



CHEMISTRY

NCERT - NCERT CHEMISTRY(TELUGU)

D-BLOCK ELEMENTS

Self Evaluation Mcqs

1. The general electronic configuration of d-block elements is

A. $(n - 1)d^{1-10}ns^{0-2}$

B. $(n - 1)d^{1-5}ns^2$

C. $(n - 1)d^0ns^1$

D. None of these

Answer:



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2. Formation of coloured ions is possible when compounds contains

- A. paired electrons
- B. unpaired electrons
- C. lone pairs of electrons
- D. none of the above

Answer:



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3. Paramagnetism is common in

- A. p-block elements

B. d-block elements

C. s-block elements

D. f-block elements

Answer:



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4. The colour of $[Ti(H_2O)_6]^{3+}$ is due to

A. d-d transition

B. Presence of water molecules

C. Inter atomic transfer of electrons

D. None of the above

Answer:

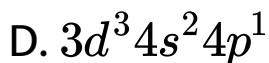
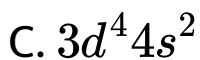


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5. The electronic configuration of chromium (Z=24) is

A. $3d^6 4s^0$

B. $3d^5 4s^1$



Answer:



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6. Paramagnetism is the property of

A. paired electrons

B. completely filled electronic subshells

C. unpaired electrons

D. completely vacant electronic subshells

Answer:



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7. d-block elements form coloured ions because

A. They absorb some energy for d-s transition

B. They absorb some energy for p-d transition

C. They absorb some energy for d-d transition

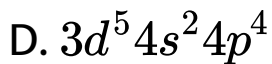
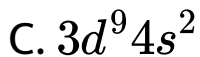
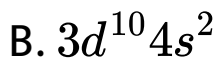
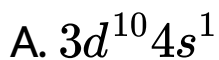
D. They do not absorb any energy

Answer:



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8. The electronic configuration of copper is



Answer:



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9. Copper is extracted from

A. cuprite

B. copper glance

C. malachite

D. copper pyrites

Answer:



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10. Silver salt used in photography is

A. AgCl

B. AgNO_3

C. AgF

D. AgBr

Answer:



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11. Sodiumthiosulphate is used in photography because of its

A. Oxidizing behaviour

B. Reducing behaviour

C. Complexing behaviour

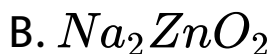
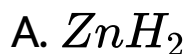
D. Photochemical behaviour

Answer:



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12. Excess of sodium hydroxide reacts with zinc to form



C. ZnO

D. $\text{Zn}(\text{OH})_2$

Answer:

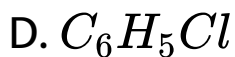
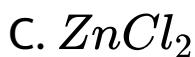


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13. Which compound will not give positive chromyl chloride test:

A. CuCl_2

B. HgCl_2



Answer:



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14. Which of the ions will give colourless aqueous solution?



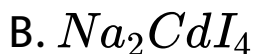
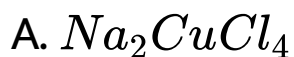


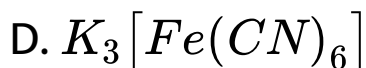
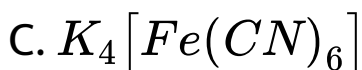
Answer:



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15. Which of the following compounds is not coloured?





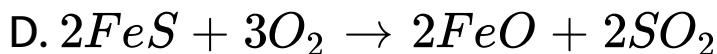
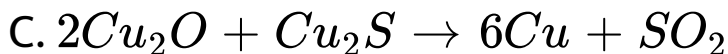
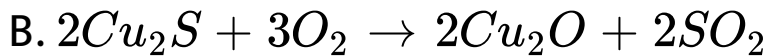
Answer:



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16. In the extraction of Cu, the reaction which does not take place in the Bessemer converter is

A.



Answer:



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17. Select the wrong statement

- A. All coprous salts are blue in colour
- B. Transition metals are highly reactive
- C. All cuprous salts are white in colour
- D. Mercury is a liquid metal

Answer:



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18. Choose the wrong statement regarding $K_2Cr_2O_7$

- A. It is a powerful oxidizing agent
- B. It is used in tanning industry
- C. It is soluble in water
- D. It reduces ferric sulphate to ferrous sulphate

Answer:



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19. For a transition metal ion, the effective magnetic moment in BM is given by the formula

A. $\sqrt{n(n - 1)}$

B. $\sqrt{n(n + 1)}$

C. $\sqrt{n(n + 2)}$

D. $\sqrt{n(n + 1)(n + 2)}$

Answer:



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20. The correct statement in respect of d-block elements is

A. They are all metals.

B. They show variable valency.

C. They form coloured ions and complex salts.

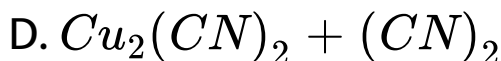
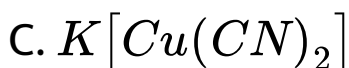
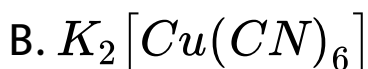
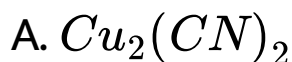
D. All above statement are correct.

Answer:



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21. Which compound is formed when excess of KCN is added to an aqueous solution of copper sulphate

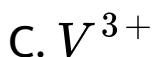
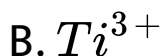


Answer:



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22. Which of the following has the maximum number of unpaired electrons



Answer:



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23. Among the following statement, the correct one is

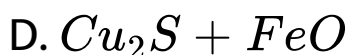
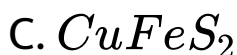
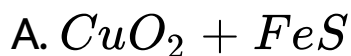
- A. Calamine and siderite are carbonates.
- B. Argentite and cuprite are oxides.
- C. Zinc blende and pyrites are sulphides.
- D. Malachite and azurite are ores of copper.

Answer:



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24. The chemical composition of slag formed during smelting process in the extraction of Cu is



Answer:



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25. This transition element with the lowest atomic number is

A. Scandium

B. Titanium

C. Zinc

D. Lanthanum

Answer:



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26. Which transition element show highest oxidation state

A. Sc

B. Ti

C. Os

D. Zn

Answer:



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Self Evaluation Answer In One Or Two Sentences

1. What are "d"-block elements?



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2. How d-block elements are classified?



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3. Explain why d-block elements exhibit variable oxidation states?



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4. Transition elements form complexes due to



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5. Why does Mn(II) show maximum paramagnetic character among the bivalent

ions of the first transition series?



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6. Why Zn^{2+} salts are white while Ni^{2+} salts are coloured?



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7. $[Ti(H_2O)_6]^{3+}$ is coloured while $[Sc(H_2O)_6]^{3+}$ is colourless. Explain.



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8. A substance is found to have a magnetic moment of 3.9 BM. How many unpaired electrons does it contain?



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9. Explain why the melting and boiling points of Zn, Cd, Hg are low?



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10. Explain why Mn^{2+} is more stable than Mn^{3+} ?



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11. Write two alloys of copper and their uses.



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12. Write short notes on aluminothermic process?



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13. Name the first and last element in the second transition series.



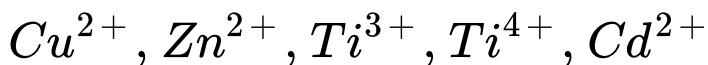
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14. Name the lightest and the heaviest elements (in terms of density) among the transition elements.



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15. Which of the following ions would form colourless complexes?



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16. What happens when KI solution is added to an aqueous solution of copper sulphate?



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17. What happens if the copper sulphate crystals taken into dry test tube are heated ?



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18. Discuss the extraction of copper from copper pyrites.



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19. Name the ores of gold. Explain how it is extracted from its alluvial gavel.



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20. List the ores of silver. How silver is extracted from Argentite?



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21. Explain the extraction of Zinc from Zinc blende.



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22. Explain how dichromate is extracted from its chromite ore. Write the balanced chemical equation for the reaction between an acidified solution of $K_2Cr_2O_7$ and KI .



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Self Evaluation Exercise Problems

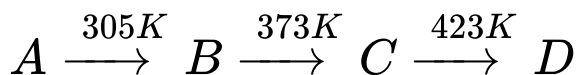
1. The chief ore of Zinc, on roasting gave a compound A, which on reduction by carbon, gives B. Identify A and B, give the chemical reactions.



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2. A sulphate compound of group 11. This compound is also called as Blue vitriol. The compound undergoes decomposition at

various temperature



Identify the compounds A, B, C and D.



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