**Karan Arora**  **R.L. Institute M: 9416974837**

**Max Time : 1 hr** **Class = 12th Chemistry Test**  **Max Marks : 25**

**D & F BLOCK CODE : A**

1. Multiple Choice Questions : [ 1 x 5 = 5 ]
2. Electric configuration of a transition element ‘X’ in + 3 oxidation state is [Ar] 3d5. What is its atomic number?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 25 | b) 26 | c) 27 | d) 24 |

1. The magnetic moment is associated with its spin angular momentum and orbital angular momentum. Spin only magnetic moment value of Cr3+ ions is

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2.87 B.M. | b) 3.87 B.M. | c) 3.47 B.M. | d) 3.57 B.M. |

1. Which of the following oxidation state is common for all lanthanoids?

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 2 | b) + 3 | c) + 4 | d) + 5 |

1. Gadolinium belongs to 4f series. Its atomic number is 64. Which of the following is correct electric configuration of gadolinium?

|  |  |  |  |
| --- | --- | --- | --- |
| a) [Xe] 4f 7 5d 1 6s 2 | b) [Xe] 4f 6 5d 2 6s 2 | c) [Xe] 4f 8 6d 2 | d) [Xe] 4f 9 5s 1 |

1. Which of the following statement about transition elements is correct

a) They show variable oxidation state

b) They exhibit diamagnetic & paramagnetic properties

c) All ions are coloured

d) They exhibit catalytic property

1. Calculate the ‘spin only’ magnetic moment of M2+ ion. ( Z = 27) [ 2 ]
2. Explain why Cu+ ion is not stable in aqueous solutions? [ 2 ]
3. Expalin the variation of atomic size in 3d series on moving left to right. [ 2 ]
4. What are alloys? Name an important alloy which contains some of the lanthanoids metal. Mention it uses. [ 2 ]
5. Write down the electronic configuration of [ 3 ]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| a) Cr3+ | b) Lu2+ | c) Pm2+ | d) Th4+ | e) Ce4+ | f) Co2+ |

1. What is lanthanoid contraction? What are the consequences of lanthanoid contraction? [ 3 ]
2. Why AgCl is colourless but AgBr & Agl are yellow in colour. [ 3 ]
3. Write one similarities and one difference between the chemistry of lanthanoids and actinoids elements. [ 3 ]

**Karan Arora**  **R.L. Institute M: 9416974837**

**Max Time : 1 hr** **Class = 12th Chemistry Test**  **Max Marks : 25**

**D & F BLOCK CODE : B**

1. Multiple Choice Questions : [ 1 x 5 = 5 ]
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|  |  |  |  |
| --- | --- | --- | --- |
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6. Why AgCl is colourless but AgBr & Agl are yellow in colour. [ 3 ]
7. Write down the electronic configuration of [ 3 ]

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| --- | --- | --- | --- | --- | --- |
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