



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 24

Chemistry

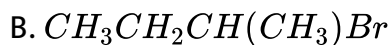
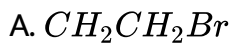
1. Magnetic moment of $[Cu(NH_3)_4]^{2+}$ ion is

- A. 2.83, tetrahedral
- B. 1.73, tetrahedral
- C. 2.83, square planar
- D. 1.73, square planar

Answer: D

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2. Sodium tertiary butoxide forms ether only with:



D. All of these

Answer: C

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3. Which of the following has glycol as an important constituent?

A. Dacron

B. Acrilan

C. Teflon

D. Visocose

Answer: A



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4. 2 moles of non - volatile solute is added to 1 kg water at $-8^{\circ}C$. K_f of water is 2 K kg mol^{-1} . Mass of ice that separates out is (Ignoring the effect of change in volume)

A. 250 g

B. 500 g

C. 750 g

D. 100 g

Answer: B



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5. XeF_2 on hydrolysis (in the presence of alkali) yield :

A. $XeOF_2$

B. XeO_2

C. XeO_2F_2

D. Xe

Answer: D

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6. Prosthetic group is present in

A. Complex proteins

B. Conjugated proteins

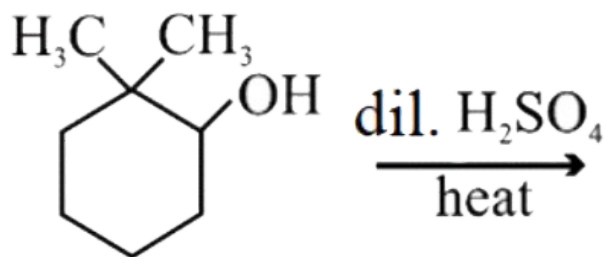
C. Secondary proteins

D. Essential proteins

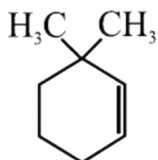
Answer: B

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7. Consider the reaction

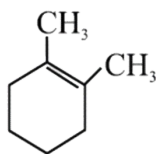


The alkene formed in major amount is

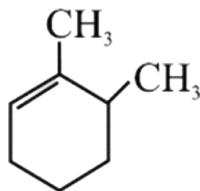


A.

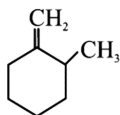
B.



C.



D.



Answer: B

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8. VSEPR theory suggests that bond length and bond angle depend upon the presence or absence of lone pairs. If the bond angle of $H - O - H$ in H_2O is 105° (approx.), then the bond angle of $F - O - F$ in F_2O will be

A. greater than 105°

B. lesser than 105°

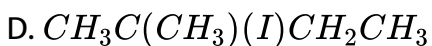
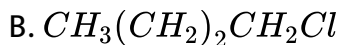
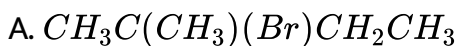
C. equal to 105°

D. equal to 180°

Answer: B

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9. Which of the following compounds undergo $E2$ reaction with maximum rate?



Answer: D



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10. Which of the following does not turn Schiff's reagent to pink?

- A. Formaldehyde
- B. Propanaldehyde
- C. Acetone
- D. Acetaldehyde

Answer: C



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11. The height of a HCP unit cell is 5.715\AA . What is the volume of the unit cell in \AA^3 ?

- A. 91

B. 182

C. 273

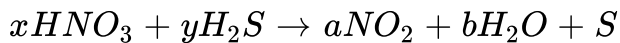
D. 82.5

Answer: B



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12. For the balanced chemical reaction



What are the values of x, y, and b respectively?

A. 2,1,2

B. 3,1,2

C. 3,2,2

D. 1,2,3

Answer: A

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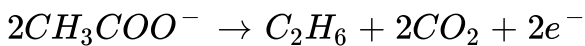
13. Which of the following amine does not react with Hinsberg reagent-

- A. Neopentyl amine
- B. Isopropyl amine
- C. Triethyl amine
- D. Ethyl methyl amine

Answer: C

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14. Electrolysis of an acetate solution produces ethane according to the Kolbe reaction :



What volume of ethane is produced at $27^\circ C$ and 740 mm Hg, if a current of 0.5 ampere were passed through the solution for 7 hours and the electrode reaction is 82 % efficient?

A. 2.70 L

B. 5.4L

C. 1.35 L

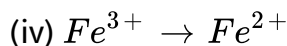
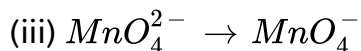
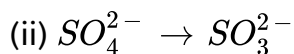
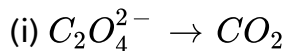
D. 0.65 L

Answer: C



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15. Consider the following reactions :



Choose the correct answer -

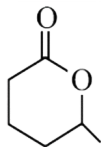
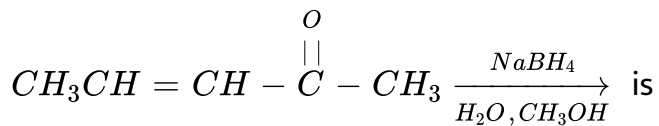
- A. (i) & (ii) shows oxidation
- B. (iii) & (iv) shows reduction
- C. (i) & (iii) shows oxidation
- D. (iii) & (iv) shows oxidation

Answer: C

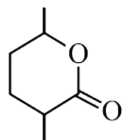


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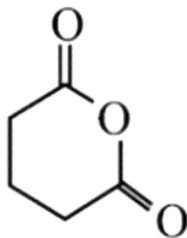
16. The major product formed in the reaction



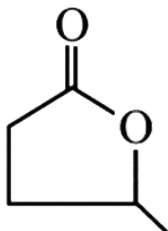
A.



B.



C.



D.

Answer: A



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17. For reversible process at equilibrium, the change in entropy may be expressed as

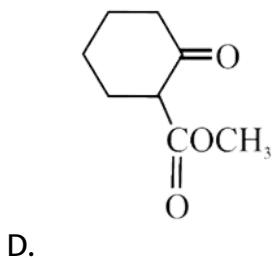
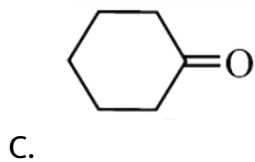
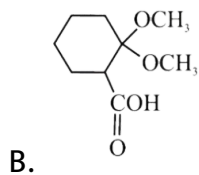
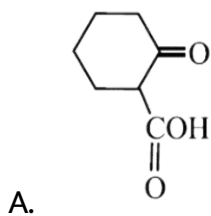
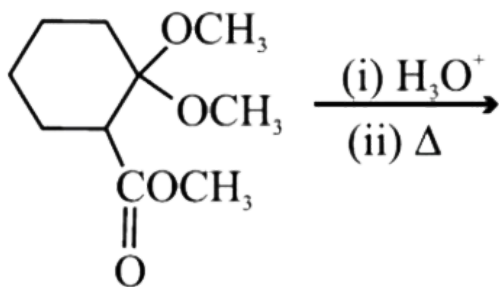
- A. Positive
- B. negative
- C. Zero
- D. none of these

Answer: C



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18. The end product of the following reaction would be



Answer: C

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19. 75 % of the first order reaction completed in 3 min. 50 % of the reaction was completed in

A. 24 min

B. 8 min

C. 1.5 min

D. 4 min

Answer: C

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20. A diatomic gas belonging to group 15 combines with a halogen to form a trihalides which is fairly stable and inert. The trihalide is



Answer: D



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21. Which of the following statement incorrect?

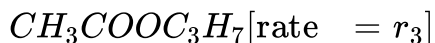
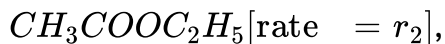
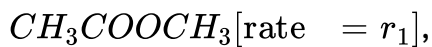
A. HNO_2 can act both as a reducing agent and as an oxidising agent but HNO_3 acts only as an oxidising agent.

- B. The oxidation number of phosphorus can vary from -3 to $+5$.
- C. The reaction between $NaOH$ and H_2SO_4 is a redox reaction.
- D. Oxidation number can have positive, negative, zero values.

Answer: C

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22. What is the correct order of the rate of alkaline hydrolysis of these esters?



A. $r_1 > r_2 > r_3$

B. $r_1 < r_2 < r_3$

C. $r_1 < r_2 > r_3$

D. $r_1 > r_2 < r_3$

Answer: A

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23. Solubility product (k_{sp}) of saturated $PbCl_2$ in water is $1.8 \times 10^{-4} \text{ mol}^3 \text{ dm}^{-9}$. What is the concentration of Pb^{2+} in the solution?

A. $(0.45 \times 10^{-4})^{\frac{1}{3}} \text{ mol dm}^{-3}$

B. $(1.8 \times 10^{-4})^{\frac{1}{3}} \text{ mol dm}^{-3}$

C. $(0.4 \times 10^{-4})^{\frac{1}{3}} \text{ mol dm}^{-3}$

D. $(2.0 \times 10^{-4})^{\frac{1}{3}} \text{ mol dm}^{-3}$

Answer: A



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24. Magnetic moment of X^{3+} ion of 3d series is $2\sqrt{6}$ BM. What is the atomic number of X ?

- A. 24
- B. 26
- C. 25
- D. 28

Answer: C

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25. The migration of positively charged colloidal particles, under an electrical field, towards the cathode is called

- A. Cataphoresis

B. Electrosmosis

C. Sedimentation

D. Electrodialysis

Answer: A



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26. The maximum number of electrons that can have principal quantum number, $n = 3$, and spin quantum number $m_s = -1/2$, is

A. 3

B. 5

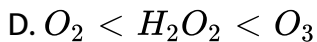
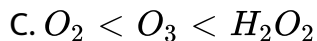
C. 7

D. 9

Answer: D

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27. The correct order in which oxygen - oxygen bond dissociation energy increases is



Answer: B

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28. In the equation,



identify D. Draw the structures of A,B,C and D.

A. trigonal planar

B. bent

C. tetrahedral

D. linear

Answer: C

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29. For the following equilibrium in gaseous phase,



NO_2 is 50 % of the total volume, when equilibrium is set up. Hence,

percent dissociation of N_2O_4 is :

A. 50 %

B. 25 %

C. 66.66 %

D. 33.33 %

Answer: D

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30. A binary solid (AB) has a rock salt structure. If the edge length is 400pm, radius of cation is 80pm the radius of anion is:

A. 100 pm

B. 120 pm

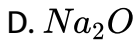
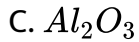
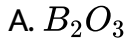
C. 250 pm

D. 325 pm

Answer: B

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31. what is the chief constituent of pyrex glass ?



Answer: B



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32. The *rms* velocity molecules of a gas of density $4kgm^{-3}$ and pressure $1.2 \times 10^5 Nm^{-2}$ is

A. 1

B. 1.22

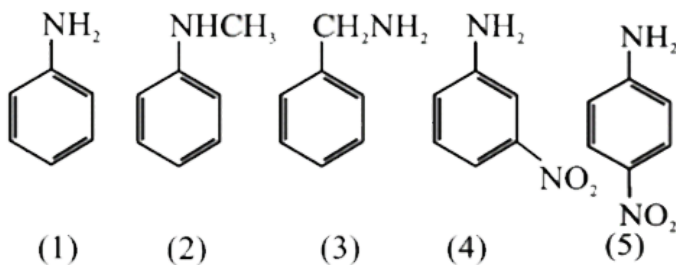
C. 1.12

D. Data are not sufficient

Answer: B

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33. Which order for basic character of amine is correct for following compounds ?



A. 3 gt 1 gt 2 gt 5 gt 4

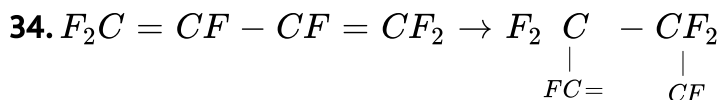
B. 3 gt 2 gt 1 gt 5 gt 4

C. 3 gt 1 gt 2 gt 4 gt 5

D. 3 gt 2 gt 1 gt 4 gt 5

Answer: D

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For this reaction (ring closure),

$\Delta H = -49 \text{ kJ mol}^{-1}$, $\Delta S = -40.2 \text{ JK}^{-1} \text{ mol}^{-1}$. Up to what

temperature is the forward reaction spontaneous?

A. 1492°C

B. 1219°C

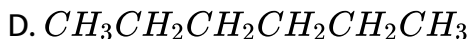
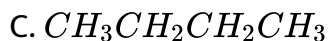
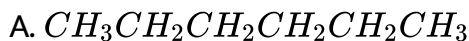
C. 946°C

D. 1080°C

Answer: C

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35. n - propyl chloride reacts with sodium metal in dry ether to give



Answer: A

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36. Which of the following carbohydrate is a reducing sugar ?

A. Maltose

B. Glucose

C. Galactose

D. All of above

Answer: D



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37. Hydrogen combines directly with

A. *Ca*

B. *Cu*

C. *Zn*

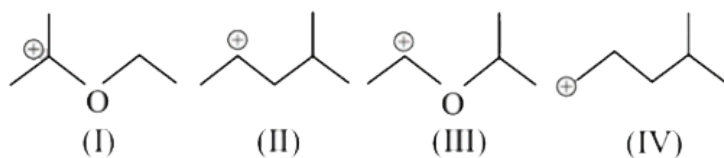
D. *Fe*

Answer: A



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38. The correct stability order for the following species is



A. (II) gt (IV) gt (I) gt (III)

B. (I) gt (II) gt (III) gt (IV)

C. (II) gt (I) gt (IV) gt (III)

D. (I) gt (III) gt (II) gt (IV)

Answer: D

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39. A plot of $\log x/m$ versus $\log p$ for the adsorption of a gas on a solid gives a straight line with slope equal to:

A. $\frac{1}{n}$

B. $\log K$

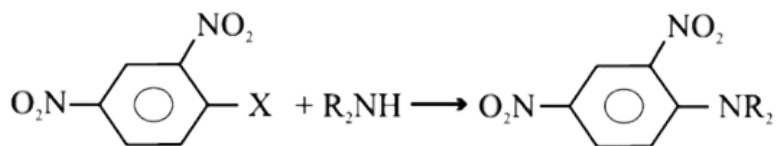
C. $-\log K$

D. n

Answer: A

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40. In the reaction :



$X = \text{F}, \text{Cl}, \text{Br}, \text{I}$

$X = \text{F}, \text{Cl}, \text{Br}, \text{I}$

Then which of the following aryl halide is most reactive?

A. $Ar - I$

B. $Ar - Cl$

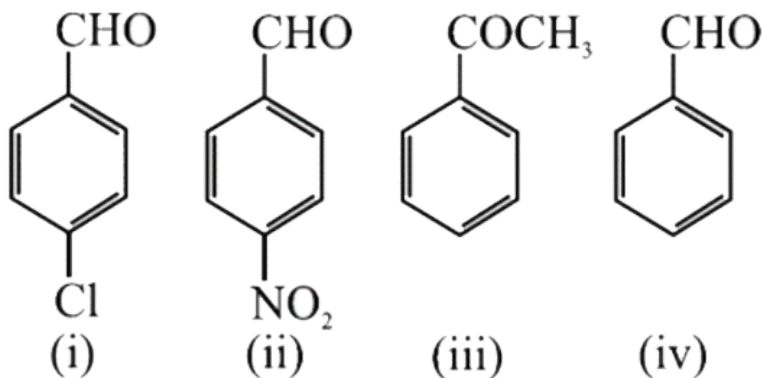
C. $Ar - F$

D. $Ar - Br$

Answer: C

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41. Arrange the following carbonyl compounds in decreasing order of their reactivity in nucleophilic addition reaction :



A. 'ii gt iii gt i gt iv'

B. ii gt i gt iv gt iii

C. iii gt ii gt i gt iv

D. iii gt i gt iv gt ii

Answer: B

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42. $2DCDO \xrightarrow{OH^-} [X]$ and $[Y]$ are

A. $DCOO^-$, D_2CHOH

B. $HCOO^-$, CH_3OH

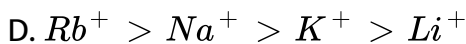
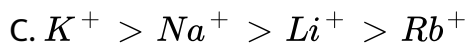
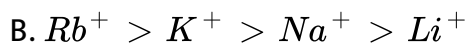
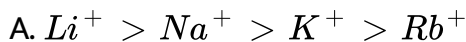
C. $HCOO^-$, CD_3OH

D. $DCOO^-$, CD_3OH

Answer: D

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43. The correct order of ionic size in polar solvent is



Answer: A

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44. The number of oxygen atoms in 4.4 g of CO_2 is approximately

A. 1.2×10^{23}

B. 6×10^{22}

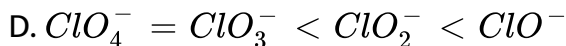
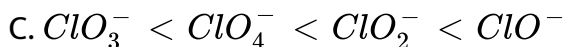
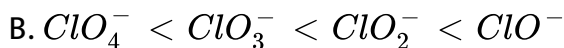
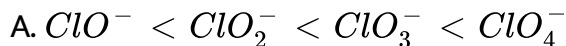
C. 6×10^{23}

D. 12×10^{23}

Answer: A

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45. The correct order of σ^- bond lengths in ClO^- , ClO_2^- , ClO_3^- and ClO_4^- is



Answer: B

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