



CHEMISTRY

BOOKS - GURUKUL BOOKS & PACKAGING

CHEMISTRY (HINGLISH)

JULY 2016

Section I

1. Schottky defects are observed in which solid among the following?

A. Brass

B. Cesium chloride

C. Zinc sulphide

D. Stainless steel

Answer:



[Watch Video Solution](#)

2. No machine has an efficiency unity', is stated in

A. First law of thermodynamics

B. Second law of thermodynamics

C. Third law of thermodynamics

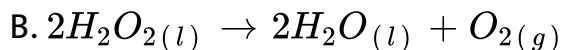
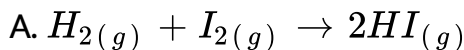
D. Hess's law of constant heat summation

Answer:

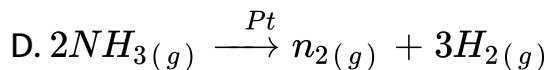
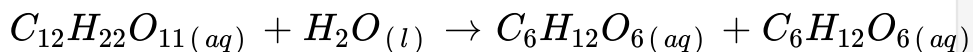


[Watch Video Solution](#)

3. Which among the following reaction is an example of a zero order reaction?



C.



Answer:



Watch Video Solution

4. Potential of saturated calomel electrode is

A. 0.242 V

B. 1.1 V

C. 0.337 V

D. 0.28 V

Answer:



Watch Video Solution

5. which of the following compounds is used as a semipermeable membrane?

A. Potassium ferrocyanide

B. potassium argentocyanide

C. Sodium meta aluinate

D. Copper ferrocyanide

Answer:



Watch Video Solution

6. which among the following minerals does not contain aluminium?

A. Cryolite

B. Siderite

C. China clay

D. Corundum

Answer:



View Text Solution

7. The group 15 element having inner electronic configuration as of argon is

A. Phosphorous ($z = 15$)

B. Antimony ($z = 51$)

C. Arsenic ($z = 33$)

D. Nitrogen ($z = 7$)

Answer:



[Watch Video Solution](#)

8. Write chemical reactions involved in Van Arkel method for refining Titanium.



[Watch Video Solution](#)

 Watch Video Solution

9. Explain the relationship between Gibb's standard energy change of the reaction and equilibrium constant.

 View Text Solution

10. A face centred cube (FCC) consists of how many atoms? Explain.

 Watch Video Solution

11. Describe isolation method in determination of rate law and order of reaction.

 View Text Solution

12. Explain the following methods to protect metals from corrosion:

(a) Galvanization (b) Passivation

 [Watch Video Solution](#)

13. Write the Nernst equation and explain the terms involved.

 [Watch Video Solution](#)

14. what happens when dilute sulphuric acid is treated with:

(a) Fe (b) CaF_2 ?

 [Watch Video Solution](#)

15. Define :

(a) Osmosis (b) Freezing point



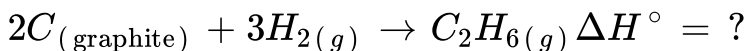
[View Text Solution](#)

16. The rate constant of a first order reaction are 0.58 s^{-1} at 313 K and 0.045 s^{-1} at 293 K. what is the energy of activation for the reaction?



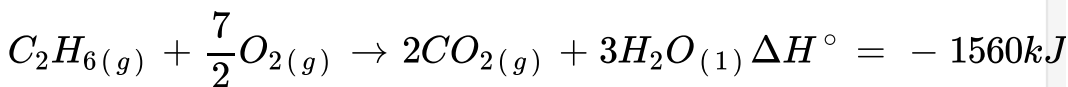
[Watch Video Solution](#)

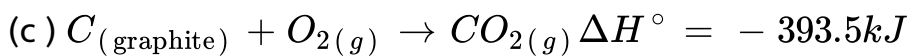
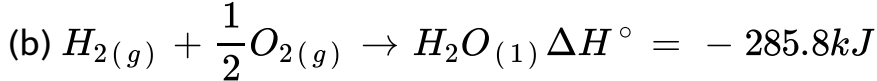
17. Calculate the standard enthalpy of the reaction,



from the following ΔH° values:

(a)





 [Watch Video Solution](#)

18. 3.795 g of sulphur is dissolved in 100g of CS_2 . This solution boils at 319.81 K. What is the molecular formula of sulphur in solution? The boiling point of CS_2 is 319.45 K

(Given that K_b for $CS_2 = 2.42Kkgmol^{-1}$ and atomic mass of S = 32)

 [Watch Video Solution](#)

19. Write the reaction involved in large scale preparation of nitric acid.

 [Watch Video Solution](#)

20. State third law of thermodynamics. Write applications of standard molar entropy.

 [Watch Video Solution](#)

21. The Conductivity of 0.02M Ag NO_3 at 25°C is $2.428 \times 10^{-3}\Omega^{-1}\text{cm}^{-1}$. What is its molar conductivity?

 [Watch Video Solution](#)

22. Sodium acetate reacts with Ethanoyl chloride to form:

A. Acetic acid

B. Acetone

C. Acetic anhydride

D. Sodium formate

Answer:



Watch Video Solution

23. Natalite is a mixture of:

A. diethyl ether and methanol

B. diethyl ether and ethanol

C. dimethyl ether and methanol

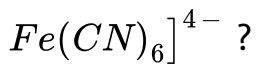
D. dimethyl ether and ethanol

Answer:



Watch Video Solution

24. What is the effective atomic number of Fe ($z = 26$) in



A. 12

B. 30

C. 26

D. 36

Answer:



[Watch Video Solution](#)

25. Maltose is a :



[View Text Solution](#)

26. Which one of the following oxidation state of Manganese is unstable?

A. +2

B. +4

C. +5

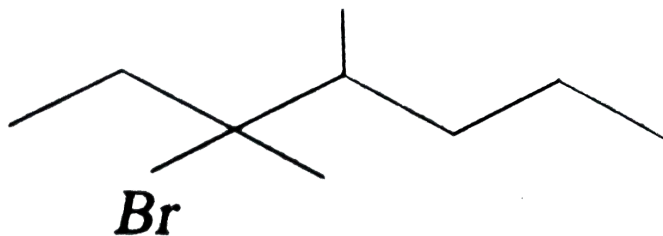
D. +7

Answer:



Watch Video Solution

27. IUPAC name of the following compounds is:



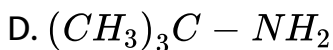
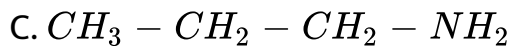
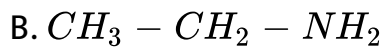
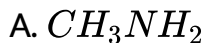
- A. 3-Bromo-3,4 dimethylheptane
- B. 3,4-dimethyl-3-bromoheptane
- C. 5-Bromo-4,5-dimethylheptane
- D. 4,5-dimethyl-5-bromoheptane

Answer:



[Watch Video Solution](#)

28. which of the following compounds is NOT prepared by the action of alcoholic NH_3 an alkyl halide

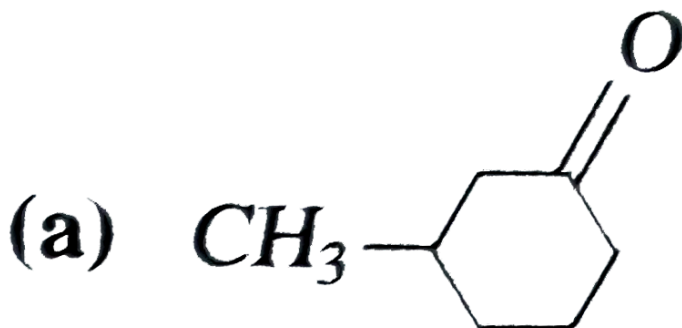


Answer:



Watch Video Solution

29. Write IUPAC names of the following compounds:



 [Watch Video Solution](#)

30. What are the sources of Vitamin C and Vitamin K?

 [Watch Video Solution](#)

31. Write four points of distinction between Lanthanoids and Actinoids

 [Watch Video Solution](#)

32. How is Benzotrile converted to Benzophenone?

 [Watch Video Solution](#)

33. Write the formulae of the raw materials used for preparation of:

(a) Buna-S (b) Dextron

 [Watch Video Solution](#)

34. Write a note on Sandmeyer's reaction

 [Watch Video Solution](#)

35. What is the action of benzene diazonium chloride on:

(a) Phenol in alkaline medium

(b) Aniline

 [View Text Solution](#)

36. Explain any two chemical methods of food preservation.

 [Watch Video Solution](#)

37. What is the action of the following reagents on glucose?

(a) bromine water (b) dilute HNO_3

hydroxyl amine



[View Text Solution](#)

38. Define ligand. Write four postulates of Werner's theory.



[View Text Solution](#)

39. What is metamerism?

Write the structure and IUPAC name of methyl-n-propyl ether.

What is action of hot HI on it?



[Watch Video Solution](#)

40. (a) How are the following polymers prepared?

(1) Orlon

(2) Teflon

(b) Classify the following drugs into Analgesics and Antibiotics:

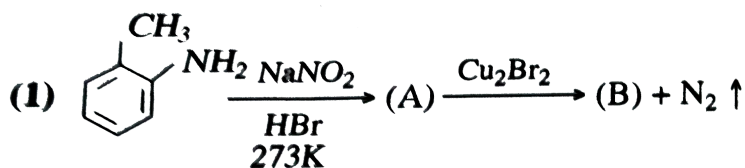
(1) Ofloxacin

(2) Morphine

Ampicillin

(4) Chloramphenicol

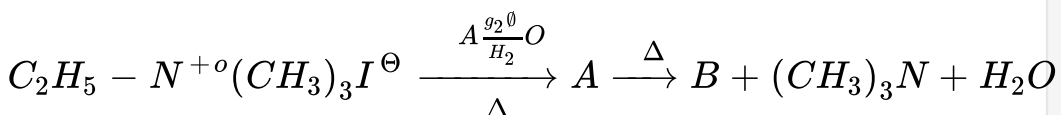
(c) Identify 'A' and 'B' and rewrite the reactions:



(1)

(2) *[Math Processing Error]*

(3)



View Text Solution

41. How are the following conversions carried out ?

2-methylbutan-1-ol to 2-methylbutanoic acid

Phenylethene into Benzoic acid

(3) Benzoic acid into metanitrobenzoic acid

What is the action of Benzene sulphonyl chloride on primary, secondary and tertiary amines?

Write two uses of formaldehyde.



View Text Solution