containing one unpaired electron?

A. x-axis

B. y-axis

C. z-axis

D. B and C

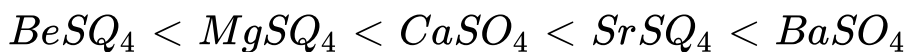
Answer: D



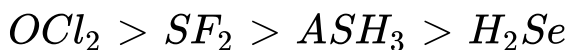
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2. Consider the following order.

(i) Thermal stability:



(ii) Bond angle:



(iii) Bond order of O_2^+ , NO and N_2 is 2.5

(iv) NCI_3 on hydrolysis gives HOCl but BCI_3 , gives HCl.

Identify which of the above four statements are correct.

A. I, II, III and IV

B. II, III and IV

C. I, II and IV

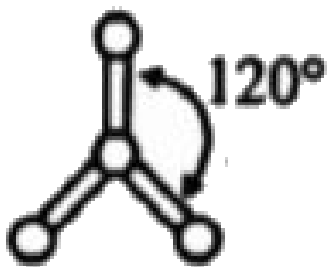
D. I and II

Answer: A



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3. Which molecules could be best described using the given ball and stick models?



A. (i) $BeCl_2$ (ii) CH_4

B. (i) BF_3 (ii) PCl_5

C. (i) BF_4 (ii) CH_4

D. (i) $BeCl_2$ (ii) PCl_5

Answer: B



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4. Extraction of gold and silver involves leaching with CN^- ion. Silver is later recovered by:-

- A. distillation
- B. zone refining
- C. displacement with Zn
- D. liquation

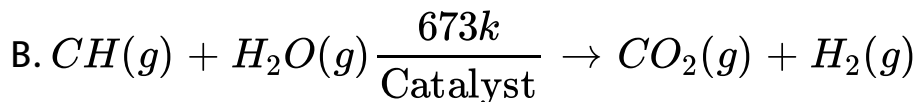
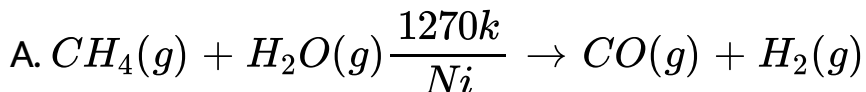
Answer: C



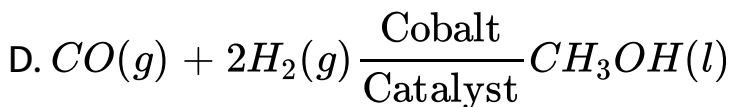
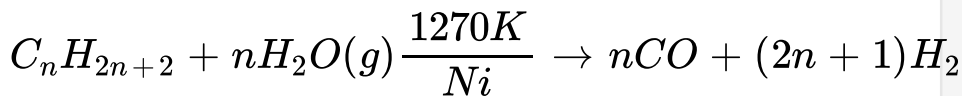
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5. Which of the following reaction correctly represents the use of water gas in the synthesis of other

compounds?



C.

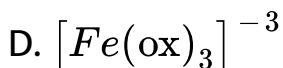
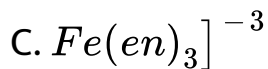
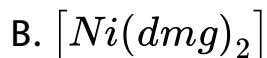
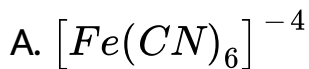


Answer: D



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6. Which of the following complex have maximum number of rings and maximum stability ?

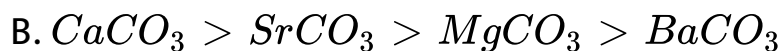
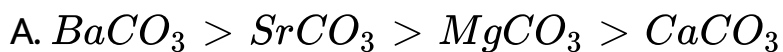


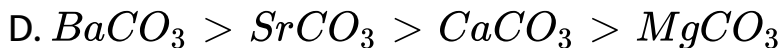
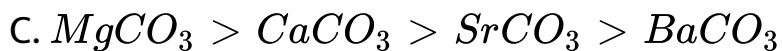
Answer: B



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7. The thermal stability of $BaCO_3$, $CaCO_3$, $SrCO_3$, and $MgCO_3$, decreases in the order:

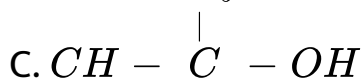
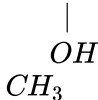
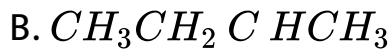
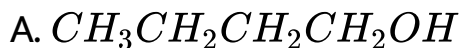


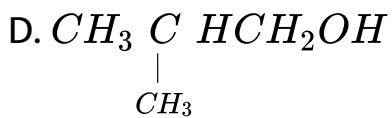


Answer: D

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8. Instant Lucas test is given by which of the following alcohol?





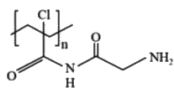
Answer: C

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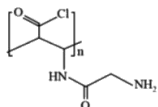
9. What is the major product of the following reaction?

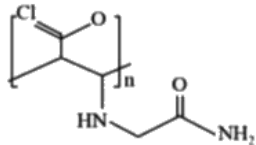


A.

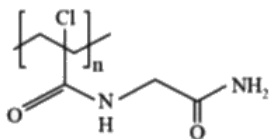


B.





C.



D.

Answer: D

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10. Common name of $CH_3 - CH = CH - \overset{O}{\parallel} C - NH_2$, is

∴

A. Butyramide

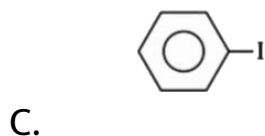
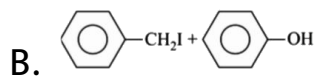
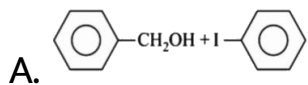
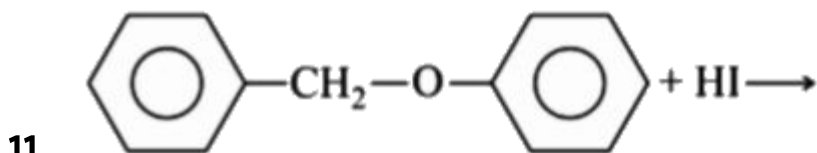
B. Acrylamide

C. Crotonamide

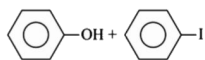
D. Allylamide

Answer: C

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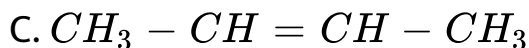
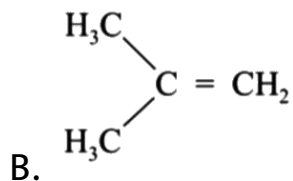
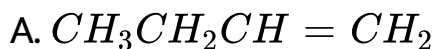
D.



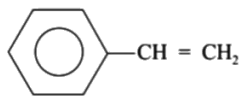
Answer: B

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12. Which of the following compound on reaction with HBr in presence and absence of peroxide yield same product ?



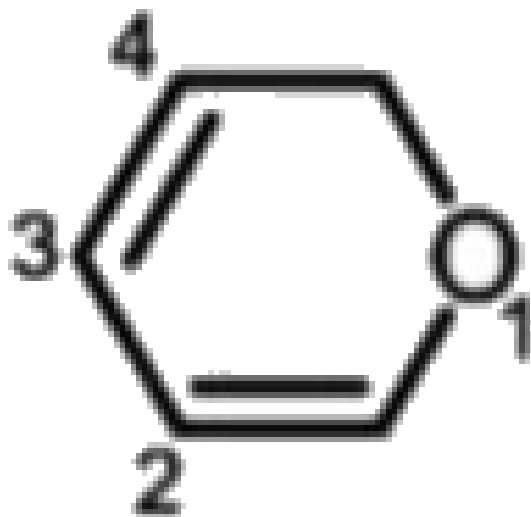
D.



Answer: C

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13. The maximum π -electron-density is present between which of the numbered carbon atoms?



A. C1 and C3

B. C2 and C4

C. C2 and C3

D. C1 and C4

Answer: B

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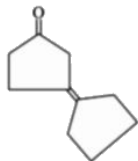


Product (A) is :-

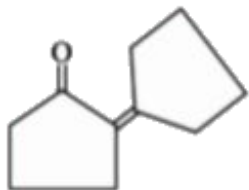
14.

Product (A) is

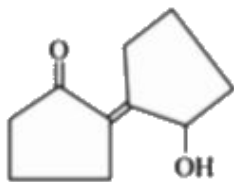
A.



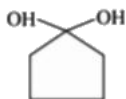
B.



C.



D.



Answer: B



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15. Which of the following is a Bactericidal antibiotic?

A. Erythromycin Tetracycline

B. Tetracycline

C. Chloramphenicol

D. Amino glycosides

Answer: D



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16. When 9.65 ampere current was passed for 1.0 hour into nitrobenzene in acidic medium, the amount of p-

aminophenol produced is :-

(molar mass of p-aminophenol = 109)

A. 10.9 g

B. 98.1 g

C. 109.0 g

D. 9.81 g

Answer: D

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17. Concentration of H^+ ions in a solution is 3.98×10^{-6} moles per Liter. Calculate the pH value of this solution.

A. 6

B. 5.8

C. 5.4

D. 5.9

Answer: C



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18. 2 moles of liquid

A ($P_A^\circ = 100\text{torr}$) and 3 moles of liquid B ($P_B^\circ = 150\text{torr}$) form a solution having vapour pressure

of 120 torr. Based upon this observation one can

conclude :-

A. Interaction between the molecules is greater than those between unlike molecules

B. Interaction between like molecules is less than those between unlike molecules

C. Interaction between like molecules is equal to those between unlike molecules

D. $\Delta S_{\text{mixing}} = 0$

Answer: B



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19. Consider the following balanced chemical reaction



If 7 moles of A, 9 moles of B and 8 moles of C are given initially, the mole fraction of D present after completion of reaction is

A. 0.24

B. 0.65

C. 0.4

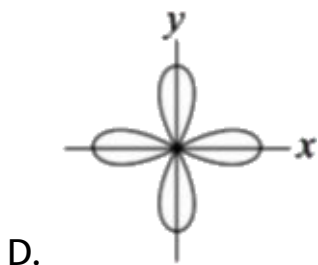
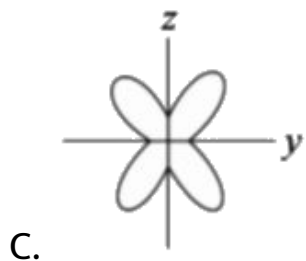
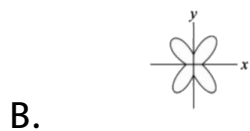
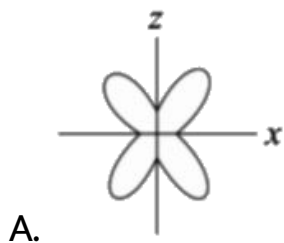
D. 0.08

Answer: C



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20. Which of the following d-orbitals of metal is not the part of t_{2g} set in octahedral field ?



Answer: D

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21. The sum of coordination number and oxidation number of the metal M in the complex $(M(en)_2(C_2O_4)]Cl$ is

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22. The number of parts of concentrated HCl in aqua regia is:

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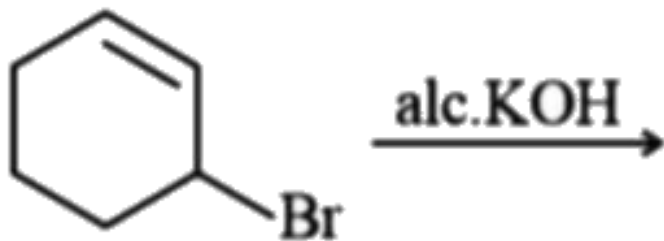
23. 100 mL of 0.1 $KMnO_4$ solution reacts completely with 50 mL of $FeSO_4$ solution in acidic medium. The mass of $FeSO_4$ in 50 mL of $FeSO_4$ solution is _____
[Molar mass of $FeSO_4 = 152\text{g mol}^{-1}$]

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24. A molecule of Stachyose contains how many Carbon atoms ?

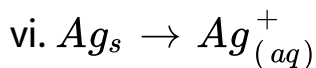
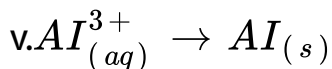
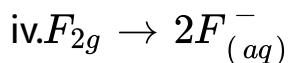
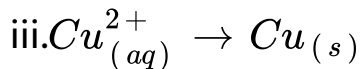
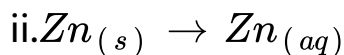
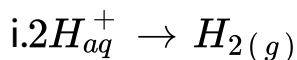
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25. What is the total number of sigma and pi bonds in the 'product' of the following reaction?



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26. The total number of reactions that show oxidation is



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27. The number of tetrahedra voids that are present in 5 moles of an element that crystallizes in FCC lattice is 6.0×10^y . The value of y is ____ .

(\$ Avogadro's constant $\left(=6.0 \times 10^{23}\right)$)



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28. A 10 cm long column of Hg is kept in the middle of a narrow 1 m long tube (both ends closed). The two halves of the tube contains air at a pressure of 76 cm of Hg. Calculate the distance (in cm) when the column of Hg be displaced if the tube is held vertical? Answer should be the closest integer.

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29. Calculate the half-life period (in seconds) of a first order reaction $A \rightarrow B$, which has a reaction rate $1 \times 10^{-4} Ms^{-1}$, at reactant concentration of $0.01M$.

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30. $X_{2O}(s)$ For the above reaction, what is the value of equilibrium pressure of O_2 at $25^\circ C$ in Nm^{-2} ?

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