



CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

SAMPLE PAPER 2 (SOLVED)

Part I

1. The metal oxide which cannot be reduced to metal by carbon is

A. PbO

B. Al_2O_3

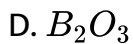
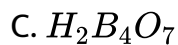
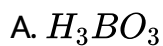
C. ZnO

D. FeO

Answer:

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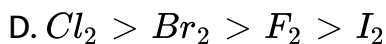
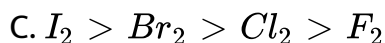
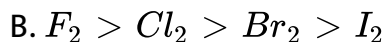
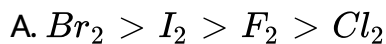
2. Compounds used as an eye lotion



Answer:

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3. Which one of the following is correct for the bond dissociation enthalpy of halogen molecules ?



Answer:

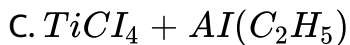


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4. Which complex is used as an antitumor drug in cancer treatment

A. Ca-EDTA chelate

B. EDTA



D. *Cis* – Platin

Answer:

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5. The number of unit cells in 8 gm of an element X(atomic mass 40) which crystallizes in bcc pattern in (N_A is the Avogadro number)

A. 6.023×10^{23}

B. 6.023×10^{22}

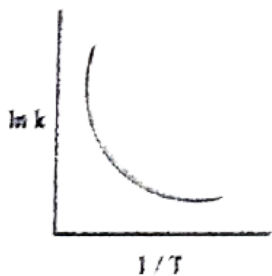
C. 60.23×10^{23}

D. $\left(\frac{6.023 \times 10^{23}}{8 \times 40} \right)$

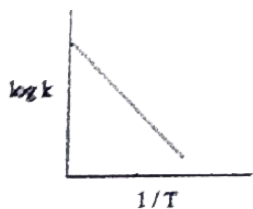
Answer:



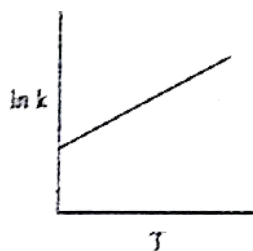
6. Among the following graphs showing variation of rate constant with temperature (T) for a reaction the one that exhibits Arrhenius behavior over the entire temperature range is



A.



B.

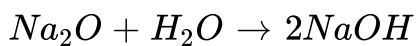
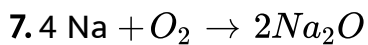


C.

D. both (b) and (c)

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- A. Acidic
- B. Basic
- C. Ampphoteric
- D. Neutral

Answer:

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8. How many faradays of electricity are required for the following reaction to occur $MnO_4^- \rightarrow Mn^{2+}$

A. 5F

B. 3F

C. 1F

D. 7F

Answer:



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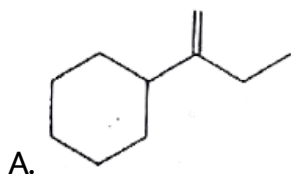
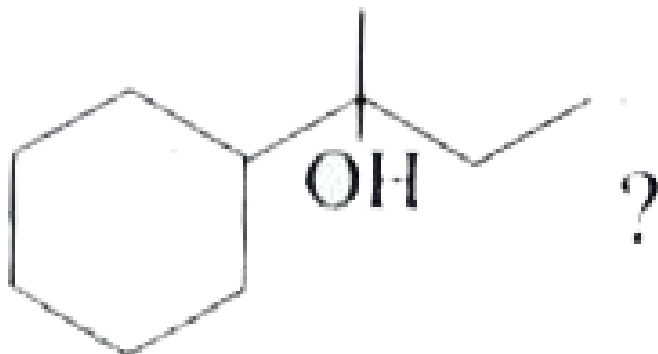
9. Match the following :

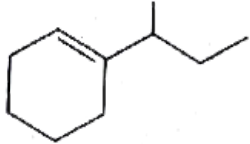
- | | | | |
|---|-------------------|------|---------------------------|
| A | V_2O_5 | i. | High density polyethylene |
| B | Ziegler – Natta | ii. | PAN |
| C | Peroxide | iii. | NH_3 |
| D | Finely divided Fe | iv. | H_2SO_4 |

- | | A | B | C | D |
|-----|-------|-------|------|-------|
| (a) | (iv) | (i) | (ii) | (iii) |
| (b) | (i) | (ii) | (iv) | (iii) |
| (c) | (ii) | (iii) | (iv) | (i) |
| (d) | (iii) | (iv) | (ii) | (i) |

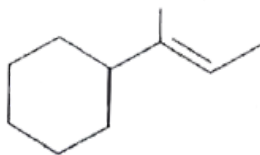
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10. Which of the following is not the product of dehydration of

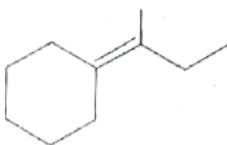




B.



C.



D.

Answer:

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11. Which one of the following reaction is an example of disproportionation reaction

A. Aldol condensation

B. cannizaro reaction

C. Benzoin condensation

D. none of these

Answer:



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12. Assertion:

A solution of sucrose in water is dextrorotatory. But on hydrolysis in the presence of little hydrochloric acid, it becomes levorotatory

Reason. Sucrose hydrolysis gives unequal amounts of glucose and fructose. As a result of this change in sign of rotation is observed

A. if both assertion and reason are true reason is the correct explanation of assertion

B. if both assertion and reason are true reason is not the correct explanation of assertion

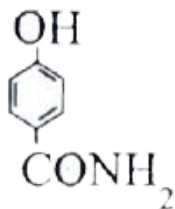
C. if assertion is true but reason is false

D. if both assertion and reason are false

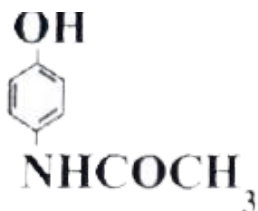
Answer:

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13. The correct structure of drug paracetamol is



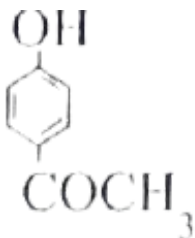
A.



B.



C.



D.

Answer:

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Part ii

1. What are the various steps involved in extraction of pure metals from their ores ?

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2. Why white phosphorous is also known as yellow phosphorous ?

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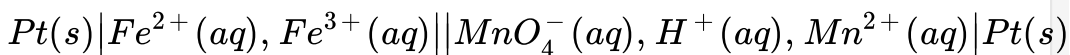
3. Give an example of coordination compound used in medicine.

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4. Give the example for a zero order reaction.

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5. Write the overall redox reaction which takes place in the galvanic cell,



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6. In a coagulation experiment 10 ml of a colloid (x) is mixed with distilled water and 0.1M solution of an electrolyte AB so that the volume is 20 ml. It was found that all solution containing more than 6.6 ml of AB coagulate within 5 minutes. What is the flocculation value of AB for sol (x)

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7. Explain Rosenmund reduction

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8. What are the uses of aliphatic nitro compound.

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9. Classify the following as linear, branched or cross linked polymers

a) Bakelite b) Nylon c) polythene

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Part Iii

1. A hydride of 2^{nd} period alkali metal (A) on reaction with compound of Boron (B) to give a reducing agent (c) I identify A, B and C.

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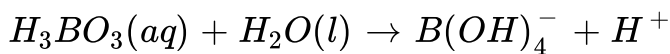
2. Discuss the uses of Phosphine.

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3. Calculate the percentage efficiency of packing in case of body centered cubic crystal.

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4. H_3BO_3 accepts hydroxide ion from water shown below,



Predict the nature of H_3BO_3 using Lewis concept.

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5. Explain graphical representation of chemical adsorption and physical adsorption.

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6. Mention the uses of Glycerol .

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7. Give the differences between primary and secondary structure of proteins

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8. Draw the structure of (i) procaine (ii) Lidocaine .

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9. Explain the variation in $E_M^{3+} / m^{2+} \wedge (0)3D$ Series.

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Part IV

1. (a) (i) Describe a method for refining nickel.

(ii) Why group 18 elements are called inert gases ? Write the general electronic configuration of group 18 elements.

(b) (i) Give the uses of helium.

(ii) Ni(II) compounds are more stable than Pt(II) compound. Give reason.

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2. (A)(i) Arrange the following in order of increasing molar conductivity

1. $Mg[Cr(NH_3)(Cl)_3]$ 2. $[Cr(NH_3)Cl]_3[CoF_6]_2$ 3. $[Cr(NH_3)_3Cl_3]$

(ii) Silicon carbide is very hard. Justify this statement.

(b) (i) Write the law for the following reactions (a) A reaction that $3/2$ order is x are order in y. (b) A reaction that is second order in No and first order in Br_2

(ii) Classify the following species into Lewis acids and lewis bases and show how can act Lewis acid /Lewis base ?

(a) OH^- ions (b) F^- (c) H^+ (d) BCl_3

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3. (a) (i) Calculate pH of 10^{-7} M HCl,

(ii) Define corrosion .Give one example.

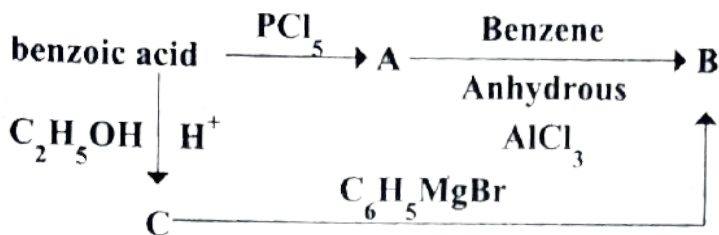
(b) What is adsorption isotherm Explain about Freundlich adsorption isotherm.

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4. (a) An organic compound (A) of molecular formula C_6H_6O gives white precipitate with bromine water. (A) on reaction with NaOH gives (B). (B) reacts with methyl iodide in presence of dry ether gives (C) of molecular formula C_7H_8O which will not liberate H_2 gas with metallic Na (C) reaction with acetyl chloride gives (D) and (E) of formula which are position isomers. Identify A,B,C,D &E and explain the reaction

(b) (i) What happens when n-propyl benzene is oxidised using $H^+ / KMnO_4$

(ii) Identify A,B, andC



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5. How will you distinguish between primary secondary and tertiary aliphatic amines

(ii) Convert Benzene diazonium chloride into phenol

(b) (i) What are the function of lipids in livings organism

(ii) What is Orion ?Give its preparation and use.



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