

CHEMISTRY

BOOKS - VGS PUBLICATION-BRILLIANT

MODEL PAPER 12

Section A

1. State Henry's law.



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.



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 ?

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



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



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 cyclohexychloride .



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.



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.



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



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5. Zone refining is based on



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.



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



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10. Write notes on vitamins.



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?



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



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



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

