



CHEMISTRY

BOOKS - VGS PUBLICATION-BRILLIANT

MODEL PAPER 1

Section A

1. What are isotonic solutions ?



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2. What is metallie corrosion ? Give one example.



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3. Explain "Poling".



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4. What happens when white phosphorus is heated with conc. NaOH solution in an inert

atmosphere of CO_2 ?



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



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



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7. What are antiseptics ? Give examples.



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8. What are artificail sweerening agents?Give example.



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



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10. Explain Wurtz - Fitting reaction



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11. Write the structures of the following compounds :

2 - Chloro-3-methyl pentane



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12. Write the structures of the following organic halides .

p-bromochlorobenzene ,



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Section B

1. Derive Bragg's equation .



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



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3. 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 ?



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4. Explain the purification of sulphide ore by Froth Floatation Method.



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5. Write the characteristic properties of transition elements.



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



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

Polystyrene



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

polymer

Bakelite



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

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



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10. Explain the following name reactions :

Sandmeyer reaction



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11. Explain the following name reactions :

Gatterman reaction



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



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Section B

1. Derive Bragg's equation .



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



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



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4. Write any four differences between physical adsorption and chemical adsorption.



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5. Zone refining is based on



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



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7. What is Lanthanoid contraction ?



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8. Explain the purpose if vulcanization of rubber .



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9. Explain the difference between natural rubber and synthetic rubber .



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10. Write notes on vitamins.



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11. A broad spectrum antibiotic is



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12. What are antibiotics? Give example.



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Section C

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



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2. What is Half life of a reaction ?



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

NaOH



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

NaOH



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

NH_3 under different conditions.



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6. Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



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7. Describe the Cannizaro reaction



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8. Discuss aldol condensation.



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9. Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



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Section A

1. State Henry's law.



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2. What are isotonic solutions ?



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3. State Faraday's first law of electrolysis.





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4. Give two uses of aluminium .



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5. Explain the reactions of aluminium with acids.



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6. Explain the reactions of Cl_2 with NaOH.



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



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8. Helium is heavier than hydrogen. Yet helium is used (instead of H_2) in filling balloons for

meteorological observations - Why ?



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



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10. Write the isomers of the compound having molecular formula C_4H_9Br .



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



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12. How do you convert aniline to parabromo aniline.



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



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14. What is an ideal solution ?



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15. Write the Arrhenius equation for the rate constant (k) of a reaction.



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16. Give the composition of the Bronze.



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17. Give the composition of the Bronze.



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18. How is XeOF_4 prepared ? Describe its molecular shape.



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19. Write the reactions of F_2 and Cl_2 with water.



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20. Scandium is a transition element. But Zinc is not. Why ?



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21. What is PDI (Poly Dispersity Index) ?



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22. What is allosteric site?



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23. What are antacids? Give example.



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

Polyvinyl chloride



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

Teflon



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Section B

1. Derive Bragg's equation .



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



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



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4. Explain the following :

Zone refining



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5. Explain the following :

Poling.



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



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7. Explain geometrical isomerism in Coordination compounds giving suitable examples.



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

A



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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



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

E



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

K





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



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Section C

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



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2. What are different types of adsorption ?

Give any four differences between characteristics of these different types.



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

NaOH



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

NaOH



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

NaOH



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6. Explain the structures of



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7. Write the equations involved in the following reactions:

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



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8. Explain the following reactions.

Williamson's Ether Synthesis Aldol
condensation



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9. Discuss aldol condensation.



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10. Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



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



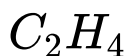
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12. What is "molecularity" of a reaction ? How is it different from the 'order' of a reaction? Name one bimolecular and one trimolecular gaseous reactions.



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



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14. How is ozone prepared from oxygen ?

Explain its reaction with

KI



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15. How is ozone prepared from oxygen ?

Explain its reaction with

Hg



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16. How is ozone prepared from oxygen ?

Explain its reaction with

PbS.



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17. Describe the following:

Cannizaro reaction



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18. Describe the following:

(i) Acetylation

(ii) Cannizzaro reaction

(iii) Cross aldol condensation

(iv) Decarboxylation



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



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