

MDCAT Chemistry Online Test

Sr	Questions	Answers Choice
1	Coinage metals Cu, Ag, and Au are the least reactive because they have	A. Negative reduction potential B. Positive reduction potential C. Negative oxidation potential D. Positive oxidation potential
2	Only those metals can replace Hydrogen from dilute acids, which have	A. High negative reduction potential B. Low negative reduction potential C. High positive reduction potential D. low positive reduction potential
3	Which one of the following metals can replace the Copper from aqueous solution of its salt more easily?	A. Cd B. Fe C. Zn D. Na
4	The standard reduction potential of Zinc is	A. 0.76V B. 0.34 C. -0.34V D. -0.76V
5	When a metal rod is dipped in its one molar ionic solution	A. Electricity is produced B. Electricity is consumed C. Redox reaction occurs D. Potential difference is set up
6	On ascending the electrochemical series strength as reducing agent	A. Increases B. Decreases C. Remains same D. not determinable
7	The potential difference set up at 25 °C and 1 atm when electrode is dipped in its one molar ionic solution is called	A. Single electrode potential B. electrode potential C. Standard electrode potential D. Standard hydrogen electrode
8	The cell which converts electrical energy to chemical energy is called	A. Electrochemical cell B. Voltaic cell C. Galvanic cell D. Daniell's cell
9	Molten lead and lead (II) bromide both conduct electricity. Which one of the following statements relating to this is true?	A. Both undergo chemical change when they conduct B. Both conduct by the movement of charge particles C. Both will also conduct in the solid state D. Both contain mobile electrons
10	Zinc reacts with dilute acids to liberate hydrogen. This is because:	A. Zn ²⁺ ion is a powerful oxidising agent than H ⁺ ion B. H ⁺ ion is a powerful oxidising agent than Zn ion C. Zn ²⁺ ion is a powerful reducing agent than H ⁺ ion D. H ⁺ ion is a powerful reducing agent than Zn ²⁺ ion
11	Which of the following salts would give the same products irrespective of whether its molten form or concentrated aqueous solution is electrolysed?	A. Magnesium bromide B. Magnesium sulphate C. Copper sulphate D. Copper chloride
12	Electrolytic products of dilute aqueous solution of sodium sulphate is	A. Na, SO ₂ B. H ₂ , SO ₂ C. Na, O ₂ D. H ₂ , O ₂
13	Which of the following is an application of electrochemical series	A. Prediction of the feasibility of chemical reaction B. Calculation of the cell voltage C. Prediction of reaction of metal with dilute acid D. All of the above
		A. Cu will be deposited

14	If a strip of Cu metal is placed in a solution of FeSO ₄	B. Cu and Fe both dissolve C. Fe is precipitated out D. No reaction take place
15	Which of the following statements is not correct about galvanic cell?	A. Anode is negatively charged B. Cathode is positively charged C. Reduction occurs at anode D. Reduction occurs at cathode
16	By the electrolysis of CuCl ₂ using inert electrodes of platinum which species is deposited at cathode	A. H ₂ B. O ₂ C. Cu D. Cl
17	The reduction potentials of non-metals are A =+0.54V, B=+1.08V, C=+1.36V. D= +2.87V Which non -metal can displace all other from aqueous solution of their salts	A. A B. C C. B D. D
18	Which of following is oxidation state of oxygen in peroxides?	A. -2 B. 1/2 C. -1 D. +2
19	Stronger the oxidizing agent, higher is	A. Redox potential B. Standard reduction potential C. Reduction potential D. _{Oxidation potemial}
20	The emf produced by galvanic cell is called	A. Cell potential B. Oxidation potential C. Redox potential D. Reduction potential
21	If Cl ₂ is passed through hot NaOH. NaClO ₃ is formed and the oxidation number of Cl changes from	A. -1 to 0 B. 0 to +5 C. 0 to -1 D. 0 to +1
22	The element which has greatest value of Reduction potential is used as	A. Strongest reducing agent B. Weak oxidizing and strong reducing agent C. Strongest oxidizing agent D. None of these
23	A system absorbs 100 kJ heat and performs 50 kJ work on the surroundings. The increase in internal energy of the system is	A. 50kJ B. 100 kJ C. 150kJ D. 5000 kJ
24	The enthalpy change ΔH of a process is given by the relation	A. $\Delta H = \Delta E + P\Delta V$ B. $\Delta H = \Delta E + W$ C. $\Delta H = \Delta E - \Delta nRT$ D. $\Delta E = \Delta H + P\Delta V$
25	ΔH° represent the enthalpy change at	A. 0°C and 1 atm pressure B. 25°C and 1 atm C. 0K and 1 atm pressure D. 25°C and 2 atm pressure
26	Born-Haber cycle is an application of	A. Hess's law B. 1 st law of thermodynamics C. Avogadro's law D. 1 st law of thermochemistry
27	Neutralization of acid-base is	A. Spontaneous B. Exothermic C. Non spontaneous D. Both "a" and "c"
28	The change in enthalpy when one mole of a substance is dissolved in a specified quantity of solvent at a given temperature is called	A. Heat of reaction B. Heat of solvation C. Heat of combustion D. Heat of solvent
29	Which of the following enthalpy change always have a negative value	A. ΔH_f B. ΔH_{sol} C. ΔH_c D. ΔH_{at}
30	The change in enthalpy of a system when one mole of the substance is completely burnt in excess of air or oxygen is called	A. Heat of reaction B. Heat of formation C. Heat of atomization D. Heat of combustion
31	By convention, the standard heat of formation of all elements is assumed to be	A. Zero B. positive C. Negative D. Infinity

		D. infinity
32	One kilo calorie is equal to	A. 4.184J B. 1000J C. 4184J D. 1kJ
33	$\Delta H = \Delta E$ is true for which of the following reaction	A. $K + H_2O \rightarrow KOH + H_2$ B. $N_2 + 3H_2 \rightarrow 2NH_3$ C. $AlCl_3 + 3NaOH \rightarrow Al(OH)_3 + 3NaCl$ D. $4Na + O_2 \rightarrow 2Na_2O$
34	Which of the following processes has always. $\Delta H = -ve$	A. Formation of compound B. Dilution of a solution C. Dissolution of ionic compound D. Combustion
35	Enthalpy of a system can be calculated by which of following relationship	A. $q = \Delta E$ B. $q = m \times S \times \Delta T$ C. $q = pv$ D. $q = m \times v \times \Delta T$
36	One of the best applications of Hess's law to calculate the lattice energy of ionic compound is	A. Measurement of enthalpy change in a calorimeter B. Studying of first law of thermodynamics C. Measurement of a heat of formation of a compound D. Born-Haber cycle
37	How much heat is absorbed by 100 g of water when its temperature decreases from 25°C to 5°C? (heat capacity is 4.2 J/gK)	A. 84,000J B. 2000/4.2J C. -2000/4.2J D. -8400J
38	Whenever a reaction is endothermic, then it means that	A. Heat is transferred system to the surrounding B. Heat is transferred from surrounding to the system C. Heat content of the products is less than that of reactants D. Heat content of the reactants is greater than the products
39	Enthalpy of neutralization (ΔH^n) per mole of H_2SO_4 / $Ba(OH)_2$ is	A. +57.4 kJmol ⁻¹ B. -114.8 kJmol ⁻¹ C. -57.4 kJmol ⁻¹ D. -57.4 kJmol ⁻¹
40	In order to determine ΔH (latt) of ionic compound which is correct relationship	A. $\Delta H_{latt} = \Delta H_f - \Delta H_x$ B. $\Delta H_{latt} = \Delta H_a + \Delta H_v$ C. $\Delta H_{latt} = \Delta H_f + \Delta H_x$ D. $\Delta H_{latt} = \Delta H_f - \Delta H_{sol}$
41	Enthalpy of a reaction can be measured by	A. Glass calorimeter B. Barometer C. Manometer D. Thermometer
42	If internal energy of the system is increased	A. Change in state of the system may occur B. Temperature of the system may rise C. Chemical reaction may take place D. All of these
43	Change in enthalpy (ΔH) of a system can be calculated by	A. $\Delta H = \Delta E - PV$ B. $\Delta H = \Delta E + q$ C. $\Delta H = \Delta E - q$ D. $\Delta H = \Delta E + P\Delta V$
44	Choose from the followings the correct statement about Born Haber cycle	A. Born Haber cycle is different from Hess's law B. The energy changes in a cyclic process is not zero C. The lattice energy of crystalline substances can be calculated easily D. None
45	Enthalpy of formation of one mole of ionic compound from gaseous ion under standard condition is called	A. Gibb's energy B. Gibb's energy C. Bond energy D. Lattice energy
46	According to Hess's law, the enthalpy change for a reaction	A. Depends on path B. Independent of the path C. The sum of ΔE and ΔH D. None of these

47	Decomposition of H ₂ O is	A. Endothermic reaction B. Nuclear reaction C. Exothermic reaction D. Zero nuclear reaction
48	The lattice energy of NaCl is	A. 787 j/ mole B. 790 kj/mol C. 780 kJ/ mol D. -787 kl / mole
49	The value of ΔV being very small. The term $P\Delta V$ can be neglected for process involving	A. Liquid and gas B. Solids and gases C. Liquid and solid D. None of these
50	The enthalpy change for the reaction $C_2H_2 + 5/2 O_2 \rightarrow 2CO_2 + H_2O$ is known as enthalpy of	A. Fomation of CO ₂ B. Fusion of C ₂ H ₄ C. Combustion of C ₂ H ₄ D. Vaporization of C ₂ H ₂
51	A state function which describes together the internal energy and product of pressure and volume is called	A. Enthalpy B. internal energy C. Work D. Kinetic energy
52	The enthalpies of all elements in their standard states are	A. Unity B. always +ve C. always -ve D. zero
53	Total heat content of a system is called	A. Internal energy B. Entropy C. Enthalpy D. All of these
54	The measurement of enthalpy change at standard conditions means that we should manage the measurement at	A. 24°C at 1 atm B. 25°C at 1 atm C. 0C° at 1 atm D. 100C° 1 atm
55	Most of the reactions which give stable products are	A. Endothermic B. Exothermic C. Isothermal D. Non of these
56	During an exothermic or endothermic reaction which one of the following formula is used to calculate the amount of heat evolved or absorbed	A. $\Delta H = \Delta E + PV$ B. $\Delta E = q + w$ C. $\Delta p = \Delta H$ D. $q = m \times s \times \Delta T$
57	The exothermic process is	A. Evaporation B. Sublimation C. Respiration D. Boiling
58	The heat of reaction depends upon	A. Temperature of the reactants B. Physical states of the reactants and the products C. Both A) and B) D. Path of the reaction and the temperature
59	One Joule is equivalent to	A. 4.184 cal. B. 0.4184cal. C. 1/2 cal. D. 1/4.184 cal
60	If an endothermic reaction is allowed to take place very rapidly in air, the temperature of the surrounding air will	A. Remains constant B. Increase C. Decrease D. Either increase or decrease E. One Joule is equivalent to