



# CHEMISTRY

BOOKS - VGS PUBLICATION-BRILLIANT

## MODEL PAPER

### Section A

1. Define osmotic pressure.



Watch Video Solution

2. What are antibiotics. Give examples.



Watch Video Solution

3. What is PHBV ? How is it useful to man ?



Watch Video Solution

4. A solution of  $CuSO_4$  is electrolysed for 10 minutes with a current of 1.5 amperes. What is the mass of copper deposited at the cathode ?



[Watch Video Solution](#)

5. What are food preservatives ? Give examples.



[Watch Video Solution](#)

6. What is Ziegler-Natta catalyst ?



[Watch Video Solution](#)

7. Why does  $NH_3$  act as a Lewis base ?



[Watch Video Solution](#)

8. What is flux ? Give an example.



[Watch Video Solution](#)

9. Which chemical compound is formed in the brown ring test of nitrate ions ?



[Watch Video Solution](#)

**10.** What is an alloy ? Give example.



**Watch Video Solution**

**11.** Define osmotic pressure.



**Watch Video Solution**

**12.** What are antibiotics? Give example.



**Watch Video Solution**

**13.** What is the difference between a soap and a synthetic detergent?



**Watch Video Solution**

**14.** State Faraday's first law of electrolysis.



**Watch Video Solution**

**15.** Give the composition of the Brass.



**Watch Video Solution**

**16.** Give the composition of the German silver.



**Watch Video Solution**

**17.** List out the uses of Neon.



**Watch Video Solution**

**18.** Explain the structures of



**Watch Video Solution**

**19.** Why  $\text{Zn}^{2+}$  is diamagnetic whereas  $\text{Mn}^{2+}$  is paramagnetic ?



**Watch Video Solution**



**20.** What is biodegradable polymer ? Give one example of a biodegradable polyester ?



**Watch Video Solution**

**21.** Write the name and structure of the monomers used for getting the following polymer

Bakelite



**Watch Video Solution**

**22.** What are the constituent monomers in the following polymers? Write their uses.

(a) Nylon 6,6 and (b) Terylene.



**Watch Video Solution**

**23.** State Henry's law.



**Watch Video Solution**

**24.** What are pseudo first order reactions ?

Give one example.



**Watch Video Solution**

**25.** What is the role of cryolite in the metallurgy of aluminium?



**Watch Video Solution**

26. A mixture of  $\text{Ca}_3\text{P}_2$  and  $\text{CaC}_2$  is used in making Holme's signal - Explain.



Watch Video Solution

27. Explain the structure of  $\text{XeO}_3$ .



Watch Video Solution

28. Aqueous  $\text{Cu}^{2+}$  ions are blue in colour, where as Aqueous  $\text{Zn}^{2+}$  ions are colourless.

Why ?



[Watch Video Solution](#)

29. What are antacids? Give example.



[Watch Video Solution](#)

30. What are artificial sweetening agents? Give example.



[Watch Video Solution](#)

**31. What are ambident nucleophiles ?**



**Watch Video Solution**

**32. What are Enantiomers ?**



**Watch Video Solution**

**33. What is PHBV ? How is it useful to man ?**



**Watch Video Solution**

**34.** Write the name and structure of the monomers used for getting the following polymer

Bakelite



**Watch Video Solution**

**35.** Write the names of monomers of the following polymers:

Terylene



**Watch Video Solution**

**36.** Define osmotic pressure.



**Watch Video Solution**

**37.** State Faraday's first law of electrolysis.



**Watch Video Solution**

**38.** What is poling?



**Watch Video Solution**



**39.** A mixture of  $\text{Ca}_3\text{P}_2$  and  $\text{CaC}_2$  is used in making Holme's signal - Explain.



**Watch Video Solution**

**40.** In modern diving apparatus, a mixture of He and  $\text{O}_2$  is used - Why ?



**Watch Video Solution**

**41.** Calculate the magnetic moment of a divalent ion in aqueous solution if its atomic number is 25



**Watch Video Solution**

**42.** What are artificial sweetening agents? Give example.



**Watch Video Solution**

**43.** What are antibiotics? Give example.



**Watch Video Solution**

**44.** Define osmotic pressure.



**Watch Video Solution**

**45.** What is the shape of berilium dichloride?



**Watch Video Solution**

**46.** What is horn silver? which metal is present in this?



**Watch Video Solution**

**47.** Draw the structure of the following compounds:



**Watch Video Solution**

**48.** Draw the structure of the following compounds:



**Watch Video Solution**

**49.** How is bleaching powder prepared ?



**Watch Video Solution**

**50.** What is the formula of geleena?



[Watch Video Solution](#)

51. Write examples for non benzenoid aromatic compounds?



[Watch Video Solution](#)

52. Write the structures of the following compounds :

2 - Chloro-3-methyl pentane



[Watch Video Solution](#)

**53.** Write the structures of the following compounds :

1,4 - Dibromobut-2-ene



**Watch Video Solution**

**54.** Write the structure of 3-ethyl-4-methyl hexane?



**Watch Video Solution**

**55.** Write the structure of hexa-4-ene-1-yne?



**Watch Video Solution**

**56.** What are isotonic solutions ?



**Watch Video Solution**

**57.** What is metallie corrosion ? Give one example.



**Watch Video Solution**



58. Explain "Poling".



Watch Video Solution

59. What happens when white phosphorus is heated with conc. NaOH solution in an inert atmosphere of  $CO_2$  ?



Watch Video Solution

60.  $K_4[Fe(CN)_6]$  is a



[Watch Video Solution](#)

61. Using IUPAC norms, write the systematic names of the  $[Co(NH_3)_6]Cl_3$



[Watch Video Solution](#)

62. What are antiseptics ? Give examples.



[Watch Video Solution](#)

**63.** What are artificial sweetening agents? Give example.



**Watch Video Solution**

**64.** What is tailing of mercury? How is it removed ?



**Watch Video Solution**

**65.** Explain Wurtz - Fitting reaction



[Watch Video Solution](#)

**66.** Write the structures of the following compounds :

2 - Chloro-3-methyl pentane



[Watch Video Solution](#)

**67.** Write the structures of the following organic halides .

p-bromochlorobenzene ,





[Watch Video Solution](#)

## Section B

1. Derive Bragg's equation .



[Watch Video Solution](#)

2. What is catalysis ? How is catalysis classified  
? Give two examples for each type of catalysis.



[Watch Video Solution](#)

3. Explain the following given examples.

Colloid



[Watch Video Solution](#)

4. What is the definition of acid according to Bronsted?



[Watch Video Solution](#)

5. Define mole fraction.



[Watch Video Solution](#)

6. Calculate the molarity of a solution containing 10g of NaOH in 500 ml of solution.



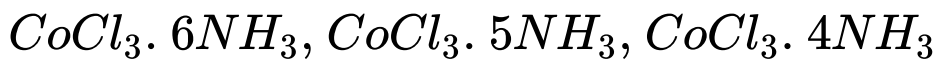
[Watch Video Solution](#)

7. How are  $XeF_2$  and  $XeF_4$  prepared ? Give their structures.



[Watch Video Solution](#)

8. Explain Werner's theory. Give the Werner's structures of



and  $CoCl_3 \cdot 3NH_3$  .



[Watch Video Solution](#)

9. Give one example for corm.



[Watch Video Solution](#)



**10.** What are Hormones ? Give one example for steroid hormones and polypeptide hormones.



**Watch Video Solution**

**11.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.



**Watch Video Solution**

## 12. Explain Wurtz - Fitting reaction



[Watch Video Solution](#)

## 13. Write equations of the following reactions:

(i) Friedel-Crafts reaction – alkylation of anisole.

(ii) Nitration of anisole.

(iii) Bromination of anisole in ethanoic acid medium.

(iv) Friedel-Craft's acetylation of anisole.



[Watch Video Solution](#)

**14.** What is the formula of carnallite?



[Watch Video Solution](#)

**15.** Explain the purification of sulphide ore by Froth Floatation Method.



[Watch Video Solution](#)

**16.** The vapour pressure of pure benzene at a certain temperature is 0.850 bar. A non-volatile, non-electrolyte solid weighing 0.5g when added to 39.0 g of benzene (molar mass  $78 \text{ g mol}^{-1}$ ), vapour pressure of the solution, then, is 0.845 bar. What is the molar mass of the solid substance ?



**Watch Video Solution**

17. Describe the purification of colloidal solution by the phenomenon of dialysis with a neat diagram.



[Watch Video Solution](#)

18. Write equations for the reaction of acetic acid with reagent :

NaOH



[Watch Video Solution](#)

19. How is chlorine obtained in the laboratory ? How does it react with the following ?

excess  $NH_3$



Watch Video Solution

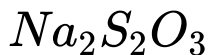
20. Write the equations for reactions of chlorine with the following :

$Ca(OH)_2$



Watch Video Solution

**21.** How is chlorine prepared in the laboratory ? How does it react with the following ?



**Watch Video Solution**

**22.** Explain the applications of Co-ordination compounds in different fields.



**Watch Video Solution**

**23.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.



**Watch Video Solution**

**24.** What are Hormones ? Give one example for steroid hormones and polypeptide hormones.



**Watch Video Solution**



**25.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.



**Watch Video Solution**

**26.** Explain  $sp^2$  hybridization with an example.



**Watch Video Solution**

27. Derive Bragg's equation .



Watch Video Solution

28. Calculate the mole fraction of  $H_2SO_4$  in a solution containing 98 %  $H_2SO_4$  by mass.



Watch Video Solution

29. What is catalysis ? How is catalysis classified ? Give two examples for each type of

catalysis.



**Watch Video Solution**

**30.** Give examples to differentiate roasting and calcination.



**Watch Video Solution**

**31.** Explain ionic bond with suitable example.



**Watch Video Solution**

**32.** Write the names and structures of the monomers of the following polymers.

i) Buna -S ii) Buna -N iii) Dacron iv) Neoprene



**Watch Video Solution**

**33.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.





[Watch Video Solution](#)

**34.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.



[Watch Video Solution](#)

**35.** What are Hormones ? Give one example for each.

i) Steroid Hormones

ii) Polypeptide Hormones

iii) Amino Acid derivatives.



[Watch Video Solution](#)

**36.** How do you prepare Ethyl cyanide and Ethyl isocyanide from a common alkylhalide ?



[Watch Video Solution](#)

**37.** Derive Bragg's equation .



[Watch Video Solution](#)

**38.** The vapour pressure of pure benzene at a certain temperature is 0.850 bar. A non-volatile, non-electrolyte solid weighing 0.5g when added to 39.0 g of benzene (molar mass  $78 \text{ g mol}^{-1}$ ), vapour pressure of the solution, then, is 0.845 bar. What is the molar mass of the solid substance ?



[Watch Video Solution](#)

**39.** What is catalysis ? How is catalysis classified ? Give two examples for each type of catalysis.



**Watch Video Solution**

**40.** Give examples to differentiate roasting and calcination.



**Watch Video Solution**



**41.** What is Misch metal ? Given its composition and use.



**Watch Video Solution**

**42.** What is an ambidentate ligand ? Give example.



**Watch Video Solution**

**43.** Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D ( c) E and (d) K



**Watch Video Solution**

**44.** What are Enantiomers ?



**Watch Video Solution**

**45.** What is racemisation ?



[Watch Video Solution](#)

**46.** Name reactions :

Carbylamine reaction.



[Watch Video Solution](#)

**47.** Explain the following name reactions :

Sandmeyer reaction



[Watch Video Solution](#)

**48.** Define molarity Calculate the molarity of a solution containing 5g of NaOH in 450 ml of solution.



**Watch Video Solution**

**49.** Which metal is present in cinnabar ore?



**Watch Video Solution**

**50.** Which metal is present in Pyrolusite ore?





[Watch Video Solution](#)

**51.** Define Adsorption. ,Discuss the differences between physical adsorption and chemical adsorption.



[Watch Video Solution](#)

**52.** Explain the purification of sulphide ore by Froth Floatation Method.



[Watch Video Solution](#)

**53.** What is Stereoisomerism ? Explain the geometrical' isomerism in coordinationi compounds with suitable example.



**Watch Video Solution**

**54.** Write the formula and structure of Hyposulphurous acid?



**Watch Video Solution**

**55.** Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D ( c) E and (d) K



**Watch Video Solution**

**56.** What are analgesics ? How are they classified ?



**Watch Video Solution**

57. Derive Bragg's equation .



Watch Video Solution

58. Calculate molecular mass of glucose ( $C_6H_{12}O_6$ ) molecule.



Watch Video Solution

59. A solution of  $CuSO_4$  is electrolysed for 10 minutes with a current of 1.5 amperes. What is



the mass of copper deposited at the cathode ?



[Watch Video Solution](#)

**60.** Explain the purification of sulphide ore by Froth Floatation Method.



[Watch Video Solution](#)

**61.** Write the characteristic properties of transition elements.



[Watch Video Solution](#)

**62.** IUPAC names of monomers in Nylon-6,6 are



**Watch Video Solution**

**63.** Write the name and structure of the monomers used for getting the following polymer

Polystyrene



**Watch Video Solution**

**64.** Write the name and structure of the monomers used for getting the following polymer

Bakelite



**Watch Video Solution**

**65.** write the name and structures of the monomers used for getting the following polymers

i) Polyvinyl ii) Teflon iii) Bakelite iv) Polystyrene.



**Watch Video Solution**

**66.** Explain the following name reactions :

Sandmeyer reaction



**Watch Video Solution**

**67.** Explain the following name reactions :

Gatterman reaction



**Watch Video Solution**

**68.** Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D ( c) E and (d) K



**Watch Video Solution**

## Section A

**1.** What is Ebullioscopic constant ?



**Watch Video Solution**

2. What is a galvanic cell or a voltaic cell ? Give one example.



[Watch Video Solution](#)

3. Why  $Zn^{2+}$  is diamagnetic whereas  $Mn^{2+}$  is paramagnetic ?



[Watch Video Solution](#)

4. What is PHBV ? How is it useful to man ?





**Watch Video Solution**

**5. What is vulcanization of rubber ?**



**Watch Video Solution**

**6. What is matte? Give its Composition.**



**Watch Video Solution**

7. Give an example of  
acidic oxide of phosphorus



**Watch Video Solution**

8. Give an example of  
neutral oxide of nitrogen.



**Watch Video Solution**



**9.** What is tailing of mercury? How is it removed ?



**Watch Video Solution**

**10.** What are antacids? Give example.



**Watch Video Solution**

**11.** What are artificial sweetening agents? Give example.



[Watch Video Solution](#)

**12.** What is vulcanization of rubber ?



[Watch Video Solution](#)

**13.** Write the name and structure of the monomers used for getting the following polymer

Bakelite



[Watch Video Solution](#)

**14.** Write the names and structures of the monomers of the following polymers.

i)Buna -S ii)Buna -N iii) Dacron iv)Neoprene



**Watch Video Solution**

**15.** What are disinfectants? Give example.



**Watch Video Solution**

**16.** What are food preservatives ? Give examples.



**Watch Video Solution**

**17.** Give the composition of the Brass.



**Watch Video Solution**

**18.** Give the composition of the German silver.



**Watch Video Solution**

**19.** What is a primary battery ? Give one example.



**Watch Video Solution**

**20.** How is chlorine manufactured by Deacon's method ?



**Watch Video Solution**

21. What happens when  $Cl_2$  reacts with dry slaked lime ?



[Watch Video Solution](#)

22. Calculate the 'spin only' magnetic moment of  $Fe_{aq}^{2+}$  ion.



[Watch Video Solution](#)

23. What are isotonic solutions ?



[Watch Video Solution](#)

24. What is Schottky defect ?



[Watch Video Solution](#)

25. Calculate the 'spin only' magnetic moment of  $Fe_{aq}^{2+}$  ion.



[Watch Video Solution](#)

**26.** Aqueous NaOH solution is labelled as 10 %  
by weight mole fraction of the solute in it is



**Watch Video Solution**

**27.** How is Gibbs energy (G) related to the cell  
emf (E) mathematically ?



**Watch Video Solution**



**28.** What is the role of cryolite in the metallurgy of aluminium?



**Watch Video Solution**

**29.** How do you distinguish between crystal lattice and unit cell ?



**Watch Video Solution**

**30.** What is PHBV ? How is it useful to man ?



[Watch Video Solution](#)

**31.** Write the name and structure of the monomers used for getting the following polymer

Bakelite



[Watch Video Solution](#)

**32.** What are the constituent monomers in the following polymers? Write their uses.

(a) Nylon 6,6 and (b) Terylene.



[Watch Video Solution](#)

**33.** Write the isomers of the compound having molecular formula  $C_4H_9Br$  .



[Watch Video Solution](#)

**34.** Ethane to bromoethene



[Watch Video Solution](#)

**35.** State Henry's law.



**Watch Video Solution**

**36.** What are isotonic solutions ?



**Watch Video Solution**

**37.** State Faraday's first law of electrolysis.



**Watch Video Solution**

**38.** Give two uses of aluminium .



**Watch Video Solution**

**39.** Explain the reactions of aluminium with acids.



**Watch Video Solution**

**40.** Explain the reactions of  $Cl_2$  with NaOH.



**Watch Video Solution**

41. In modern diving apparatus, a mixture of He and  $O_2$  is used - Why ?



Watch Video Solution

42. Helium is heavier than hydrogen. Yet helium is used (instead of  $H_2$ ) in filling balloons for meteorological observations - Why ?



Watch Video Solution

**43.** Why  $Zn^{2+}$  is diamagnetic whereas  $Mn^{2+}$  is paramagnetic ?



**Watch Video Solution**

**44.** Write the isomers of the compound having molecular formula  $C_4H_9Br$  .



**Watch Video Solution**

**45.** Explain why the dipole moment of chlorobenzene is lower than that of cyclohexylchloride .



**Watch Video Solution**

**46.** How do you convert aniline to parabromo aniline.



**Watch Video Solution**



**47.** Write the chemical reaction of aniline with benzoyl chloride and write the name of the product obtained.



**Watch Video Solution**

**48.** What is an ideal solution ?



**Watch Video Solution**

**49.** Write the Arrhenius equation for the rate constant ( $k$ ) of a reaction.



**Watch Video Solution**

**50.** Give the composition of the Bronze.



**Watch Video Solution**

**51.** Give the composition of the Bronze.



**Watch Video Solution**

**52.** How is  $\text{XeOF}_4$  prepared ? Describe its molecular shape.



**Watch Video Solution**

**53.** Write the reactions of  $F_2$  and  $Cl_2$  with water.



**Watch Video Solution**

**54.** Scandium is a transition element. But Zinc is not. Why ?



**Watch Video Solution**

**55.** What is PDI (Poly Dispersity Index ) ?



**Watch Video Solution**

**56.** What is allosteric site?



**Watch Video Solution**

**57.** What are antacids? Give example.



**Watch Video Solution**

**58.** Write the name and structure of the monomers used for getting the following polymer

Polyvinyl chloride



**Watch Video Solution**

59. Write the name and structure of the monomers used for getting the following polymer

Teflon



[Watch Video Solution](#)

## Section B

1. What are n-type and p-type semiconductors?



[Watch Video Solution](#)

2. Calculate molality of 2.5 g of ethanoic acid ( $CH_3COOH$ ) in 75g of benzene.



[Watch Video Solution](#)

3. Explain the structure of TMV.



[Watch Video Solution](#)

4. Explain Werner's theory. Give the Werner's structures of

of

$CoCl_3 \cdot 6NH_3$ ,  $CoCl_3 \cdot 5NH_3$ ,  $CoCl_3 \cdot 4NH_3$

and  $CoCl_3 \cdot 3NH_3$  .



**Watch Video Solution**

5. Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D (c) E and (d) K



**Watch Video Solution**



6. Explain froth flotation process with neat diagram.



[Watch Video Solution](#)

7. Explain Tyndall effect and Brownian movement.



[Watch Video Solution](#)

8. Explain  $sp^2$  hybridization with an example.



[Watch Video Solution](#)

9. Calculate the mole fraction of  $H_2SO_4$  in a solution containing 98 %  $H_2SO_4$  by mass.



[Watch Video Solution](#)

10. Derive Bragg's equation .



[Watch Video Solution](#)

**11.** What are emulsion ? How are they classified ? Describe the applications of emulsions.



**Watch Video Solution**

**12.** Explain the purification of sulphide ore by Froth Floatation Method.



**Watch Video Solution**

**13.** Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D ( c) E and (d) K



**Watch Video Solution**

**14.** Explain ionic bond with suitable example.



**Watch Video Solution**

15. How are  $XeF_2$  and  $XeF_4$  prepared ? Give their structures.



[Watch Video Solution](#)

16. Explain the following name reactions :

Sandmeyer reaction



[Watch Video Solution](#)

**17.** Explain the following name reactions :

Gatterman reaction



**Watch Video Solution**

**18.** Calculate the vapour pressure of a solution containing 9g of glucose in 162g of water at 293K. The vapour pressure of water of 293K is 17.535mm Hg.



**Watch Video Solution**

**19.** What are the types of systems? Explain give one example each?



**Watch Video Solution**

**20.** Give examples to differentiate roasting and calcination.



**Watch Video Solution**

21. Explain the structures of



Watch Video Solution

22. Explain the structures of



Watch Video Solution

23. Explain ionic bond with suitable example.





[Watch Video Solution](#)

**24.** Give the sources of the following vitamin and name the diseases caused by their deficiency (a) A (b) D (c) E and (d) K



[Watch Video Solution](#)

**25.** Write short notes on Analgesics



[Watch Video Solution](#)

**26.** Write the definition of binary solution?



**Watch Video Solution**

**27.** Explain the following name reactions :

Sandmeyer reaction



**Watch Video Solution**

**28.** (A): Isocyanides are prepared by carbylamine reaction.

(R) : Carbylamine on reduction always gives  $2^0$  amines.



[Watch Video Solution](#)

29. Derive Bragg's equation .



[Watch Video Solution](#)

30. How is molar mass related to the elevation in boiling point of a solution ?



[Watch Video Solution](#)

**31.** Calculate the mole fraction of  $H_2SO_4$  in a solution containing 98 %  $H_2SO_4$  by mass.



**Watch Video Solution**

**32.** Write any four differences between physical adsorption and chemical adsorption.



**Watch Video Solution**

**33.** Zone refining is based on



**Watch Video Solution**

**34.** Which of the following is true about the electrolytic refining of metals ?



**Watch Video Solution**

**35.** What is Lanthanoid contraction ?



**Watch Video Solution**

**36.** Explain the purpose if vulcanization of rubber .



**Watch Video Solution**

**37.** Explain the difference between natural rubber and synthetic rubber .



**Watch Video Solution**

**38.** Write notes on vitamins.



**Watch Video Solution**

**39.** A broad spectrum antibiotic is



**Watch Video Solution**

**40.** What are antibiotics? Give example.



**Watch Video Solution**

## Section C

1. Give a detailed account of the Collision theory of reaction rates of bimolecular reaction.



[Watch Video Solution](#)

2. Explain the reactions of  $Cl_2$  with NaOH.



[Watch Video Solution](#)



3. Explain the reactions of  $Cl_2$  with NaOH.



Watch Video Solution

4. How is chlorine obtained in the laboratory ?

How does it react with the following ?

excess  $NH_3$



Watch Video Solution

5. Name Reactions :

Kolbe's reaction



Watch Video Solution

6. Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



Watch Video Solution

7. With a suitable example write equations for the Williamson's ether synthesis



[Watch Video Solution](#)

8. Explain the terms aerosol with suitable examples.



[Watch Video Solution](#)

9. How is nitric acid manufactured by Ostwald's process ?



[Watch Video Solution](#)

10. How is ozone prepared from oxygen ?

Explain its reaction

i)  $C_2H_4$  ii) KI ii) Hg iv) PbS



[Watch Video Solution](#)

11. Give a detailed account of the Collision theory of reaction rates of biomolecular reaction.



[Watch Video Solution](#)

**12.** Explain the acidic nature of phenols and compare with that of alcohols.



**Watch Video Solution**

**13.** With a suitable example write equations for the Kolbe's reaction.



**Watch Video Solution**

**14.** With a suitable example write equations for the Reimer-Tiemann reaction.



**Watch Video Solution**

**15.** State and explain Kohlrausch's law of independent migration of ions.



**Watch Video Solution**

**16.** What is Zero Order reaction ?



[Watch Video Solution](#)

**17.** How is ozone prepared ? How does it react with the following ?

KI



[Watch Video Solution](#)

**18.** Write balanced equations for the following.

NaCl is heated with Conc. $H_2SO_4$  in the presence of  $MnO_2$ .



[Watch Video Solution](#)

**19.** Write balanced equations for the following.

Chlorine is passed into a solution of NaI in water.



[Watch Video Solution](#)



**20.** Describe the Cannizaro reaction



**Watch Video Solution**

**21.** Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



**Watch Video Solution**

**22.** Explain the acidic nature of phenols and compare with that of alcohols.



**Watch Video Solution**

**23.** Give a detailed account of the Collision theory of reaction rates of bimolecular reaction.



**Watch Video Solution**

24. What is Half life of a reaction ?



[Watch Video Solution](#)

25. How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



[Watch Video Solution](#)

26. How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



Watch Video Solution

27. How is chlorine prepared by electrolytic method ? Explain its reaction with

$NH_3$  under different conditions.



Watch Video Solution

**28.** Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



**Watch Video Solution**

**29.** Describe the Cannizzaro reaction



**Watch Video Solution**

**30.** Discuss aldol condensation.



**Watch Video Solution**

**31.** Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



**Watch Video Solution**

## Section B

1. Derive Bragg's equation .



Watch Video Solution

2. Calculate the mole fraction of ethylene glycol ( $C_2H_6O_2$ ) in a solution containing 20 % of  $C_2H_6O_2$  by mass.



Watch Video Solution

3. How emulsions are classified ? Give one example for each type of emulsion.



[Watch Video Solution](#)

4. Explain the following :

Zone refining



[Watch Video Solution](#)

5. Explain the following :

Poling.





Watch Video Solution

6. How is ammonia manufactured by Haber's process ? Explain the reactions of ammonia with



Watch Video Solution

7. Explain geometrical isomerism in Coordination compounds giving suitable

examples.



[Watch Video Solution](#)

8. give the sources of the vitamin and name the disease caused by it deficiency.

*A*



[Watch Video Solution](#)

9. Give the sources of the following vitamin and name the diseases caused by their

deficiency (a) A (b) D ( c) E and (d) K



**Watch Video Solution**

**10.** Give the sources of the following vitamins and name the disease caused by their deficiency.

*E*



**Watch Video Solution**

**11.** Give the sources of the following vitamins and name the disease caused by their deficiency.

*K*



**Watch Video Solution**

**12.** Explain the Grignard reagents preparation and application with suitable example.



**Watch Video Solution**

## Section C

1. Give a detailed account of the Collision theory of reaction rates of bimolecular reaction.



[Watch Video Solution](#)

2. How does ozone react with Ethylene ?



[Watch Video Solution](#)

3. How does ozone react with Ethylene ?



[Watch Video Solution](#)

4. How is ozone prepared ? How does it react with the following ?

Ag



[Watch Video Solution](#)

5. How is ozone prepared ? How does it react with the following ?

Hg



**Watch Video Solution**

**6.** How is chlorine prepared in the laboratory ?

How does it react with the following ?

hot, conc. NaOH



**Watch Video Solution**

**7.** With a suitable example write equations for the Williamson's ether synthesis



[Watch Video Solution](#)

8. With a suitable example write equations for the Reimer-Tiemann reaction



[Watch Video Solution](#)

9. Explain the following reactions with suitable examples :

Carbyl amine reaction



[Watch Video Solution](#)



**10.** Explain the following reactions with suitable examples :

Diazotization



**Watch Video Solution**

**11.** What are galvanic cells ? Explain the working of a galvanic cell with a neat sketch taking Daniell cell as example.



**Watch Video Solution**

**12.** Write the difference between Order and Molecularity of a reaction.



**Watch Video Solution**

**13.** How is ammonia manufactured by Haber's process ? Explain the reactions of ammonia with



**Watch Video Solution**

**14.** How is ozone prepared ? How does it react with the following ?

PbS



**Watch Video Solution**

**15.** How is chlorine obtained in the laboratory ? How does it react with the following ?

KI



**Watch Video Solution**

**16.** How does ozone react with Ethylene ?



**Watch Video Solution**

**17.** How does ozone react with the following:

NO



**Watch Video Solution**

**18.** Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



[Watch Video Solution](#)

**19.** Describe the Cannizaro reaction



[Watch Video Solution](#)

**20.** Explain crossed aldol condensation with suitable examples



[Watch Video Solution](#)

**21.** Explain the following name reactions :

Sandmeyer reaction



**Watch Video Solution**

**22.** State and explain Kohlrausch's law of independent migration of ions.



**Watch Video Solution**

**23.** What is "molecularity" of a reaction ? How is it different from the 'order' of a reaction? Name one bimolecular and one trimolecular gaseous reactions.



**Watch Video Solution**

**24.** How is ozone prepared ? How does it react with the following ?

PbS



**Watch Video Solution**

**25.** How is ozone prepared ? How does it react with the following ?

KI



**Watch Video Solution**

**26.** How is ozone prepared ? How does it react with the following ?

Hg



**Watch Video Solution**



27. How is ozone prepared ? How does it react with the following ?

Ag



Watch Video Solution

28. How can you prepare  $Cl_2$  from HCl and HCl from  $Cl_2$  ? Write the reactions.



Watch Video Solution

**29.** Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



[Watch Video Solution](#)

**30.** Explain the following reactions.

Williamson's Ether Synthesis Aldol condensation



[Watch Video Solution](#)

**31.** Discuss aldol condensation.



**Watch Video Solution**

**32.** Describe the Decarboxylation .



**Watch Video Solution**

**33.** Give a detailed account of the Collision theory of reaction rates of bimolecular

reaction.



[Watch Video Solution](#)

**34.** How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



[Watch Video Solution](#)

**35.** How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



Watch Video Solution

**36.** How is ozone prepared ? How does it react with the following ?

PbS



Watch Video Solution

**37.** How is ozone prepared ? How does it react with the following ?

KI



[Watch Video Solution](#)

**38.** How is ozone prepared ? How does it react with the following ?

Hg



[Watch Video Solution](#)

**39.** How does ozone react with the following:

NO



[Watch Video Solution](#)

**40.** Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



[Watch Video Solution](#)

**41.** Explain the following reactions :

Williamson synthesis





[Watch Video Solution](#)

**42.** Describe the following:

Cannizaro reaction



[Watch Video Solution](#)

**43.** Describe the following:

Dehydrogenation of alcohols

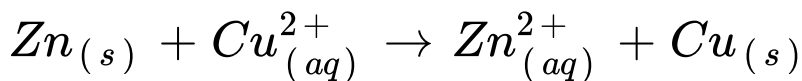


[Watch Video Solution](#)



**44.** The standard emf of Daniell cell is 1.1 V.

Calculate the standard Gibbs energy for the cell reactions:



**Watch Video Solution**

**45.** How are  $\text{XeF}_2$  and  $\text{XeF}_4$  prepared? Give their structures.



**Watch Video Solution**

**46.** Explain Wurtz reaction with one example.



**Watch Video Solution**

**47.** Explain Wurtz reaction with one example.



**Watch Video Solution**

**48.** Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



[Watch Video Solution](#)

**49.** Explain Wurtz reaction with one example.



[Watch Video Solution](#)

**50.** State and explain Kohlrausch's law of independent migration of ions.



[Watch Video Solution](#)

**51.** What are different types of adsorption ?

Give any four differences between characteristics of these different types.



**Watch Video Solution**

**52.** How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



**Watch Video Solution**

**53.** How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



**Watch Video Solution**

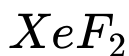
**54.** How is chlorine prepared by electrolytic method ? Explain its reaction with

NaOH



**Watch Video Solution**

**55.** Explain the structures of



**Watch Video Solution**

**56.** Write the equations involved in the following reactions:

(i) Reimer - Tiemann reaction (ii) Kolbe's reaction



**Watch Video Solution**

**57.** Explain the following reactions.

Williamson's Ether Synthesis Aldol  
condensation



**Watch Video Solution**

**58.** Discuss aldol condensation.



**Watch Video Solution**

**59.** Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



**Watch Video Solution**

**60.** State and explain Kohlrausch's law of independent migration of ions.



**Watch Video Solution**

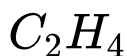


**61.** What is "molecularity" of a reaction ? How is it different from the 'order' of a reaction? Name one bimolecular and one trimolecular gaseous reactions.



**Watch Video Solution**

**62.** How is ozone prepared from oxygen ? Explain its reaction with



**Watch Video Solution**

**63.** How is ozone prepared from oxygen ?

Explain its reaction with

KI



**Watch Video Solution**

**64.** How is ozone prepared from oxygen ?

Explain its reaction with

Hg



**Watch Video Solution**

**65.** How is ozone prepared from oxygen ?

Explain its reaction with

PbS.



**Watch Video Solution**

**66.** Describe the following:

Cannizaro reaction



**Watch Video Solution**

**67.** Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



**Watch Video Solution**

**68.** How do you prepare Ethyl cyanide and Ethyl isocyanide from a common alkylhalide ?



**Watch Video Solution**

