



CHEMISTRY

BOOKS - BODY BOOKS PUBLICATION

2020 QUESTION PAPER

Example

1. Which of the following lattices has the highest packing efficiency ?

A. Simple cubic

B. Body centred cubic

C. Face centred cubic

Answer:



2. The limiting molar conductivity of weak electrolyte can be calculated by using the law.

A. Faraday's law

B. Kohlrausch law

C. Henry's law

D. Raoult's law

Answer:



3. Bredig's arc method is used to prepare which of the following

sol ?

A. Silver sol

B. Gelatine sol

C. CdS sol

D. As_2S_3sol

Answer:

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4. The product obtained by the reaction of calcium phosphide

with water is

A. Phosphoric acid

B. PhosPhine

C. Phosphorous acid

D. Phosphorus trichloride

Answer:



5. Among the following which is more acidic ?

A. HCOOH

 $\mathsf{B.}\,CH_3CH_2COOH$

 $\mathsf{C.}\,CH_3COOH$

 $\mathsf{D.}\, CH_3 CH_2 CH_2 COOH$

Answer:



9. Name a substance whichcan be used as an antiseptic as well as

disinfectant.

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10. Classify each of the following as being either a p-type or n-

type semiconductor: Ge doped with B.

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11. Classify each of the following as being either a p-type or n-

type semiconductor:Si doped with As

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12. Frenkel defect and Shottky defects are two stoichiometric defects found in crystalline solids.

Write any two differences between Frenkel defect and Schottky defect.

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13. For a reaction A+B
ightarrow C+D, the rate equation is,

 $Rate = K[A]^{(3/2)}[B]^{(1/2)}$. Give the overall order and molecularity of reaction.

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14. Give the general method used for the concentration of following ores:Bauxite ore.

15. Give the general method used for the concentration of following ores:Zinc sulphide ore.

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16. Semiconductor of very high purity can be obtained by zone

refining. Explain the principle behind zone refining.



17. The composition of bleaching powder $Ca(OCI)_2$. Give one

method for the preparation of bleaching powder.



18. The atomic radii of the second and third transition series are

almost the same. Why?



central metal in $[Ni(CO)_4]$.

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21. Aryl halides are less reactive towards nucleophilic substitution reactions. Write any two reasons for the less reactivity of aryl halides.

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22. Ethanol and methoxymethane are functional isomers. But ethanol has higher boiling point than methoxymethane. Give reason.

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23. Give a chemical test to distinguish between propanal and

propanone.



24. Analgesics and antibiotics are drugs having different therapeutic actions. Define each class of drugs.



25. For ethanol-acetone mixture solute-solvent interaction is weaker than solute-solute and solvent-solvent interaction.Does this solution obey Raoult's law ?



26. For ethanol-acetone mixture solute-solvent interaction is weaker than solute-solute and solvent-solvent interaction. Give the vapour pressure-mole fraction graph for this solution.

27. A relation connecting rate constant and temperature is called

Arrhenius equation. a) Write the equation

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28. The temperature dependence of the rate of a chemical reaction can be explained by Arrhenius equation. The rate of a chemical reaction doubles for an increase of 10 K in absolute temperature from 300 K. Calculate the activation energy(Ea)? [$R = 8.314 J K^{-1} mol^{-1}$, $\log 2 = 0.3010$].



29. The existence of charge on colloidal particles is confirmed by

electrophoresis experiment.What is meant by electrophoresis ?



30. The existence of charge on colloidal particles is confirmed by electrophoresis experiment. In the coagulation of, a negative sol, the coagulating power is in the order

 $AI^{3\,+}>Ba(2\,+\,)>Na^{\,+}.$ Name and state the rule behind

this?



31. Describe the method of preparation of potassium dichromate

from chromite ore.





33. Cis isomer of $[Pt(NH_3)_2CI_2]$ is used to inhibit the growth of tumours.Give the structure of cis and trans isomers of $[Pt(NH_3)_2CI_2]$

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34. Which is the major product obtained when 2-bromopentane

is .heated with alcoholic solution of potassium hydroxide ?Name

and state the rule that governs the formation of major product.



35. Vulcanisation is carried out to improve the physical properties of rubber. Explain the process of vulcanisation of rubber.

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36. Classify the following into addition and condensation polymers: PVC, nylon,6,6 teflon, terylene.

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37. Differentiate between globular and fibrous proteins



39. Daniellcell converts the chemical energy liberated during the

redox reaction to electrical energy. $Zn_s+Cu_{aq}^{2+}
ightarrow Zn_{aq}^{2+}+Cu_s, E_{cell}^0=1.1V.$ Identify the anode

and cathode in Daniell cell.



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ightarrow Zn_{aq}^{2\,+}+Cu_s, E_{cell}^0=1.1V$$
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41. Daniellcell converts the chemical energy liberated during the

redox reaction to electrical energy. $Zn_s+Cu_{aq}^{2+}
ightarrow Zn_{aq}^{2+}+Cu_s, E_{cell}^0=1.1V.$ Calculatethe

standard Gibbs energy ($\Delta_r G^0$) for the reaction.

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42. Daniellcell converts the chemical energy liberated during the

redox reaction to electrical energy. $Zn_s+Cu_{aq}^{2+}
ightarrow Zn_{aq}^{2+}+Cu_s, E_{cell}^0=1.1V.$ Give the Nernst

equation of above cell reaction.





47. Mixture of conc. HCl and anhydrous $ZnCl_2$ is an important reagent which helps to distingulsh between $1^\circ, 2^\circ$ and 3° alcohols.

Explain how the above reagent helps to distinguish above three types of alcohols.



49. Explain the following reactions:Rosenmund reduction.



50. Explain the following reactions. Cannizzaro reaction

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