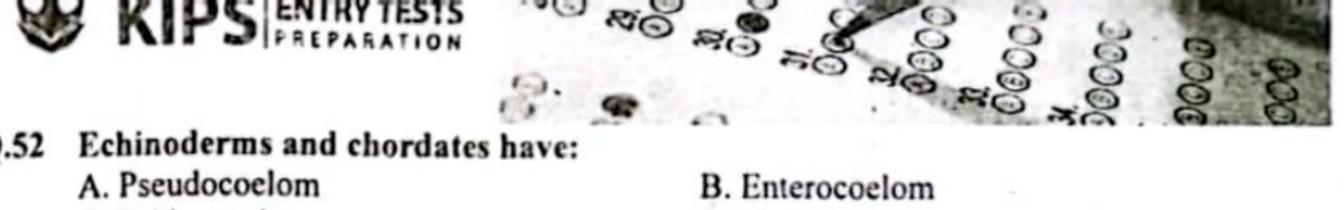
BIOLOGY MDCAT

UNIT-5 (A+ Series)

TOP						
✓	Diversity among Animals					
Q.1	All animals are:					
	A. Photoautotrophs	B. Absorptive heterotrophs				
	C. Ingestive heterotrophs	D. Chemoautotrophs				
Q.2	Animals of Phylum	lack symmetry.				
	A. Porifera	B. Platyhelminthes				
	C. Cnidaria	D. Nematoda				
Q.3	The body of tapeworm is ribb	on-like and divided into segments called:				
•	A. Proglottids	B. Glottids				
	C. Stomium	D. Prostomium				
Q.4	In which of the following organism, similar body parts are arranged as spokes or radiate from the central body axis?					
	A. Euplectella	B. Sea anemone				
	C. Spongilla	D. Sycon				
Q.5	Which of the following is invo					
4.5	A. Mesenchyme	B. Choanocytes				
	C. Pinacocytes	D. Spongocoel				
Q.6		aracteristics of protostomes except:				
Q.0	A. Schizocoelom	B. Bilateral symmetry				
	C. Blastopore form mouth	D. Radial cleavage				
Q.7	Largest living vertebrate belo					
Q.,	A. Amphibians	B. Aves				
	C. Reptiles	D. Mammals				
Q.8	Which of the following phyla					
4.0	A. Arthropoda	B. Mollusca				
	C. Cnidaria	D. Nematoda				
Q.9	Lining of the digestive tract and associated glands are derived from:					
4.,	A. Ectoderm	B. Endoderm				
	C. Mesoderm	D. Blastoderm				
Q.10	Which of the following has a gastrovascular cavity?					
Q.10	A. Sponges	B. Roundworms				
	C. Earthworms	D. Flatworms				
Q.11	Sea cucumber belongs to Phyl	lum: .				
V	A. Cnidaria	B. Platyhelminthes				
	C. Echinodermata	D. Nematoda				
Q.12	Coral reef formation is charac	eteristic of:				
Q.12	A. Cnidarians	B. Sponges				
	C. Annelids	D. Molluscs				
Q.13	Offensive and defensive struct					
Q.13	A. Flagella	B. Collar cells				
	C. Nematocysts	D. Spicules				
0.14		is well-developed in parasitic flatworms?				
Q.14	A. Respiratory system	B. Reproductive system				
	C. Digestive system	D. Muscular system				
0.15	First time tube-like digestive s					
Q.15	A. Actinia	B. Ascaris				
	C. Neries	D. Chaetopterus				
0.17						
Q.16	Tracheal system for respiration	B. Mollusca				
	A. Arthropoda					
	C. Annelida	D. Echinodermata				

Q.17	Water vascular system is charac					
•	A. Asterias	B. Aurelia				
	C. Limax	D. Dugesia				
Q.18	The one which lacks a digestive	system:				
Q.10	A. Hydra	B. Ascaris				
	C. Planaria	D. Taenia				
Q.19	A structure which is not helpful	for locomotion in annelids is:				
Q.1.	A. Jointed legs	B. Setae				
	C. Hydrostatic skeleton	D. Longitudinal and circular muscles				
Q.20	Flame cell system is found in:					
Q.20	A. Flatworms	B. Hemichordates				
	C. Roundworms	D. Echinoderms				
0.21	Excretory system of	is associated with digestive tract.				
Q.21						
	A. Insects	B. Planaria				
	C. Earthworms	D. Tapeworms				
Q.22		nd alimentary canal in Rhabditis is known as:				
	A. Coelom	B. Enteron				
	C. Pseudocoelom	D. Spongocoel				
Q.23	The first opening of the embryo					
	A. Mouth	B. Anus				
	C. Blastopore	D. Archenteron				
Q.24	The shell is much reduced and i					
	A. Garden snail	B. Anodonta				
	C. Oyster	D. Sepia				
Q.25	It is an example of protostomes:					
	A. Sponges	B. Segmented worms				
	C. Echinoderms	D. Cnidarians				
Q.26		is involved in the churning of soil and commonly				
	termed a natural plough?					
	A. Leech	B. Earthworm				
	C. Neries	D. Roundworm				
Q.27	It is commonly known as hookw					
	A. Ancylostoma duodenale	B. Ascaris lumbricoides				
	C. Enterobius vermicularis	D. Pheritima posthuma				
Q.28	In animals, reproductive system					
	A Mesenchyme	B. Ectoderm				
	C. Endoderm	D. Mesoderm				
Q.29	Arthropods are believed to have a common origin with annelids because both have					
	some common characteristics su					
	A. Segment body	B. Cuticle				
	C. Appendages	D. All A, B, C				
Q.30	Aquatic arthropods respire throu					
	A. Gills only	B. Gills and book lungs				
	C. Tracheoles	D. Skin				
Q.31	Spider belongs to which class of p					
	A. Insecta	B. Crustacea				
	C. Myriapoda	D. Arachnida				
Q.32	Bony fishes containc	ranial nerves.				
	A. 5	B. 15				
	C. 10	D. 20				
Q.33	Amphibians are thought to be eve					
	A. Cartilaginous fishes	B. Hag fishes				
	C. Dipnoi fishes	D. Bony fishes				

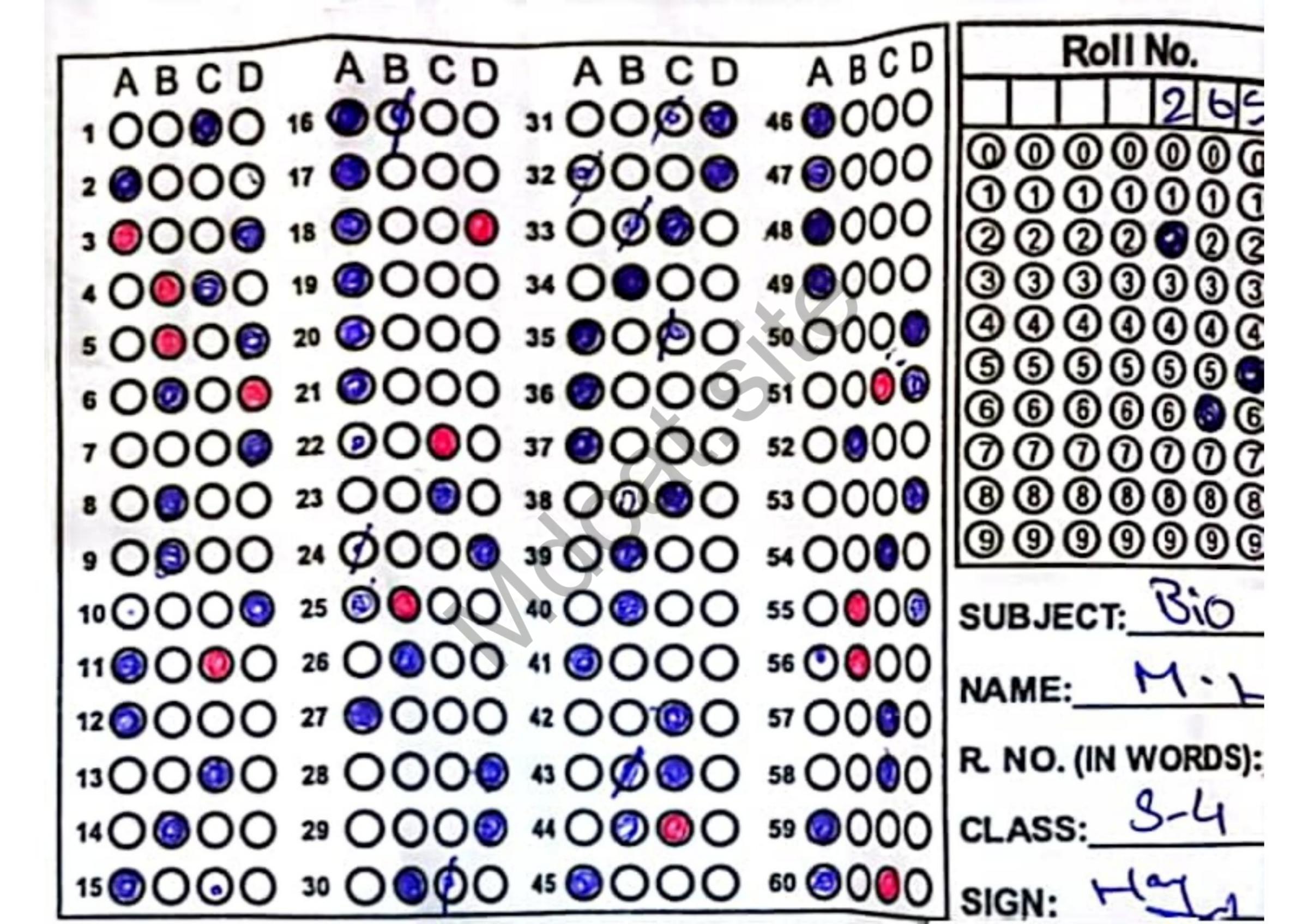
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0.24	It is not a characteristic of chondri	
Q.34	A. Body fusiform	B. Ctenoid scales
	C. Mouth is usually ventral	D. Gills are not covered by an operculum
Q.35	Which of the following animal live	s in our large intestine and its movement causes
Quiso	intense itching of anus?	a in our mega-
	A. Enterobius vermicularis	B. Ascaris lumbricoides
	C. Ancylostoma duodenale	D. Pheritima posthuma
0.26		D. I ner mind positiona
Q.36	A. Coelenterata	B. Arthropoda
		D. Annelida
0.27	C. Echinodermata	
Q.37		
	A. Archaeopteryx	B. Varnope
A 20	C. Cotylosaurs	D. Lobed fins fishes
Q.38		
	A. Camel	B. Lizard
O 20	C. Crocodile	D. Snake
Q.39		B. Eutheria
	A. Prototheria	D. Marsupial mammals
0.40	C. Metatheria	•
Q.40	A. Fishes	B. Reptiles
	C. Amphibians	D. Replifes D. Birds
Q.41		D. Dilus
Q.41	A. Cartilaginous fishes	B. Agnatha
	C. Bony fishes	D. Cyclostomata
Q.42		
2	A. Prototheria	B. Eutheria
	C. Metatheria	D. Monotremes
Q.43	Vibrio cholerae can be transmitted t	hrough:
	A. Mosquito	B. Tsetse fly
	C. House fly	D. Locust
Q.44	Which of the following parasite pro-	duces anticoagulant during feeding?
	A. Pinworm	B. Liver fluke
	C. Hookworm	D. Rhabiditis
Q.45	Which one is not a parasite?	
	A. Planaria	B. Trypanosoma
	C. Plasmodium	D. Tapeworm
Q.46		
	A. Cnidarians	B. Sponges
	C. Round worms	D. Segmented worms
Q.47	Sponges are thought to have evolved	I Irom:
	A. Choanoflagellates	B. Actinopods
0.40	C. Ciliates	D. Foraminiferans
Q.48		D Ciliated
	A. Flagellated	B. Ciliated
0.40	C. Non-flagellated	D. Pinacocytes
Q.49	Jawless fishes belong to:	D. Chandrighthuga
	A. Agnatha	B. Chondrichthyes
0.50	C. Gnathostomata	D. Osteichthyes
Q.50	All of the following are poikilotherm	
	A. Amphibians	B. Reptiles D. Birds
0.51	C. Pisces Right aortic arch is characteristic of	
Q.51	A. Mammals	B. Reptiles
	C. Birds	D. Amphibians
	C. Dilus	D. Milpinomis



D. Neoblasts

Q.52 C. Schizocoelom D. Hemocoel Q.53 Enterobius vermicularis is commonly called: A. Shipworms B. Hook worms C. Bookworms D. Pinworms Q.54 Locomotory organs of L. terrestris are: B. Parapodia A. Flagella D. Cilia C. Setae Colonial corals secrete CaCO3 from: Q.55 B. Epidermal cells A. Cnidocytes D. Endodermal cells C. Nematocyst Which of the following is not a body region of Saccoglossus? Q.56 B. Mouth A. Collar D. Trunk C. Proboscis Voice producing organ in birds is: Q.57 B. Pharynx A. Larynx D. Tongue C. Syrinx Ascaris normally inhabits the lumen of: B. Colon A. Stomach D. Rectum C. Small intestine A freshwater coelenterate that lacks alternation of generation: Q.59 B. Aurelia A. Hydra D. Actinia C. Obelia Which of the following are spicules and spongin fibers forming cells? Q.60B. Choanocytes A. Pinacocytes

C. Scleroblasts



CHEMISTRY MDCAT

UNIT-5 (A + SERIES)

TOP	IC:-				
	✓ THERMOCHEMISTRY AN	D ENERGETICS OF CHEMICAL REACTIONS			
	✓ ELECTROCHEMISTRY				
Q.1	The oxidation states of the most electronegative element in the reaction of BaO2 with				
	dil. H2SO4 are:				
	A. 0 and -1	B1 and -2			
	C2 and 0	D2 and +1			
Q.2	The oxidation number of Fe in	K4[Fe(CN)6] is			
	A. +6	B. +4			
	C. +3	D. +2			
Q.3	The oxidation number of oxyge	en in potassium superoxide KO2			
	A2	B1			
	C1/2	D1/4			
Q.4	The reaction H,S + H,O, -	→ S + 2H ₁ O shows:			
•	A. acidic nature of H2O2	B. alkaline nature of H ₂ O ₂			
	C. Oxidizing action of H ₂ O ₂	D. reducing action of H ₂ O ₂			
Q.5	Electrolysis of a copper sulfate	solution yields at inert electrodes:			
Q.D	A. Cu, SO ₂	B. Cu, H ₂			
	C. Cu, O ₂	D. H ₂ , O ₂			
Q.6	When two moles of H2(e) and or	ne mole of O2(g)react to form H2O(g) 484KJ heat is			
•	evolved the ΔH°_{f} of $H_{2}O_{(g)}$				
	A286KJmol-1	B242KJmol ⁻¹			
	C484KJmol-1	D. +242KJmol ⁻¹			
Q.7	Which is not a state function?				
	A. Heat contents	B. Heat			
	C. Internal energy	D. Pressure			
Q.8	The heat absorbed in a reaction	at constant temperature and volume is equal to:			
	Α. ΔΕ	Β. ΔΗ			
	CΔE	DΔΗ			
Q.9	Given the following data C + D	$\rightarrow A + B \qquad \Delta H^{\circ} = 48 \text{ kJ},$			
	$C + D \rightarrow E$, $\Delta H = 72 \text{ KJ. Th}$	e value of ∆H° (kJ) for the reaction A+B→E			
	A. 120	B. 24			
	C. 60	D24			
Q.10	2CH.OH., +3O., , →2CO.,	+4H,O (c) two mole of methanol when burnt in			
Q					
	oxygen gives out 1446 KJ mol-1 heat. If one mole of oxygen is used, the amount of heat evolved:				
	The state of the s	B. 964 KJ			
	A. 723 KJ C. 241 KJ	D. 482 KJ			
Q.11	On electrolysis of dil. H2SO4 usi	ng platinum electrodes, the product obtained at the			
Q.11	anode will be				
	A. Hydrogen	B. Oxygen			
	C. Sulphur Dioxide	D. Hydrogen Sulphide			
Q.12	Warming ammonium chloride v	vith sodium hydroxide in a test tube is an example of			
	A. Closed System	B. Open System			
	C. Isolated System	D. None of these			
Q.13		xcess of oxygen then standard enthalpy of			
	Combustion is	D. Deduced to half			
	A. Increased two times C. Increase four times	B. Reduced to half D. Reduced to four times			
2.14		othermic in Born-Haber's Cycle			
		· · · · · · · · · · · · · · · · · · ·			
	A. AHLE	Β. ΔΗΕ.Α			
2.0	C. ΔH _{at}	D. ΔH _{diss}			





Volumeter

Salt bridge

Q.15 In the cell shown below, which of the following is (are) true?

I. Electrons flow through the meter from left to right

II. Cu is the anode

III. The spontaneous reaction is

 $Cu^{2+} + Zn \rightarrow Cu + Zn^{2+}$

A. I only

B. III only

C. II only

D. I and II

Q.16 The net heat change in a chemical reaction is same whether it is brought in two or more different ways in one or several steps. It is known as

A. Henry's law

B. Joule's principle

C. Hess's law

D. Law of conservation of energy

Q.17 Solutions containing chlorate (I) ions are used as household bleaches and disinfectants. These solutions decompose on heating as shown 3ClO⁻ →ClO₃⁻+ 2Cl⁻ Which of the following ion will have highest oxidation state of chlorine

A. CIO-

B. ClO₂-

C. CIO₃-

D. CI

Q.18 Which of the following is a list of metals in order from strongest to weakest reducing agents

A. Au > Ni > Ag

B. Ni > Au > Ag

C. Ni > Ag > Au

D. Ag > Ni > Au

Q.19 Which of the following will be collected at cathode during electrolysis of aq. CuSO₄ solution

A. H₂

B. O₂

C. SO₃

D. Cu

Q.20 Enthalpy of combustion for carbon is -393.5 kJ/mole. What is the enthalpy of formation of CO2 would be

A. +393.5kJmol-1

B. -393.5kJmol-1

C. 1kJmol-1

D. 0kJmol-1

Q.21 In exothermic reactions, the heat contents of the

A. Products is more than that of reactants

B. Reactants is equal to that of products

C. Reactants is more than that of products

D. Reactants is equal to zero

Q.22 If one mole of ammonia and one mole of hydrogen chloride are mixed in a closed container to form ammonium chloride gas, then

 $A.\Delta H < \Delta E$

 $B. \Delta H = \Delta E$

 $C. \Delta H > \Delta E$

D. No Relationship

O.23 The conditions for standard enthalpy change are

A. 760torr and 300K

B. 760torr and 298K

C. 760 torr and 277K

D. 760torr and 0K

Q.24 Which of the following gives same products at cathode and anode during electrolysis as like water

A. CuSO_{4(molten)}

B. CuSO_{4(aq)}

C. Na₂SO_{4(aq)}

D. NaCl(aq)

Q.25 Stronger the reducing agent greater is the

A. Oxidation potential

B. Redox potential

C. emf of cell

D. Reduction potential

Q.26 Which of the following is incorrect statement about electrolytic cell

A. Anode is positively charged

B. Cathode is negatively charged

C. Chemical energy is converted to electrical energy

D. Reaction is non-spontaneous in electrolytic cell

Q.27 Eored of an element can be calculated by comparing it with

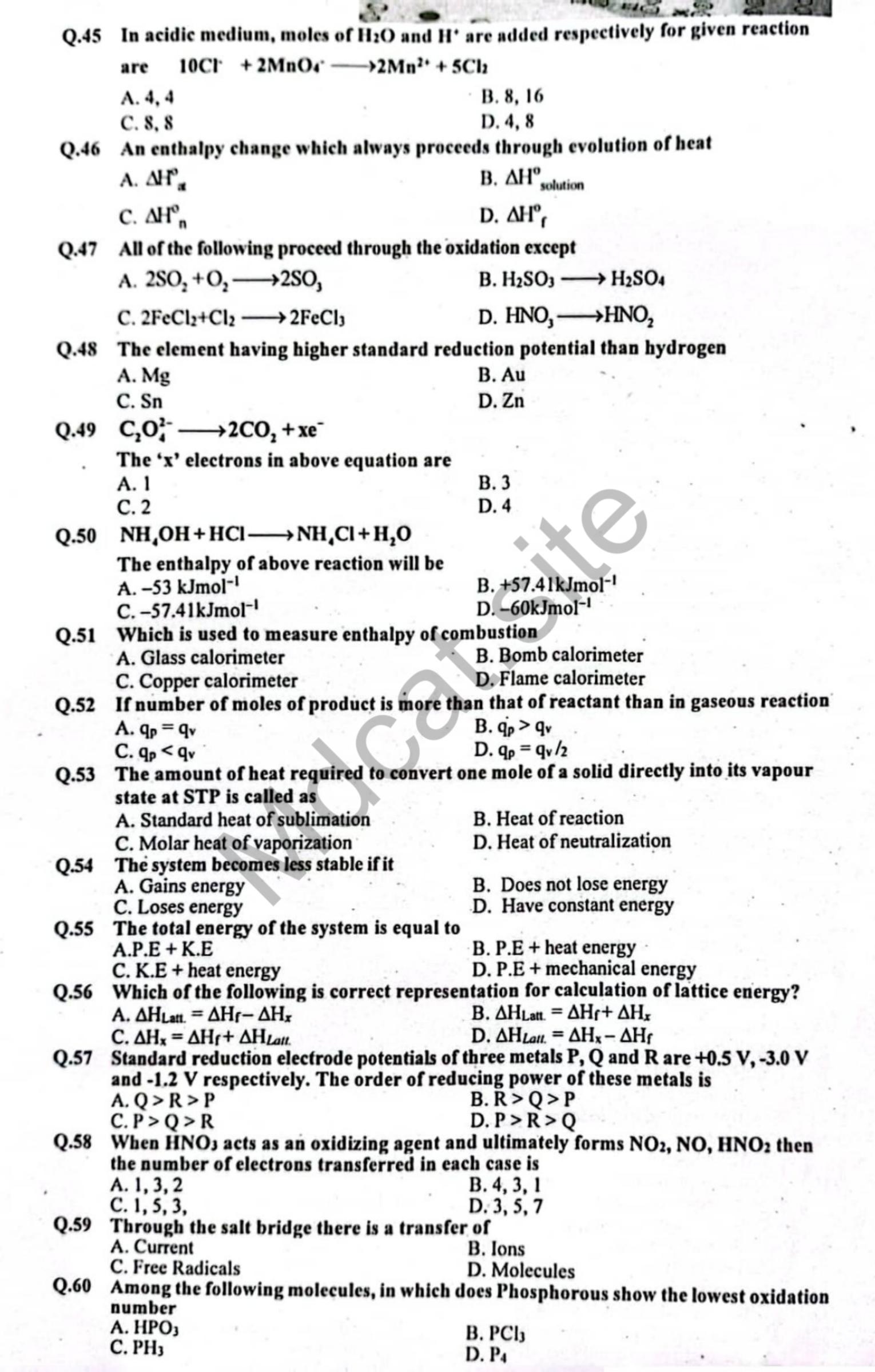
A. New electrode of same element

B. 1M solution of ions of respective element

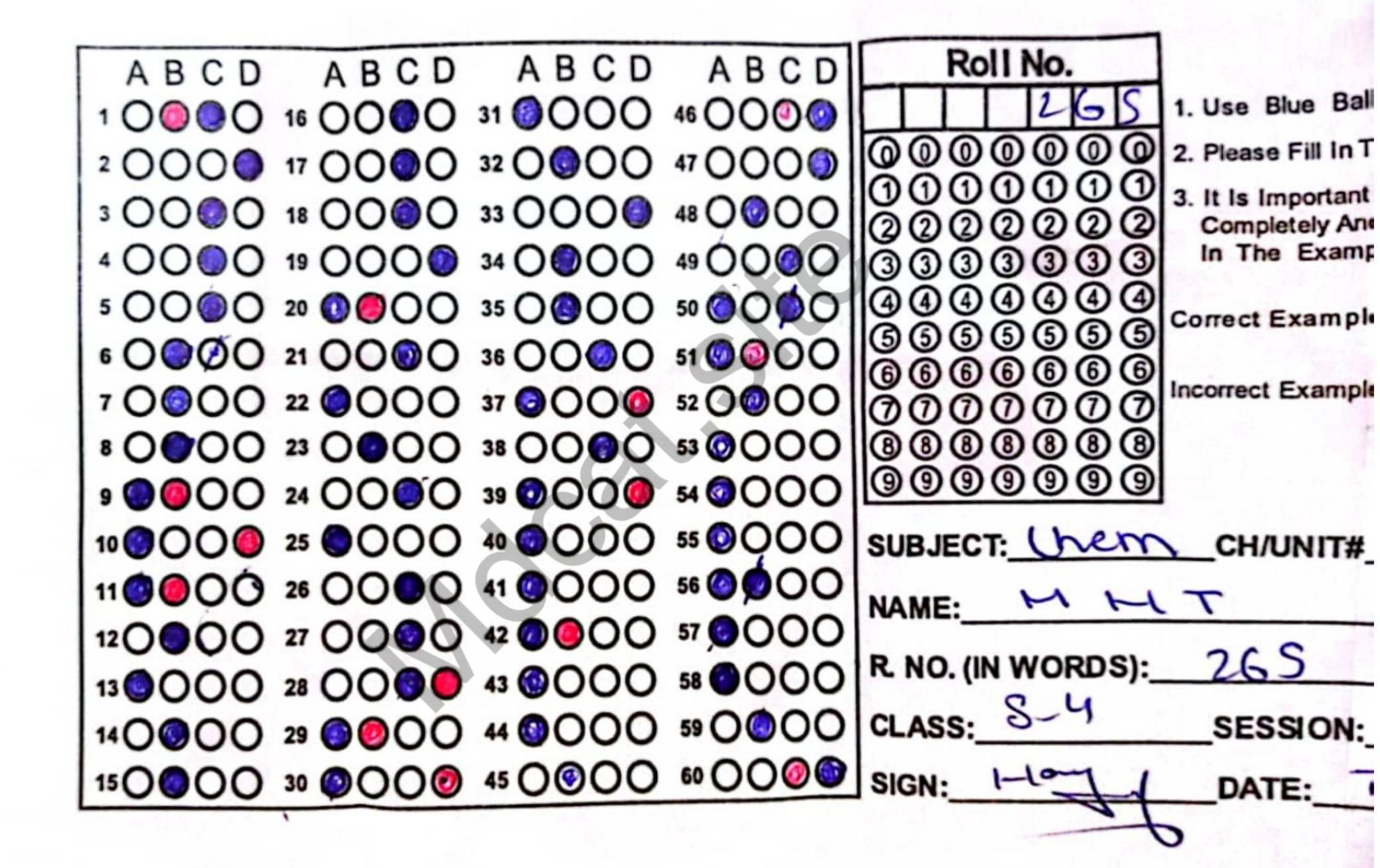
C. Standard Hydrogen Electrode

D. 2M solution of HCI

	RIPSPARATION	46 -6 -6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		
Q.28	$O_{2(a)} + 2H_2O_{(1)} + xe^- \longrightarrow 4OH_{(aq)}$			
	The 'x' electrons in above equation are			
	A. 1	B. 3		
	C. 2	D. 4		
Q.29	One Joule is equal to	D 1/4 194 Col		
	A. 4.184 Cal	B.1/4.184 Cal D. 1.055 Cal		
0.30	C. 7.60 Cal Consider the following reaction	D. 1.033 Cai		
Q.30	MnO, +HCl>MnCl, +H,O	+0		
	Which atom undergoes decrease in oxid A. Chlorine	B. Hydrogen		
	C. Oxygen	D. Manganese		
Q.31	In a reaction, the oxidation number of (Cu decreases by 2. This indicates that Cu is		
	A. Reduced	B. Neutralized		
0.12	C. Oxidized	D. A reducing agent.		
Q.32	When a Zn piece is placed in CuSO ₄ sol A. Standard reduction potential of Zn is m			
	B. Standard reduction potential of Zn is le			
	C. Atomic number of Zn is larger than tha			
	D. Atomic number of Zn is smaller than the	nat of Cu		
Q.33	If the internal energy of the system is increa			
	A. Change in state of the system is increas			
	B. The temperature of the system may income. C. The chemical reaction may take place	rease		
	D. All			
Q.34		oxidation number method the 'O' and H-		
-	atoms are balanced by			
	A. Method of difference	B. Inspection method		
0.15	C. Ion-electron method Which of the following is incorrect about	D. Spectroscopic method		
Q.35	A. Its maximum value is 57.5kJ/mol	it enthalpy of neutralization;		
	B. It is equal to enthalpy of formation of water from ions			
	C. It is more than 57.5kJ/mol when one of			
	D. Energy is released in this process			
Q.36	Standard enthalpy of Al2O3 cannot be n			
	A. It does not catch fire C. Protective layer of oxide covers the surface	B. It reacts with CO ₂		
Q.37	The dissolution of ammonium chloride			
Q.57	A. Endothermic process	B. Exothermic process .		
	C. Spontaneous process	D. Both "A" and "C"		
Q.38		Which of the following statements is incorrect		
	A. Metallic Aluminium is reducing agent	B. Al ^{3*} is an oxidizing agent		
0.10	C. Metallic Aluminium is reduced to Al3*	D. Redox reaction		
Q.39	A. Cu will be precipitated out	B. Fe will be precipitated out		
	C. Cu and Fe both dissolve	D. No reaction takes place		
Q.40	The process which is exothermic in nature			
•	A. Atomization	B. Electrolysis		
	C. Hybridization	D. Ionization		
Q.41		ics energy from system to surrounding can		
	be transferred in the form of	D. Uast and force		
	A. Heat and work	B. Heat and force D. Displacement and heat		
Q.42	C. Kinetic energy and pressure When a solid melts there is	D. Displacement and near		
4.42	A. Decrease in enthalpy	B. Increase in enthalpy		
	C. No change in enthalpy	D. A decrease in internal energy		
Q.43	Boiling of water is change			
	A. Endothermic	B. Non-energetic		
	C. Exothermic	D. Non-spontaneous		
Q.44	The expression $\Delta \mathbf{E} = \mathbf{q} + \mathbf{w}$ is	D. Third I Cat the second second second		
	A. First law of the thermodynamics	B. Third law of the thermodynamics D. Hess's Law		
	C. Second law of the thermodynamics	D. Hess s Law		
		PAGE 3 OF 4		







PHYSICS MDCAT

UNIT-5 (A+ SERIES)

TOPICS:

✓	Thermodynamics				
Q.1	If 20J of work is done in compressing a gas adiabatically the change in internal				
	energy is equal to				
	A. 20J	B. 10J			
	C20J	D. 200J			
Q.2	The direction of flow of heat between two	o bodies is determined by			
-	A. Internal energy	B. Total energy			
	C. Kinetic energy	D. None of these			
Q.3	A cycle tyre bursts suddenly. This represen	ts an			
	A. Isothermal process	B. Isochoric process			
	C. Isobaric process	D. Adiabatic process			
Q.4	If 315cal of heat is given to the system,	and the system does 20cal of work, find the			
•	change in internal energy.				
	A. 335cal	B. 295cal			
	C. 335J	D. 0 J			
Q.5	Suppose volume of gas in a cylinder is 3	cm ³ , if the piston is kept fixed and gas is			
	heated from 5 °C to 12 °C then the work				
	A. 2.3 J B. 21 J	C. Zero D. 25 J			
Q.6	Consider a gas contained in a rigid co	ntainer of volume 20m3. What will be the			
		is provided to it? Assume the gas exerts a			
	pressure of latm on the walls.				
	A. 50J	B. 0			
0.7	C. 70J	D. 20J			
Q.7		mal equilibrium, then net exchange of heat			
	between them is:	D. Zoro			
	A. Constant C. Infinite	B. Zero D. Continuous flow			
Q.8	The change in internal energy by the system				
Q.o	The change in internal energy by the system	in going through cycle is			
	10				
	(m,)				
		0 30			
	A. $10^7 \pi J$	B. 10 ⁻³ J			
	C. 0	D. $10^2 \pi J$			
Q.9	Which one of the following process has	greater slope in P - V diagram; (Take, V,			
	along x-axis and 'P' along y-axis)				
	A. Isothermal process	B. Process carried out at constant pressure			
_	C. Adiabatic process	D. All have same slope			
Q.10		ts of a gas at constant pressure and volume			
	respectively then the ratio of adiabatic and isothermal moduli of elasticity will be:				
	A. $\frac{C_P - C_V}{B}$ B. $\frac{C_V}{C}$	C C C			
	A. $\frac{C_P - C_V}{C_D}$ B. $\frac{C_V}{C_D}$	C. C_pC_v D. $\frac{C_p}{C_v}$			
Q.11	- P	Ily The specific heat of the gas during			
Q.11	A gas is being compressed adiabatically. The specific heat of the gas during compression is				
	A. Zero	B. Finite but non zero			
	C. Infinite	D. Undefined			
Q.12					
4.12	A system undergoes an adiabatic process in which its internal energy increases by 20 J. Which of the following statements is true?				
	A. 20 J of work was done on the system				
	** ***				
	B. The system received 20 J of energy as heat				
	C. 20 J of work was done by the system D. The system lost 20 J of energy as heat				
Q.13	For the Boyle's law to hold good, the necessary condition is:				
4.10	A. Isothermal	B. Isobaric			
	C. Adiabatic	D. Isoohorio			



For hydrogen gas $C_P - C_V = a$, and for oxygen gas $C_P - C_V = b$, so that relation between a and b given by

A. a = 16 b

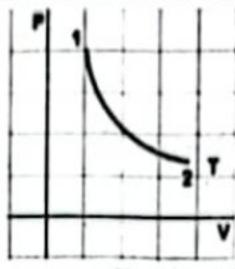
B. a = b

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C. 16a = b

D. a = 4 b

The state of an ideal gas is changed isothermally from position 1 to position 2 is shown below. What is the change in the internal energy of the gas during this process?



 $A. \Delta U = W$

 $B. \Delta U = Q$

 $C. \Delta U > 0$

D. $\Delta U = 0$

Q.16 The graph of isochoric process is called

A. Adiabat

B. Isotherm

C. Isochor

D. Isobar

Cm = (where Cm is constant of proportionality and is known as molar specific heat)

B. $\frac{\Delta Q}{n\Delta T}$

C. $\frac{\Delta Q}{n^2 \Delta T}$

200 g water is heated from 40° C to 60 °C. Ignoring the slight expansion of water, the change in its internal energy is close to (Given specific heat of water = 4184 J/kgK)

A. 167.4 kJ

B. 8.4 kJ

C. 4.2 kJ

D. 16.7 kJ

The internal energy of the gas increases In

A. Adiabatic expansion C. Isothermal expansion

B. Adiabatic compression D. Isothermal compression

An ideal monatomic gas at constant volume has a molar specific heat Cv:

B. 3R/2 D. 7R/2

C. 5R/2

How much heat is needed to raise the temperature of a block of copper (with mass Q.21 0.5 kg) from 0°C to 100° C? (for copper, c = 386 J / kg °C) A. 21 kJ

B. 19.3 kJ

C. 12.4 kJ

D. 6.25 kJ

When 6400 J of heat is supplied to the body and it raises its temperature by Q.22 approximately 100 degrees, then what is its heat capacity?

A. 64 J/K

B. 98 J/K

C. 46 J/K

D. 28 J/K

What is not true for isothermal process

A. $\Delta T > 0$

B. ΔU=0

C. ΔQ=ΔW

D. PV=constant

Q.24 If P = Po and V = Vo gas expands isothermally to P = 3Po then Volume is A. 3V_o

B. 2V_o

C. V₀/3

D. V₀/2

If the system goes from two different paths to same final state, then Q1 and W1 and Q.25 Q2 and W2 are heat absorbed and work done then

A. $Q_1 = Q_2$

B. $W_1=W_2$

C. $Q_1+W_1=Q_2+W_2$ Q.26 Value of Cp -Cv for a monoatomic gas is:

A. 1.67

B. 1.40

C. 1.29

D. None of these

Units of molar specific heat are same as that of

A. Pressure

B. Entropy

C. Molar gas constant

D. Temperature

Heat capacity is Q.28

A. Sum of mass of object and specific heat B. Difference of mass and specific heat

D. $Q_1 - W_1 = Q_2 - W_2$

C. Product of mass and specific heat

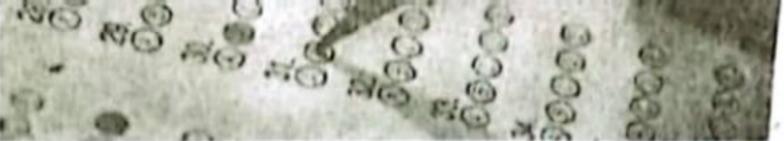
D. None

Addition of heat at constant pressure to give a result in

A. Raising its temperature

- B. Raising its pressure
- C. Raising its volume
- D. Raising temperature and doing external work





When the system is expanded by adding heat energy then the work done is: B. Negative and on the system A. Positive and on the system D. Negative and by the system C. Positive and by the system Which of the terms is related with thermodynamics? C. Boundary B. Surrounding D. All of these A. System For an adiabatic expansion Q.32B. W = -veA. $\Delta U = -ve$ D. $\Delta T = 0$ $C. \Delta U = 0$ Substance which has maximum specific heat capacity is C. Aluminium B. Water D. Mercury A. Copper Graph between pressure and temperature for an ideal gas at constant volume is B. Ellipse A. Straight line D. Sinusoidal C. Parabola In which terms expressed hotness or coldness of an object: B. Heat A. Temperature D. Thermal energy C. Chemical energy For an ideal gas V-T curves as constant pressures P1 & P2 are shown in figure from the figure T-+ B. $P_1 \leq P_2$ A. $P_1 > P_2$ C. $P_1 = P_2$ D. $P_1 \ge P_2$ What are the factor/factors on which the quantity of heat given to a body depends? A. The mass of the body B. The rise (or fall) in the temperature of the body C. Nature of the material of the body D. All of these Q.38 Energy supplied to convert unit mass of substance from solid to liquid state at its melting point is called B. Evaporation A. Latent heat of fusion D. Latent heat of fission C. Solidification The amount of heat required to raise the temperature of 10 moles of water from Q.39 70K to 80K (molar heat capacity of water 75.24J) is: D. 572.4J B. 7524J A: 0.7524J C. 95.24J First law of thermodynamics is applicable for A. Electric potential energy B. Heat energy D. Sound energy C. Strain Energy The internal energy of piece of lead when beaten by a hammer will. B. Remain constant A. Increase D. Sometimes increase and sometime decrease C. Decrease The state of an ideal gas was changed three times at three different temperatures. The diagram represents three different isothermal curves. Which of the following is true about the temperature of the gas? B. $T_1 < T_2 < T_3$ A. $T_1 > T_2 > T_3$ D. $T_1 > T_2 = T_3$ C. $T_1 > T_2 < T_3$ Q.43 The energy transforming processes that occur within an organism are named as B. Food chain A. Metabolism D. Mitochondria C. Catabolism 50 J heat is transferred slowly to a gas which pushes the piston of cross-sectional area 0.2 m2 through a distance of 2.0 cm and pressure of the gas is maintained at 10000 Nm⁻². Change in internal energy of gas during expansion is B. -10 J C. 20 J A. 10 J D. -20 J Which of the following parameters does not characterize the thermodynamic state of matter? A. Temperature B. Pressure C. Work D. Volume A system is given 400 cal of heat and 1000 J of work is done by the system, then the change in internal energy of the system will be. A. -860 J B. 680 erg C. 680 J D. 660 J





- An adiabatic process is also called
 - A. Heat exchange process
- B. Heating process

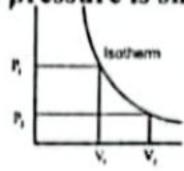
- C. Isentropic process
- D. All of the above The melting point of copper is 1,080°C and its heat of fusion is 200 kJ/kg. If a
- copper coin at this temperature is completely melted by the absorption of 2,000 J of heat, what is the mass of the coin?
 - A. $\frac{1}{1,080}$ kg B. $\frac{1}{540}$ kg C. $\frac{1}{108}$ kg D. $\frac{1}{100}$ kg

- When the temperature of the gas system is changed by 30K and the internal energy of the system is changed by 48J, the molar specific heat of system at constant volume will be:
 - A. 0.6J/mol.K

B. 1.0J/mol.K

C. 1.6J/mol.K

- D. 2.1J/mol.K
- The volume of 1m3 of gas is doubled at atmospheric pressure. The work done at Q.50 constant pressure will be
 - A. 0
- B. 105 cal
- C. 10⁵ J
- D. 105 erg
- What will be the mathematical form of first law of thermodynamics for a system Q.51 whose variation of volume with pressure is shown?



- A.Q = U
- B. $Q = \frac{U}{W}$
- C.U = W
- D. Q = W
- Q.52 If the specific heat capacity of iron is 0.108 call g'C. Then how much heat is sufficient to raise the temperature of 1g of iron through 1C.
 - A. 0.108 calories

B. 108 calories

C. 0.0108 calories

- D. 10.8 calories
- In an isothermal process the volume of an ideal gas is halved. One can say that
 - A. Internal energy of the system decreases B. Work done by the gas is positive C. Work done by the gas is negative
- D. Internal energy of the system increases
- In which of the following processes all three thermodynamic variables, that is, Q.54 pressure, volume and temperature can change?
 - A. Isobaric
- B. Isothermal
- C. Isochoric
- D. Adiabatic
- If Cp = 34.4 J/mol K and value of R is 8.314 then
 - A. Cv = 26.1 J/ mol K

B. Cv = 20.1 J/ mol K

C. Cv = 10.1 J/ mol K

- D. Cv = 120.1 J/ mol K
- Heat added at constant volume of a gas is used to
 - A. To do external work

B. To increase its internal energy

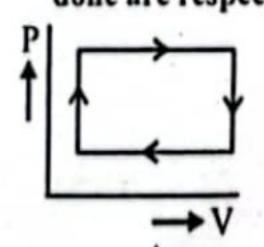
C. Either "A" or "C"

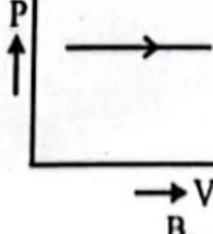
- D. Both "A" and "C"
- When a substance is heated, energy associated with its atoms or molecules:
 - A. Increases

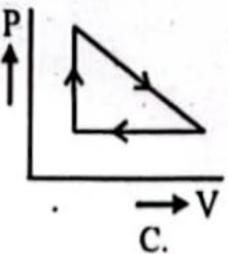
B. Remains same

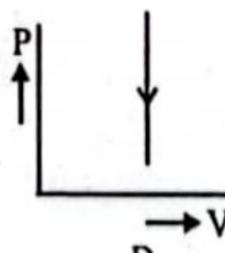
C. Decreases

- D. Becomes zero
- The indicator diagrams representing maximum and minimum amounts of work Q.58 done are respectively









- A. (A) and (C)
- B. (C) and (D)

C. (C) and (B)

- D. (B) and (D)
- Work done by the system on its environment is taken as: Q.59
 - A. Positive

B. Negative

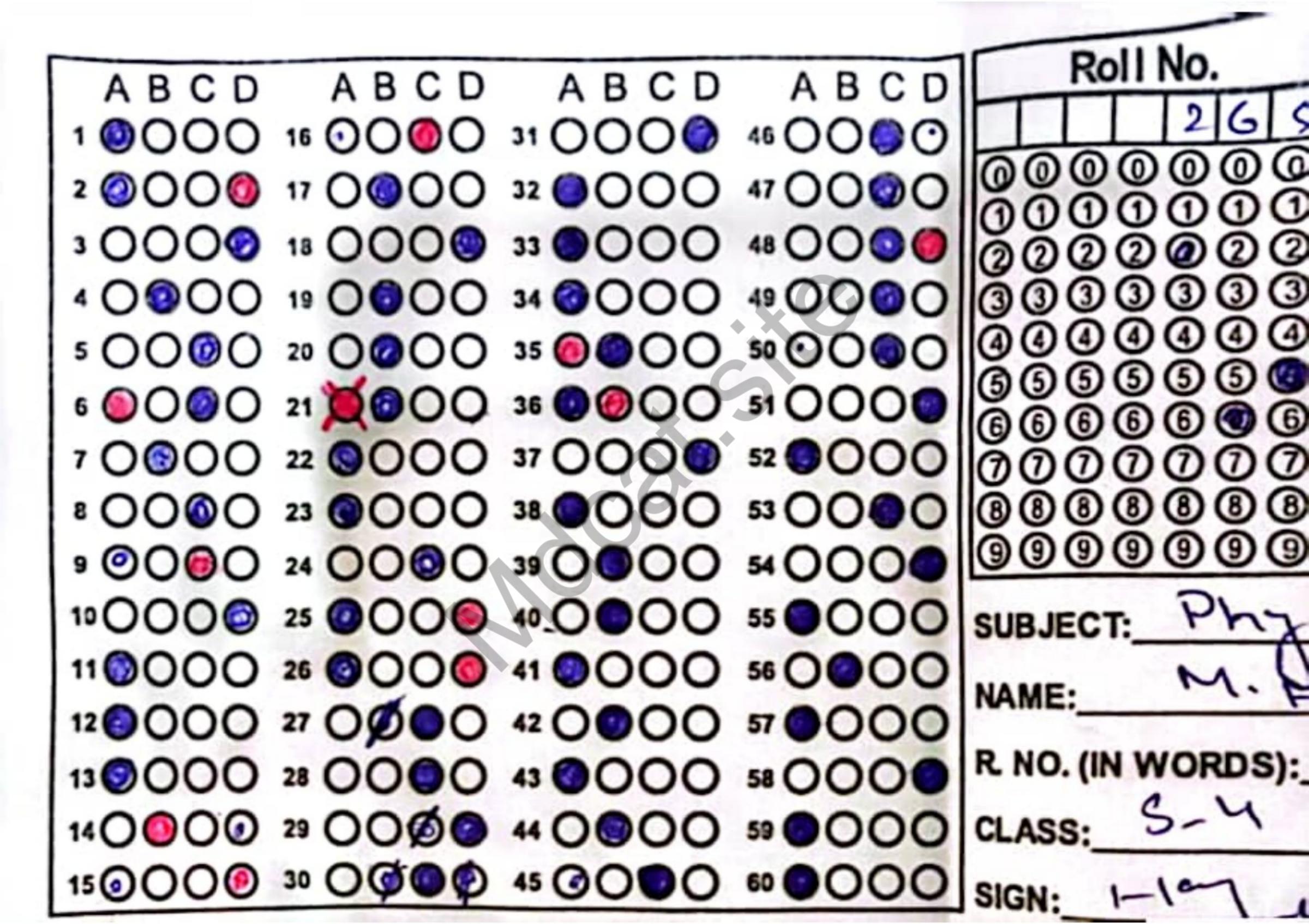
C. Neutral

D. None of these

D. Below zero

- The K.E of molecules of an ideal gas at absolute zero will be: Q.60
 - A. Zero C. Very high

- B. Infinite
- PHYSICS MDCAT UNIT-5 (A+ SERIES)



ENGLISH MDCAT

TEST-5 (A+ SERIES)

	ILUI-U (AT BERIES)			
TOP	CS:			
	MISCELLANEOUS MISTAKES			
*	MODIFIRES			
Direc	tions:			
	Spot the Error.			
Q.1 As (A) the evening advanced ahead(B), the cold became more intense(C), and it induced people				
•	comfort in pleasure(D)			
	A. As B. advanced ahead C. more intense D. in pleasure.			
Q.2	I do not know that what(A) you did all this for(B), and I am not going(C) to ask you to give me an	y		
4	justification.(D)			
	A. that what B. all this for C.am not going D. any justification			
Q.3	George, along with(A) other newcomers, has not completed(B) the assignment yet and(C) Marie hasn't	t		
4.5	neither.(D)			
	A. along with B. has not completed C. yet and D. hasn't neither			
Q.4	The underlying (A) motive behind (A) his kind words was so that(A) he might borrow (D)money from	n		
Q.4				
	Me. A underlying B, behind C, so that D, might borrow			
Q.5	A. underlying B. behind C. so that D. might borrow Modern methods of selecting(A) and to process(B) foods have removed(C) the risk of poisoning from	n		
Q.5				
	A. selecting B. to process C. have removed D. from canned food			
0.6	A. selecting B. to process C. have removed D. from canned food The Magi (A), who(B) brought valuable gifts(C) to newborn Christ, they(D) were very wise people.			
Q.6	C valuable with			
0.7	A. The Magi On the Martian hills, the people from the Earth saw a few(A) people who(B) were friendly(C) and	d		
Q.7				
	nicely.(D) A. a few B. who C. friendly D. nicely			
0.0	A. a few B. who It(A) is a crisis(B) for which(C) she was unprepared for.(D)			
Q.8	D tor			
0.0	A. It Suddenly(A) he stopped at the edge of the meadow(B), taking his pocket knife(C) from his pocket, an	đ		
Q.9				
	A. Suddenly B. stopped at the edge of the meadow			
	71. Deddeing			
0.10	C. taking his knife The tags remain active(A) after we have left the store unless(B) they (C) are not switched off.(D)			
Q.10	A. remain active B. unless C. they D. not switched off			
011	The sun and the other stars (A) we see in the sky they (B) are all too hot for life to exist.			
Q.11				
0.12	A. the other stars B. they (remove they) C. for D. to exist. Humanitarian disasters (A), of which genocide is the most(B) appalling of them (C), are not pretty (D).	1		
Q.12		4		
	A. disasters B. most C. of them D. pretty.			
011	A. disasters B. most C. of them D. pretty. The results(A) of the study were inconclusive (B) therefore(C) more research needs to be done (D) o			
Q.13				
	A. the results B. inconclusive, C. therefore D. to be done			
011	A. the results B. inconclusive, C. therefore D. to be done During (A) the inquisition, Jack was asked that (B) if he had (C) had other (D) affairs.			
Q.14	011			
	A duline			
Q.15	We ordered a more bigger (A) cake than (B) usual in case unexpected (C) guests came to (D) the party	•		
	A. Hibit Diketi Di man			
Q.16	Chips could not (A) scarcely walk, and it (B) was a hard job getting (C) him down (D) the track. A not D. down			
	A. 1101			
Q.17	He would then retreat back, (A) hoping to catch (B) the elusive (C) man in their (D) new round. A retreat back B. to catch C. elusive D. their			
	A. IUU UU VAU			
Q.18	You can find these (A) books either (B) on (C) the table or the shelf. (D)			
4-7-5	A. these B. either C. on D. the shelf			
Q.19	The guru wants his students not only (A) to keep (B) quiet but also(C) doing (D) the task.			
	A. not only B. to keep C. but also D. doing			
Q.20	It was a real fact (A) that its discovery has stimulated (B) new research (C) to find something (D) better	•		
	A. real fact B. has stimulated . C. new research D. something			
Direct	ions:			
	Choose the Correct Option			
Q.21				
	A. At five years old, my father took me to get a haircut for the very first time.			
	B. At five years old, my father took me to get my first haircut.			
	C. My father took me at five years old to get a haircut for the very first time.			
	D. When I was five, my father took me for my first haircut.			
Q.22	D. WHERE I Was 1176, my fauler took me for my first namedt.			
4.22	A She bought a long beautiful white French cills woulding draw			
	A. She bought a long beautiful white French silk wedding dress.			
	B. She bought a beautiful long white French wedding silk dress.			
	C. She bought a beautiful white long French silk wedding dress			

P	KIPS ENTRY TESTS	140	S.O.	PIO PI	A 6 8 6 .	8	9 6
		20	CD.		" ON WO"	80 . S	8 8
.23			-			40	(0)
).24	A.I have watched a lot of interestin C.I have watched a lot of interestin				re watched a lot of watched a lot		movies lately. movies recently.
	A. If you don't have money enough B. If you don't have enough money C. If you don't have enough money D. If you don't have enough money	, I can ler	nd you s lend you	ome.			
2.25	A. My new computer is much better to C. My new computer is much better to				new computer is t		
	A. The valley lay quietly and peace B. The valley lay in a quietly and p C. The valley lay in quiet and peace D. The valley lay quiet and peaceful	eacefully	way in e sun.	the sun.			
2.27	A. Dad walks impatiently into town B. Dad walks into town impatiently C. Dad walks every afternoon impa D. Dad impatiently walks into town	y every af attently in	ternoon to town	before so	upper to get a ne	wspaper. wspaper.	
2.28	A. The work was hard at the begins B. The work was hard at the begins C. The work was hardly at the begin D. The work was hardly at the begin	ning, but s	she soon	got used on got us	to it.		
2.29	A. Whenever Mr. Steward came to B. Whenever Mr. Steward came to C. Whenever Mr. Steward came to D. Whenever Mr. Steward came to	meet Nor meet Nor	rma, she rma, she	smiled i	n a friendly man riendly manner.		
).30	A. The new President was welcome B. The new President was welcome C. The new President was cordially D. The new President was welcome	ed in the o	evening irport c	at the air ordially i	port cordially. n the evening. at the airport.	anner.	
directi 2.31	Fill in the Blanks She is the of the two sisters						
2.32	A. older His wife's rude behaviour gives h	t	ain.	C. elde	r	D. eldest	
2.33	A. much so I shall be visiting B. much	too		C. muc		D. too m	iuch
	A. For a few days in Paris in July C. in July Paris for a few days				s in July for a fe s for a few days i		
xplan	(Place +Frequency +Time)						
2.34	A. the most friendly B. a most			C. mos	t friendly	D. the n	nost friendliest
2.35	A. white small concrete B. white		small	C. con	crete small white	e D. smal	I white concrete
.36	Aisha is of the two candi A. better B. best	dates.		C. the	better	D. the b	pest
2.37		ost intellig		C. as in	telligent as	D. as m	ore intelligent as
.38	A. that of Ali's B. Ali's		120		car of Ali's	D. Ali	
.40	A. while Walking home at night C. when Walking home at night Painting for three hours at night		эрооку	B. As J	onas was walki Walking home a	_	night
.40	A. Maggie finally finishing the kitch C. the kitchen was finally finished b	hen	e		kitchen finally f		

