

MDCAT Chemistry Chapter 11 S and P Block Elements Online Test

Sr	Questions	Answers Choice
1	D-block elements are also called	A. Non-typical transition element B. Outer transition elements C. Abnormal transition elements D. Inner transition
2	The strength of binding energy of transition elements depends upon	A. Number of electron pairs B. Number of unpaired electrons C. Number of neutrons D. Number of protons
3	Group VIB of transition elements contains	A. Zn. Cd. Hg B. Cr. Mo, W C. Fe. Ru, Os D. Mn. Te. Re
4	Stability of Cu-metal is due to filled of d-orbital	A. Half B. Completely C. Partially D. Quarterly
5	Group of element belongs to IIB group	A. Zn. Cd. Hg B. Cu. Ag. Au C. Sc. Y. La D. Ni. Pd. Pt
6	Which of the following shows group IIIB	A. Zn, Cd. Hg B. Cu. Ag. Au C. Sc. Y. La D. Ni. Pd. Pt
7	All 3d series elements show an oxidation state of oxidation state	A. +1 B. +2 C. +3 D. Zero
8	The maximum oxidation state of Mn is	A. +6 B. +7 C. +5 D. +4
9	A transition element X has a configuration [Ar] 4s3dd in its +3 oxidation state. Its atomic number is	A. 25 B. 26 C. 22 D. 19
10	Paramagnetic behaviour is caused by the presence of	A. Unpaired electrons B. Paired electrons C. Paired protons D. Paired electrons in an atom, molecule or ion
11	The number of unpaired electrons present in Fe ions is	A. 1 B. 2 C. 5 D. 0
12	Zn has	A. Zero unpaired electrons B. Three unpaired electrons C. Five unpaired electrons D. One paired electrons
13	Electrons in 5d energy level are filled up in case of	A. Lanthanides B. Transition metals C. Actinides D. Rare gases
14	Highest oxidation state of the transition elements is	A. +8 B. +7 C. +5 D. +1
15	When light is exposed to a typical transition element, then electrons jumps from low orbitals to higher orbitals in	A. f-orbitals B. s-orbitals C. p-orbitals D. d-orbitals

D. d-orbitals

16	Which of the following is a non-typical transition element?	A. Cr B. Zn C. Mn D. Fe
17	In the electronic configuration of Cr one electron from 4s sub-shell is transferred to 3d sub-shell because	A. The 3d orbital is of lower energy than 4s B. The half-filled d-subshell is more stable than 4 electrons having d-subshell C. The 4s orbital is of equal energy to 3d orbital D. 6 unpaired electron make Cr more paramagnetic
18	In $[\text{Ti}(\text{H}_2\text{O})]^{3+}$ which colour is transmitted	A. Yellow B. Blue and red C. Blue and yellow D. red and yellow
19	which of the following d blocks element can show the highest oxidation number in its compound	A. Chromium B. iron C. Copper D. Manganese
20	Oxidation state of Mn in KMnO_4 , K_2MnO_4 , MnO_2 and MnSO_4 is in the order	A. +7, +6, +2, +4 B. +6, +7, +2, +4 C. +7, +6, +4, +2 D. +4, +6, +7, +2
21	Which pair of transition elements shows abnormal electronic configuration?	A. Sc and Zn B. Cu and Sc C. Zn and Cu D. Cu and Cr
22	which one pair has the same oxidation state of Fe?	A. FeSO_4 and FeCl_4 B. FeCl_4 and FeCl_3 C. FeSO_4 and FeCl_2 D. $\text{Fe}_2(\text{SO}_4)_3$ and FeSO_4
23	which of the following is a typical transition metal?	A. Sc B. Y C. Ra D. Co
24	d-d transition cannot be observed in	A. Cr B. Cu C. Mn D. Zn
25	Which of the elements has seven electrons in d-subshell?	A. Zn B. Co C. Cu D. Fe
26	Which ion has maximum number of unpaired electrons in 3d subshell and shows maximum paramagnetic behavior?	A. Cr^{+3} B. Ni^{+2} C. Co^{+2} D. Fe^{+3}
27	The total number of 3d-series transition elements is	A. 10 B. 40 C. 14 D. 58
28	Which of these has at least one d electron	A. Sc^{+3} B. Mn^{+7} C. Ti^{+4} D. Cr^{+3}
29	Which of the following pair has the same no. of electrons in d-subshell	A. Sc^{+3} , Ti^{+3} B. Mn^{+2} , Fe^{+3} C. Ti^{+3} , V^{+3} D. Cr^{+3} , Co^{+2}
30	No of unpaired electrons are maximum in	A. V^{+3} B. Mn^{+2} C. Fe^{+3} D. Cr^{+3}
31	Variable Oxidation state of is related to transition elements	A. empty d-subshells B. Completely filled C. Partially filled d-subshell D. d-d transition

A. Enters first, leaves after 3d electrons removal

32	What is the sequence of electron take up and removal from 4s orbital a transition metal in 3d series?	<p>electrons removal.</p> <p>B. Enters after 3d electrons, leaves after 3d electrons</p> <p>C. Enters after 3d electrons, leaves first</p> <p>D. Enters first and leaves first</p>
33	Which of the followings has electronic configuration of Ar in +3 oxidation state	<p>A. Sc</p> <p>B. Mn</p> <p>C. Ti</p> <p>D. Zn</p>
34	The element which shows highest binding energy	<p>A. V</p> <p>B. T</p> <p>C. So</p> <p>D. Cr</p>
35	At which oxidation state Cu achieves electronic configuration of Zn ²⁺	<p>A. 0</p> <p>B. +2</p> <p>C. +1</p> <p>D. +3</p>
36	Zinc does not show variable oxidation state, because	<p>A. Its d-subshell is incomplete</p> <p>B. Its d-subshell is complete</p> <p>C. It is relatively soft metal</p> <p>D. It has two electrons in outermost shell</p>
37	The oxidation state of transition elements is usually	<p>A. Variable</p> <p>B. Single</p> <p>C. Constant</p> <p>D. Infinite</p>
38	The highest oxidation state of manganese is	<p>A. +7</p> <p>B. -7</p> <p>C. +6</p> <p>D. +4</p>
39	Which of the following compound is expected to be colored	<p>A. Na₂SO₄</p> <p>B. ZnCl₂</p> <p>C. MgF₂</p> <p>D. CuF₂</p>
40	Which of the following transition metal forms colourless compounds in +4 oxidation state?	<p>A. Ti</p> <p>B. Cr</p> <p>C. Cu</p> <p>D. Zn</p>
41	Number of electrons involved in d-d transition of [Ti(H ₂ O) ₆] ³⁺	<p>A. 1</p> <p>B. 3</p> <p>C. 2</p> <p>D. 4</p>
42	Ti ³⁺ shows minimum absorption (maximum transmittance) at-----and-----wavelength	<p>A. Yellow, Green</p> <p>B. Red. Yellow</p> <p>C. Blue. Green</p> <p>D. Red. Blue</p>
43	d-d transition cannot be shows by	<p>A. Cu⁺</p> <p>B. Sc³⁺</p> <p>C. Zn²⁺</p> <p>D. All</p>
44	When light is exposed to transition element, then electrons jump from lower orbitals to higher orbitals in	<p>A. Orbitals of s-subshell</p> <p>B. Orbitals of d-subshell</p> <p>C. Orbitals of p-subshell</p> <p>D. between different shells</p>
45	Catalyst used for ammonia synthesis is	<p>A. Cu</p> <p>B. Co</p> <p>C. Zn</p> <p>D. Fe</p>
46	TiCl ₄ is used as catalyst for manufacture of	<p>A. Sulphuric acid</p> <p>B. Plastics</p> <p>C. Ethanol</p> <p>D. Tetraethyl lead</p>
47	Transition compounds which occur as tripositive ions have no	<p>A. 4s-electron</p> <p>B. 3p-electron</p> <p>C. 3s-electron</p> <p>D. 2s-electron</p>
48	Which of the following are responsible for the colour developed in transition elements compounds?	<p>A. s-orbitals</p> <p>B. p-orbitals</p> <p>C. d-orbitals</p> <p>D. f-orbitals</p>

A. Atom to atom

49 The energy difference of d-orbitals varies from

- B. Ion to ion
- C. Electron to electron
- D. proton to proton

50 $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ ion is in colour.

- A. Yellow
- B. Blue
- C. Violet
- D. Red