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	a) $\lambda_2 = 1$	$D / n_1 - 2n_2$	$\nabla \lambda_1 = \nabla 25 \times 50\lambda_2$	$u) 2n_1 - n_2$
4.	Splitting of spectral lin	ies in an electric field	is called	
	a) Zeeman effect	b)Shielding effe	ect c) Compton effect	d) Stark effe
5.	Based on equation E=	$= -2.178 \times 10^{-18} J \left \frac{Z^2}{n^2} \right ,$	certain conclusions are writ	ten. Which of th
	not correct?(NEET)			
	a) Equation can be use	ed to calculate the cha	nge in energy when the elect	ron changes orbit.
	b) For n=1, the electro	on has more negative	e energy than it does for n=6	which means that
	electron is more loosely	y bound in the smalle	st allowed orbit.	
	c) The negative sign in	i equation simply mea	ans that the energy of electro	n bound to the nu
	is lower than it would	be if the electrons we	re at the infinite distance from	n the nucleus.
	d) Larger the value of	n, the larger is the O	·bit radius.	
6.	According to the Boh	r Theory, which of t	he following transitions in tl	he hydrogen aton
	give rise to the least en	ergetic photon?		
	a) n=6 to n=1	b) n=5 to n=4	c) n=5 to n=3	d) n=6 to n=3
7.	Assertion : The spectre	um of <i>He</i> ⁺ is expecte	d to be similar to that of hydi	rogen
	Reason : He^+ is also o	ne electron		
	a) If both assertion and	d reason are true and	reason is the correct explana	tion of assertion.
	b) If both assertion and	d reason are true but	reason is not the correct expl	anation of asserti
	c) If assertion is true b	ut reason is false d) If both assertion and reason	are false
8.	Which of the following	g pairs of d-Orbitals v	vill have electron density alon	g the axes?
	a) $d_Z 2, d_{XZ}$,	b) d_{XZ} , d_{YZ} ,	c) $d_Z 2$, d_{x2-y2}	d) d_{XY} , d_{X2-2}
9.	Two electrons occupyi	ng the same orbital a	re distinguished by	5
7	–a) azimuthal quantum	number) b) spin quantum number	
\	c) magnetic quantum I	number d) orbital quantum number	
10	. The electronic configu	ration of Eu(Atomic 1	no-63) Gd(Atomic no-64) and	Tb(Atomic no-65
	a) [Xe] $4f^65d^16s^2$, [Xe]	$e]4f^{7}5d^{1}6s^{2}$ and $[Xe^{2}]$	$e]4f^85d^16s^2$	
	b) [Xe] 4f ⁷ , 6s ² , [Xe] 4	f ⁷ 5d ¹ 6s ² and [Xe]4	$f^{9}6s^{2}$	
	c) [Xe] 4f ⁷ 6s ² , [Xe]4f	f ⁸ 6s ² and [Xe]4f ⁸ 5d	$l^{1}6s^{2}$	
	d) [Xe] $4f^65d^16s^2$, [X	$e]4f^{7}5d^{1}6s^{2}and[X]$	$e]4f^{9}6s^{2}$	
11	. The maximum number	r of electrons in a sub	shell is given by the expression	on
	a) $2n^2$	b) 2l+1	c) 4l+1	d) none of th
12	. For d-electron, the orb	oital angular moment	um is	
	$\frac{2h}{2}$	b) $\sqrt{2h}$	$(2\times 4h)$	d) $6h$
	$\sqrt{2\pi}$	$\sqrt{2\pi}$	$\sqrt{\frac{2\pi}{2\pi}}$	$\sqrt{2\pi}$
	. What is the maximum	n number of electron	ns that can be associated wi	ill the following s
13	quantum numbers? n=	=3,l=1 and m=-1		
13	a) 4	b) 6	c) 2	d) 10
13		radial and angular n	odes for 3p orbital are 1, 1 re	spectively.
13 14	Assertion : Number of			quantum numba
13 14	Assertion : Number of Reason : Number of ra	adial and angular nod	es depends only on principal	quantum number
13 14	 Assertion : Number of Reason : Number of ra a) both assertion and 	adial and angular nod reason are true and re	es depends only on principal eason is the correct explanati	on of assertion.
13 14	 Assertion : Number of Reason : Number of ra a) both assertion and b) both assertion and 	adial and angular nod reason are true and re reason are true but re	es depends only on principal eason is the correct explanati eason is not the correct explan	on of assertion.
13	 Assertion : Number of Reason : Number of ra a) both assertion and b) both assertion and c) assertion is true but 	adial and angular nod reason are true and r reason are true but re t reason is false	les depends only on principal eason is the correct explanati eason is not the correct explan d) both assertion and	on of assertion. nation of assertior reason are false
13 14 15	 Assertion : Number of Reason : Number of ra a) both assertion and b) both assertion and c) assertion is true but The total number of or 	adial and angular nod reason are true and re reason are true but re t reason is false rbitals associated with	les depends only on principal eason is the correct explanati eason is not the correct explan d) both assertion and n the principal quantum num	on of assertion. nation of assertior reason are false ber n=3 is
13 14 15	 Assertion : Number of Reason : Number of ra a) both assertion and b) both assertion and c) assertion is true but The total number of or a) 9 	adial and angular nod reason are true and re reason are true but re t reason is false rbitals associated with b) 8	les depends only on principal eason is the correct explanati eason is not the correct explan d) both assertion and the n the principal quantum num c) 5	on of assertion. nation of assertior reason are false ber n=3 is d) 7
13 14 15	 Assertion : Number of Reason : Number of ra a) both assertion and b) both assertion and c) assertion is true but The total number of or a) 9 	adial and angular nod reason are true and re reason are true but re t reason is false rbitals associated with b) 8	les depends only on principal eason is the correct explanati eason is not the correct explan d) both assertion and the n the principal quantum num c) 5	on of assertion. nation of assertior reason are false ber n=3 is d) 7

16. If n=6, the correct sequence for filling of electrons will be, a) ns $\rightarrow (n-2)f \rightarrow (n-1)d \rightarrow np$ b) ns $\rightarrow (n-2)f \rightarrow np \rightarrow (n-1)d$ d) none of 17. Consider the following sets of quantum numbers: n l m s	
16. If n=6, the correct sequence for filling of electrons will be, a) ns \rightarrow $(n-2)f \rightarrow (n-1)d \rightarrow np$ b) ns \rightarrow $(n-1)d$ c) ns \rightarrow $(n-2)f \rightarrow np \rightarrow (n-1)d$ d) none of 17. Consider the following sets of quantum numbers: n l m s	
a) $ns \rightarrow (n-2)f \rightarrow (n-1)d \rightarrow np$ b) $ns \rightarrow (n-1)d$ c) $ns \rightarrow (n-2)f \rightarrow np \rightarrow (n-1)d$ d) none of 17. Consider the following sets of quantum numbers: n l m s	
c) $ns \rightarrow (n-2)f \rightarrow np \rightarrow (n-1)d$ d) none of 17. Consider the following sets of quantum numbers: n l m s	$(n-1)d \to (n-2)f \to np$
17. Consider the following sets of quantum numbers:	f these are correct
n l m s	
(i) 3 0 0 $+1/2$	
(ii) 2 2 1 $-1/2$	
(iii) 4 3 $-2 + 1/2$	
(iv) 1 0 -1 + $1/2$	
(v) 3 4 3 -1/2	
Which of the following sets of quantum number is not possible (i) (ii) (iii)	
a. (i),(ii),(iii) and (iv) b) (ii),(iv),(v) c) (i) and (iv) $(i) = (i) + (i) $	$\begin{array}{c} (iii) \\ d) (ii), (iii) \text{ and } (iv) \\ \vdots \\ d) (ii), (iii) \text{ and } (iv) \\ \vdots \\ d) (iv) \\ d \\ $
18. How many electrons in an atom with atomic number 105 ca	an have $(n+1)=8?$
a) 50 b) 17 c)15	d) unpredictable
19. Electron density in the yz plane of $3a_{x^2-y^2}$ orbital is a)	Zero D) 0.50 C) 0.75 d) 0.90
20. If uncertainty in position and momentum are equal, then m	nnimum uncertainty in velocity is
a) $\frac{1}{h}$ b) $\frac{h}{h}$ c) $\frac{1}{h}$	d) $\frac{h}{h}$
$m\sqrt{\pi}$ $\sqrt{\pi}$ $2m\sqrt{\pi}$	4π
21. A macroscopic particle of mass 100 g and moving at a v	elocity of 100 cm S^- will have a
Broglie wavelength of a) 6.6×10^{-29} cm b) 6.6×10^{-30} cm	n c) 6.6× 10 ⁻³¹ cm d) 6.6× 10 ⁻³² c
22. The ratio of de Broglie wavelengths of a deuterium atom	to that of an α -particle, when the table of a table of a table of a table of a table of ta
velocity of the former is five times greater than that of later	c, is a) 4 b) 0.2 c) 2.5 d) 0.4
23. The energy of an electron in the 3^{rd} orbit of hydrogen ator	n is –E. The energy of an electron
the first orbit will bea) $-3E_{-}$ b) $-E/3$ c)	
	-E/9 _ u)-9L \ II _ / L
24. Time independent Schordinger wave equation is	
24. Time independent Schordinger wave equation is $\sum_{n=1}^{n} \frac{1}{2} \left(\frac{1}{2} - \frac{1}{2} \right) \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) \frac{1}{2} \left(\frac{1}{2} - \frac{1}{2} $	$\frac{-\mathbf{E}}{2\varphi} + \frac{2\hat{m}}{2} \left(\mathbf{E} - \mathbf{V} \right) \left(\mathbf{e} - 0 \right) \left$
24. Time independent Schordinger wave equation is a) ${\bigwedge_{H}} \varphi = E \varphi$ b) $\nabla^2 \varphi + \frac{8\pi^2 m}{h^2} (E+V) \varphi = 0$ c) $\frac{\partial^2 \varphi}{\partial x^2} + \frac{\partial^2 \varphi}{\partial y^2} + \frac{\partial}{\partial y^2} + \frac{\partial}$	$\frac{2\varphi}{h^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d) all of the}$
24. Time independent Schordinger wave equation is a) $\bigwedge_{H} \varphi = E \varphi$ b) $\nabla^2 \varphi + \frac{8\pi^2 m}{h^2} (E+V) \varphi = 0$ c) $\frac{\partial^2 \varphi}{\partial x^2} + \frac{\partial^2 \varphi}{\partial y^2} + \frac{\partial}{\partial y^2}$ 25. Which of the following does not represent the mathematical schematic states and the schematic schematic states are also be a schematic sc	$\frac{2\varphi}{k^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d) all of the}$ tical expression for the Heisenberg
24. Time independent Schordinger wave equation is a) $\bigwedge_{H} \varphi = E \varphi$ b) $\nabla^2 \varphi + \frac{8\pi^2 m}{h^2} (E + V) \varphi = 0$ c) $\frac{\partial^2 \varphi}{\partial x^2} + \frac{\partial^2 \varphi}{\partial y^2} + \frac{\partial}{\partial y^2}$ 25. Which of the following does not represent the mathematuncertainty principle? a) Δx . $\Delta p \ge h/4\pi$ b) Δx . $\Delta v \ge h/4\pi$ m	$\frac{2\varphi}{x^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d) all of the}$ tical expression for the Heisenbern c) $\Delta E. \Delta t \ge h/4\pi \text{ d}$ $\Delta E. \Delta x \ge h/4\pi$
24. Time independent Schordinger wave equation is a) $\bigwedge_{H} \varphi = E \varphi$ b) $\nabla^2 \varphi + \frac{8\pi^2 m}{h^2} (E+V) \varphi = 0$ c) $\frac{\partial^2 \varphi}{\partial x^2} + \frac{\partial^2 \varphi}{\partial y^2} + \frac{\partial}{\partial}$ 25. Which of the following does not represent the mathema uncertainty principle? a) Δx . $\Delta p \ge h/4\pi b$) Δx . $\Delta v \ge h/4\pi m$	$\frac{2\varphi}{k^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d) all of the}$ tical expression for the Heisenbern c) $\Delta E. \Delta t \ge h/4\pi \text{ d}$ $\Delta E. \Delta x \ge h/4\pi$
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 24. Time independent Schordinger wave equation is a) ^Λ_Hφ = Eφ b) ∇²φ + ^{8π²m}/_{h²} (E + V)φ = 0 c) ^{∂²φ}/_{∂x²} + ^{∂²φ}/_{∂y²} + [∂]/_∂ 25. Which of the following does not represent the mathema uncertainty principle? a) Δx. Δp ≥ h/4πb) Δx. Δv ≥ h/4πn Unit - 3 Periodic classification of 1. What would be the IUPAC name for an element with atom a) bibibilium b) bididium c) didibium 2. The electronic configuration of the element A and B are respectively. The formula of the ionic compound that can b a) AB b) AB₂ c) A₂B 	$\frac{2\varphi}{ x ^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d} \text{ all of the}$ tical expression for the Heisenbern c) ΔE . $\Delta t \ge h/4\pi$ d) ΔE . $\Delta x \ge h/4\pi$ f elements ic number 222? d) bibibium $1s^2, 2s^2, 2p^6, 3s^2, and 1s^2, 2s^2, 2p^2$ be formed between these element is d) none of the above
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 24. Time independent Schordinger wave equation is a) ^Λ_Hφ = Eφ b) ∇²φ + ^{8π²m}/_{h²} (E + V)φ = 0 c) ^{∂²φ}/_{∂x²} + ^{∂²φ}/_{∂y²} + [∂]/_∂ 25. Which of the following does not represent the mathema uncertainty principle? a)Δx. Δp ≥ h/4πb)Δx. Δv ≥ h/4πn Unit - 3 Periodic classification o 1. What would be the IUPAC name for an element with atom a) bibibiium b) bididium c) didibium 2. The electronic configuration of the element A and B are respectively. The formula of the ionic compound that can b a) AB b) AB₂ c) A₂B 3. The group of elements in which the differentiating electron atoms are called a) p-block elements d) f-block 4. In which of the following options the order of arrangement 	$\frac{2\varphi}{ x ^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d} \text{ all of the}$ tical expression for the Heisenbern $a c)\Delta E. \Delta t \ge h/4\pi d)\Delta E. \Delta x \ge h/4\pi$ f elements ic number 222? d) bibibium $1s^2, 2s^2, 2p^6, 3s^2, and 1s^2, 2s^2, 2s^2$ be formed between these element is d) none of the above in enters the anti penultimate shell is elements it does not agree with the variation
 24. Time independent Schordinger wave equation is a) [∧]_Hφ = Eφ b) ∇²φ + ^{8π²m}/_{h²} (E + V)φ = 0 c) ^{∂²φ}/_{∂x²} + ^{∂²φ}/_{∂y²} + [∂]/_∂ 25. Which of the following does not represent the mathema uncertainty principle? a) Δx. Δp ≥ h/4πb) Δx. Δv ≥ h/4πn Unit - 3 Periodic classification o 1. What would be the IUPAC name for an element with atom a) bibibiium b) bididium c) didibium 2. The electronic configuration of the element A and B are respectively. The formula of the ionic compound that can b a) AB b) AB₂ c) A₂B 3. The group of elements in which the differentiating electror atoms are called a) p-block elements b) d-block c) s-block elements d) f-block 4. In which of the following options the order of arrangement property indicated against it? 	$\frac{2\varphi}{ x ^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d} \text{ all of the}$ tical expression for the Heisenber $a c)\Delta E. \Delta t \ge h/4\pi d)\Delta E. \Delta x \ge h/4$ f elements ic number 222? d) bibibium $1s^2, 2s^2, 2p^6, 3s^2, and 1s^2, 2s^2, 2z^2$ be formed between these element is d) none of the above n enters the anti penultimate shell s elements is elements t does not agree with the variation
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 24. Time independent Schordinger wave equation is a) ^Λ_Hφ = Eφ b) ∇²φ + ^{8π²m}/_{h²} (E + V)φ = 0 c) ^{∂²φ}/_{∂x²} + ^{∂²φ}/_{∂y²} + [∂]/_∂ 25. Which of the following does not represent the mathema uncertainty principle? a) Δx. Δp ≥ h/4πb)Δx. Δv ≥ h/4πn Unit - 3 Periodic classification o 1. What would be the IUPAC name for an element with atom a) bibibiium b) bididium c) didibium 2. The electronic configuration of the element A and B are respectively. The formula of the ionic compound that can b a) AB b) AB₂ c) A₂B 3. The group of elements in which the differentiating electror atoms are called a) p-block elements b) d-block c) s-block elements d) f-block 4. In which of the following options the order of arrangement property indicated against it? a) I< Br < Cl < F(increasing electron gain enthalpy) metallic radius) c) Al³⁺ < Mg²⁺ < Na⁺ < F⁻(increasing) 	$\frac{2\varphi}{ x ^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d} \text{ all of the}$ tical expression for the Heisenber $a c)\Delta E. \Delta t \ge h/4\pi d)\Delta E. \Delta x \ge h/4$ f elements ic number 222? d) bibibium $1s^2, 2s^2, 2p^6, 3s^2, and 1s^2, 2s^2, 2s^2$ be formed between these element is d) none of the above a enters the anti penultimate shell k elements it does not agree with the variation b) Li < Na < K < Rb(increasi sing ionic size)
 24. Time independent Schordinger wave equation is a) ^Λ_Hφ = Eφ b) ∇²φ + ^{8π²m}/_{h²} (E + V)φ = 0 c) ^{∂²φ}/_{∂x²} + ^{∂²φ}/_{∂y²} + [∂]/_∂ 25. Which of the following does not represent the mathema uncertainty principle? a)Δx. Δp ≥ h/4πb)Δx. Δv ≥ h/4πn Unit - 3 Periodic classification o 1. What would be the IUPAC name for an element with atom a) bibibiium b) bididium c) didibium 2. The electronic configuration of the element A and B are respectively. The formula of the ionic compound that can b a) AB b) AB₂ c) A₂B 3. The group of elements in which the differentiating electror atoms are called a) p-block elements b) d-block c) s-block elements d) f-block 4. In which of the following options the order of arrangement property indicated against it? a) I< Br < Cl < F(increasing electron gain enthalpy) metallic radius) c) Al³⁺ < Mg²⁺ < Na⁺ < F⁻(increasing first ionization enthalpy) 	$\frac{2\varphi}{ x ^2} + \frac{2m}{h^2}(E - V)\varphi = 0 \text{ d} \text{ all of the}$ tical expression for the Heisenber $a c)\Delta E. \Delta t \ge h/4\pi d)\Delta E. \Delta x \ge h/4$ f elements ic number 222? d) bibibium $1s^2, 2s^2, 2p^6, 3s^2, and 1s^2, 2s^2, 2s^2$ be formed between these element is d) none of the above a enters the anti penultimate shell a elements t does not agree with the variation b) Li < Na < K < Rb(increasing ionic size)
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http://www.trbtnpsc.com/2018/06/latest-plus-one-11th-study-materials-tamil-medium-english-medium-new-syllabus-based.html

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6.	Various successive	e ionization enthal	pies (in kj <i>mol</i> ⁻¹)	of an element are gi	ven below.
	<i>IE</i> ₁	<i>IE</i> ₂	<i>IE</i> ₃	<i>IE</i> ₄	<u>IE5</u>
	577.5		2,750	11,580	14,820
7	I ne element is	a) pnospnorou	S D) SOCIUM	c) Alumini the order	um a) sinc
/.	In the thru period a Na $>$ Al $>$ Mg $>$	$\mathbf{S} = \mathbf{S} + \mathbf{D}$	b) Nor Al \sim Mg \sim	the order. Si $\sim D$	
	a) Na $>$ Al $>$ Mg $>$	$\sim D > \Delta I$	d) Na< Al < Mg <	SI < P	
8	Identify the wrong	r statement	$\mathbf{u} \in \mathbf{M} = $	51 < 1	
0.	a) amongst the iso	electronic species	s smaller the positi	ive charge on cation	n. smaller is the i
	radius b) Amongs	st isoelectric speci	ies greater the neg	ative charge on the	e anion, larger is
	ionic radius	L.	8 8	8	/ 8
	c) Atomic radius	of the element in	creases as one mov	ves down the first g	group of the peri
	table				
	d) Atomic radius	of the elements d	lecreases as one m	oves across from le	eft to right in the
	period of periodic	table			
9.	Which one of the	following arrange	ements represent th	e correct order of l	east negative to
	negative electron g	gain enthalpy a	$\mathbf{A} \mathbf{A} \mathbf{I} < 0 < C < Ca$	< F b) Al $< Ca$	< 0 < C < F
		($\mathbf{C} < F < 0 < Al < \mathbf{C}$	< Ca d) Ca $< Al$	< C < 0 < F
10	. The correct order	of electron gain e	enthalpy with negat	ive sign of F, Cl, Br	and I having at
	number 9, 17, 35 a	and 53 respectively	y is a) $I > Br > 0$	Cl > F b) F > $Cl >$	r Br > I
			c) Cl> $F > I$	Br > l d) $Br > l > l$	Cl > F
11	. Which one of the f	following is the lea	st electronegative	element?	
-2	a) Bromine	b) Chlo	rine	c) lodine	d) Hydrogen
12	. The element with	positive electron g	ain enthalpy is		
12	a) Hydrogen V	$\nabla = (2 - D)$ Source	um SP SSD (C) Argon (220)	a) Fluorine
13	atomic numbers 4	8 7 and 12 rospoo	trollegativity value $f(x) = x + \frac{1}{2} = x + \frac{1}{2}$	s among the element $(> 4 > b) 7 > 4 > b$	V > V
	atomic numbers 4	,0,7 and 12 respec	(ivery a) $1 > L > X$	A = 0 $Z > A > 0$	I > X A > 7
14	Assertion • Heliun	n has the highest v	value of ionization e	energy among all the	e elements
11	Reason: Helium h	as the highest value	ie of electron affini	ty among all the ele	ments known
	a) Both assertion	and reason are tr	ue and reason is the	e correct explanation	n of assertion.
	b) Both assertion	and reason are tr	ue but reason is no	t the correct explana	ation of assertion
	c) Assertion is tru	e but reason is fal	lse d) Bo	th assertion and rea	son are false
15	. The electronic co	nfiguration of th	e atom having m	aximum difference	in first and see
	ionization energies	s is a) 1s ² , 2s ² , 2p	⁶ , 3 <i>s</i> ¹	b) 1s ² , 2s ²	, $2p^6$, $3s^2$
		c) $1s^2$, $2s^2$, $2p$	⁶ , 3s ² , 3s ² , 3p ⁶ , 4s ¹	d) $1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^1$
16	. Which of the follo	wing is second mo	st electronegative e	element?	
	a) Chlorine	b) Fluo	rine	c) Oxygen	d) Sulphur
17	IE_1 And IE_2 of	Mg are 179 and	348 kcalmol ⁻¹ res	pectively. The energy	rgy required for
	reaction $Mg \rightarrow Mg$	$y^{+} + 2e^{-}$ is a	a) +169kcalmol ⁻¹	b) -169 kca	lmol ⁻¹
	_	•	c) +527kcalmol ^{-1}	d) -527 kca	lmol ⁻¹
18	In a given shell the	e order of screenii	ng effect is		.
	a) $s > p > d > f$	b) $s > p$	> f > d	c) $\mathbf{f} > d > p > s$	d) f > $p > s >$
19	. Which of the follo	wing orders of ion	ic radii is correct?	·	.
	a) $\mathbf{H}^- > \mathbf{H}^+ > H$	b) Na ⁺	$> F^{-} > 0^{2^{-}}$	c) $F > 0^{2^-} > Na^+$	d) None of the
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	a) 760 kJ mc	ol^{-1}	b) 575 kJ mol	⁻¹ c) 80	1 kJ mol ⁻¹	d) 419 kJ mol ⁻
21.	Which of the	following i	s true about meta	llic character whe	en we move fr	om left to right in
	period and to	p to bottom	in a group?			
	a) Decreases	in a period a	and increases along	g the group		
	b) Increases i	n a period a	nd decreases in a	group		
	c) Increases	both in the p	period and the gro	սթ		
	d) Decreases	both in the j	period and in the g	group		
22.	How does ele	ctron affinit	ty change when w	e move from left t	o right in a p	eriod in the perio
	table?	a) General	ly increases	b) Generally	y decreases	_
		c) Remains	sunchanged	d) first incr	eases and ther	decreases
23.	Which of the	following pa	airs of elements ex	hibit diagonal rela	tionship?	
	a) Be and Mg	g	b) Li and Mg	c) Be and B		d) Be and Al
			<u>Unit – 4</u>	<u>Hydrogen</u>		
1.	Which of the	following st	atements about hy	drogen is incorrec	et?	
	a) Hydrogen	ion, H_3O^+ ey	xists freely in solut	ion b) Dihydrog	gen acts as a r	educing agent
	c) Hydrogen	has three iso	otopes of which tri	tium is the most co	ommon	
2	d) Hydrogen	never acts a	is cation in ionic satisfies $L(\alpha) = L(\alpha)$	llts		
2. 2	Water gas is	a) fallowing at	$I_2 U(g)$ D) $U(f)$	$H_2 U$ C) U	J+H ₂	a) $CO + N_2$
3.	a) They are n	Tonowing St Welcor enin	isomors	ect with regard to	ortho and par	ra umyurogen:
	b) Ortho ison	ner has zero	nuclear snin when	e as the nara ison	er has ene nu	clear snin
	c) The para is	somer is fav	oured at low temp	erature		
	d) The therm	al conductiv	vity of the para iso	mer is 50 % great	er than that o	f the ortho isomer.
4.	Ionic hydride	s are forme	d by a) halogens	b) chalogens c) ine	ert gases d) gro	oup one elements
5.	Tritium nucle	eus contains	a) 1p+0n b	b) 2p+ 1n c) 1p	+2n d) n	one of these
6.	Non-stoichion	metric hydri	ides are formed by			
	a) palladium,	vanadium	b) carbon, nick	c) mangane	se, lithium d)	nitrogen, chlorine
7.	Assertion : Po	ermanent ha	ardness of water is	removed by treat	ment with wa	shing soda
	Reason : Wa	shing soda i	react with soluble	calcium and mag	nesium chlori	des and sulphates
	hard water to) form insolu	uble carbonates			
	a) both asser	tion and rea	ason are true and r	eason is the corre	ct explanation	of assertion.
	b) both asser	tion and rea	ason are true but r	eason is not the co	rrect explana	tion of assertion.
~	c) assertion i	s true but re	eason is false	d) both ass	ertion and rea	son are false
8.	If a body of a	i fish contai	ns 1.2 g hydrogen	in its total body n	ass if all the l	iydrogen is replac
	with deuteriu	m then the	increase in body w	eight of the fish w	ill be	<u> </u>
_	a) 1.2 g	_	b) 2.4 g	c) 3.6 g	d) √	4.8 <i>g</i>
9.	The hardnes	s of water ca	an be determined l	by volumetrically	using the reag	ent
10	a) Sodium thi	io sulphate	b) potassium p	ermanganate	c) hydroger	n peroxide d) ED7
10.	The cause of (UCC)	permanent	hardness of water $A = (HCC)$	is due to	11 8 /	
11	a) Ca (HCO_3)	J_2 b) N	$(HU)_3)_2$	c) Ca $\mathcal{C}l_2$	d) N	$\operatorname{Igc} U_3$
11.	Leonte used t	o sonten har	runess of water is,	nyaratea a) So	alumini	um silicate
	A commencie	lummum SL	hydrogon norseid	aummum Dorate		moons that
17	A commercia	I SAMPLE OF	nyurugen peroxide	markeu as 100 Vo	nume $\pi_2 U_2$ it	means mat
12.		•				

	a) 1 ml of H_2O_2 will give 100 ml O_2 at STF	b) 1 L of H_2O_2 will give 100 ml O_2 at STP
10	c) I L of H_2O_2 will give 22.4 L O_2	d) I ml of H_2O_2 will give I mole O_2 at STP
13.	When hydrogen peroxide is shaken with	an acidified solution of potassium dichromate
	presence of etner, the etnereal layer turns	blue due to the formation of
	a) Cr_2O_3 b) CrO_4^2	c) $CrO(O_2)_2$ d) none of these
14.	For decolourisation of 1 mole of acidified <i>I</i>	$(MnO_4, the moles of H_2O_2 required is$
	a) ¹ / ₂ b) 3/2	c) 5/2 d) 7/2
15.	Volume strength of $1.5 \text{ N} H_2 O_2 \text{ is}$ a) 1.5	b) 4.5 c) 16.8 d) 8.4
16.	The hybridization of oxygen atom is H_2O a	and H_2O_2 are respectively
	a) sp and sp^3 b) sp and sp	c) sp and sp^3 d) sp^3 and sp^3
17.	The reaction $H_3Po_2 + D_2O \rightarrow H_2DPO_2 +$	HDO indicates that hypo-phosphourus acid is
	a) tribasic acid b) dibasic acid	c) mono basic acid d) none of these
18.	In solid ice, oxygen atom is surrounded	
	a) tetrahedrally by 4 hydrogen atoms	b) octahedrally by 2 oxygen and 4 hydrogen atoms
	c) octahedrally by 2 hydrogen and 2 oxyge	n atoms d) octahedrally by 6 hydrogens atom
19.	The type of H-bonding present in ortho nit	ro phenol and p-nitro phenol are respectively
	a) inter molecular H-bonding and intra mo	olecular H-bonding
	b) intra molecular H-bonding and inter me	blecular H-bonding
	c) intra molecular H-bonding and no H-bo	nding
	d) intra molecular H-bonding and intra me	olecular H-bonding
20.	Heavy water is used as a) moderator i	n nuclear reactions b) coolant in nuclear reaction
	c) both (a) and	d) none of these
21.	Water is a a) basic oxide b) acid	c oxide c) amphoteric oxide d) none of these
$\sum_{i=1}^{n}$	<u>Unit – 5 Alkali and</u>	alkaline earth metals
1	For alkali metals, which one of the following	a trands is incorrect?
1.	a) Hydration energy \cdot I iNa>K>Rh	h) Ionication energy · L i>Na>K>Rh
	c) Density $\cdot I$ i>Na>K>Rh	d) Atomic size $\cdot L$ is Na>K>Rb
2	Which of the following statements is incorr	ent?
2.	a) Ii^+ has minimum degree of hydration a	mong alkali metal cations
	a) Dt has minimum degree of hydration a b) The oxidation state of K in KO_{-} is ± 1	mong aikan metai cations
	c) Sodium is used to make Na/Ph allow	d) MaSQ is readily soluble in water
2	Which of the following compounds will not	$H = 10^{-10} H$ and $H = 10^{-10} H$ and $H = 10^{-10} H$
5.	a) athenois acid b) athenol	a) phonol d) pone of these
1	Which of the following has the h	c) phenon u) none of these isobast tendency to give the repetion $M^+($
4.	Aqueous medium	ignest tendency to give the reaction M (
	$\xrightarrow{\text{macroas modular}} M^+(aq) \qquad \text{a) Na}$	b) Li c) Rb d) K
5.	Sodium is	stored
	a) alcohol b) water	c) kerosene d) none of these
6.	<i>RbO</i> ₂ is a) superoxide and paramagn	etic b) peroxide and diamagnetic
	c) superoxide and diamagne	tic d) peroxide and paramagnetic
7.	Find the wrong statement	
	a) sodium metal is used in organic qualitat	ive analysis
	b) sodium carbonate is soluble in water an	d it is used in inorganic qualitative analysis
	c) potassium carbonate can be prepared by	y solvay process
	d) potassium bicarbonate is acidic salt	~ .

	a) sodium	b) magnes	ium	c) calcium	d) aluminium
9.	In case of alkali n	netal halides, the ioni	c character inc	reases in the order	
	a) MF <mcl<mb< td=""><td>r<mi b)="" mi<mf<="" td=""><td>3r<mcl<mf< td=""><td>c) MI<mbr<mf<< td=""><td>MCl d) none of t</td></mbr<mf<<></td></mcl<mf<></td></mi></td></mcl<mb<>	r <mi b)="" mi<mf<="" td=""><td>3r<mcl<mf< td=""><td>c) MI<mbr<mf<< td=""><td>MCl d) none of t</td></mbr<mf<<></td></mcl<mf<></td></mi>	3r <mcl<mf< td=""><td>c) MI<mbr<mf<< td=""><td>MCl d) none of t</td></mbr<mf<<></td></mcl<mf<>	c) MI <mbr<mf<< td=""><td>MCl d) none of t</td></mbr<mf<<>	MCl d) none of t
10.	In which process,	fused sodium hydrox	de is electroly	sed for extraction of	sodium?
	a) Castner's proc	ess b) Cyanide	e process	c) Down process	d) all of these
11.	The product obta	ined as a result of a r	eaction of nitro	gen with CaC_2 is	
	a) $Ca(CN)_3$	b) <i>CaN</i> ₂		c) $Ca(CN)_2$	d) $Ca_3 N_2$
12.	Which of the follo	wing has highest hyd	ration energy	a) $MgCl_2$ b) CaC	l_2 c) BaCl ₂ d) Sr
13.	Match the flame of	colours of the alkali a	nd alkaline ear	th metal salt in the B	Sunsen burner
	(p) Sodium	(1) Brick red			
	(q) Calcium	(2) Yellow			
	(r) Barium	(3) Violet			
	(s) Strontium	(4) Apple green			
	(t) Cesium	(5) Crimson red			
	(n) Potassium	(6) Blue			
	a) p-2,q-1,r-4, s-5,	.t-6.u-3	b) p-1,q-2,r	:-4,s-5,t-6,u-3	
	c) p-4,q-1,r-2,s-3,1	t-5,u-6	d) p-6,q-5,r	:-4,s-3,t-1,u-2	
14.	Assertion : Gener	ally alkali and alkali	ne earth metals	form superoxides	
	Reason : There is	a single bond betwee	n O and O sup	eroxides	
	a) both assertion	and reason are true a	and reason is th	ne correct explanation	n of assertion.
	b) both assertion	and reason are true	but reason is no	ot the correct explana	ation of assertion.
	c) assertion is tru	e hut reason is false	н (h	oth assertion and re	ason are false
15	Assortion $\cdot B \rho S O$. is soluble in water y	while <i>BaSO</i> , is	not 1	
13.	Descrition Desc				
	Reason : Hydraud	on energy decreases d	lown the group	From Be to Ba and B	attice energy rem
	almost constant				
	a) both assertion	and reason are true a	ind reason is th	e correct explanation	n of assertion.
	b) both assertion	and reason are true	out reason is no	ot the correct explana	ation of assertion.
	c) assertion is tru	e but reason is false	d) b	both assertion and rea	ason are false
16.	Which is the corre	ect sequence of solub	lity of carbona	tes of alkaline earth	metals?
	a) $BaCO_3 > SrCO_3$	$O_3 > CaCO_3 > MgC$	O_3 b) M	$IgCO_3 > CaCO_3 > C$	$SrCO_3 > BaCO_3$
	c) $CaCO_3 > BaC$	$O_3 > SrCO_3 > MgC$	O_3 d) B	$aco_3 > caco_3 > S$	$rCO_3 > MgCO_3$
17.	In context with be	eryllium, Which one o	of the following	statements is incorre	ect?
	a) It is rendered p	bassive by nitric acid	b) It forms	Be_2C	
	c) Its salts are rar	ely hydrolysed	d) Its hydri	ide is electron deficie	nt and polymeric
	The suspension of	f <mark>slaked lime in water</mark>	is known as	a) lime water	b) quick lime
18.		c) milk of lime		d) aqueous solutio	on of slaked lime
18.	A colourless solid	substance (A) on he	ating evolved <i>C</i>	CO ₂ and also gave a	white residue, solu
18. 19.	in water. Residue	also gave CO_2 when	treated with di	lute HCl.	
18. 19.	a) <i>Na</i> ₂ <i>CO</i> ₃	b) NaHCC) ₃	c) <i>CaCO</i> ₃	d) $Ca(HCO_3)$
18. 19.		X) on heating gives a	colourless gas :	and a residue that is	dissolved in wate
18.19.20.	The compound (X	ý 00	hrough aqueor	is solution of R C is	formed. Solid (C
18.19.20.	The compound (X obtain (B). Excess	s of CO_2 is bubbled t		$\mathbf{D}_{\mathbf{U}}$	
18.19.20.	The compound (X obtain (B). Excess heating gives back	s of <i>CO</i> ₂ is bubbled t k X. (B) is			
18.19.20.	The compound (2) obtain (B). Excess heating gives back a) <i>CaCO</i> ₂	s of CO_2 is bubbled t k X. (B) is b) $Ca(OH)$)2	c) $Na_{2}CO_{2}$	d) NaHCO-
 18. 19. 20. 21 	The compound (2 obtain (B). Excess heating gives back a) <i>CaCO</i> ₃ Which of the follo	s of CO ₂ is bubbled t k X. (B) is b) Ca(OH)) ₂ lso2	c) Na_2CO_3	d) NaHCO ₃
 18. 19. 20. 21. 	The compound (2) obtain (B). Excess heating gives back a) $CaCO_3$ Which of the follo a) Ca^{2+} ions are a	s of <i>CO</i> ₂ is bubbled t k X. (B) is b) <i>Ca</i> (<i>OH</i>) wing statements is fa) ₂ lse?	c) Na_2CO_3	d) NaHCO ₃
 18. 19. 20. 21. 	The compound (2) obtain (B). Excess heating gives back a) $CaCO_3$ Which of the follo a) Ca^{2+} ions are n	s of <i>CO</i> ₂ is bubbled t k X. (B) is b) <i>Ca</i> (<i>OH</i>) owing statements is fa not important in main) ₂ lse? taining the reg	c) Na_2CO_3 gular beating of the h	d) NaHCO ₃ eart

www.Padasalai.Net www.TrbTnpsc.com b) Mg^{2+} ions are important in the green parts of the plants c) Mg^{2+} ions form a complex with ATP d) Ca^{2+} ions are important in blood clotting 22. The name 'Blue John' is given to which of the following compounds? **b**) CaF_2 c) *Ca*₃*PO*₄₂ d)CaO a) CaH_2 23. Formula of Gypsum is a) CaSO₄, 2H₂O b) CaSO₄, 1/2 H₂Oc) 3CaSO₄, H₂O d) 2CaSO₄, 2H₂O 24. When CaC_2 is heated in atmospheric nitrogen in an electric furnace the compound formed is b) CaNCN a) $Ca(CN)_2$ c) CaC_2N_2 d) $CaNC_2$ 25. Among the following the least thermally stable is a) $K_2 CO_3$ **b**) Na_2CO_3 c) $BaCO_3$ d) Li_2CO_3 <u>Unit – 6 Gaseous state</u> 1. Gases deviate from ideal behavior at high pressure. Which of the following statements is correct for non-ideality? a) at high pressure the collision between the gas molecule become enormous b) at high pressure the gas molecules move only in one direction c) at high pressure the gas molecules move only in one direction c) at high pressure, the volume of gas become insignificant d) at high pressure the intermolecular interactions become significant 2. Rate of diffusion of a gas is a) directly proportional to its density b) directly proportional to its molecular weight d) inversely proportional to the square root of its molecular weight 3. Which of the following is the correct expression for the equation of state of van der waals gas? a) $[P + \frac{a}{n^2 V^2}](V-nb)=nRT$ b) $[P + \frac{na}{n^2 V^2}](V-nb)=nRT$ c) $[P + \frac{an^2}{n^2}](V-nb)=nRT$ b) $[P + \frac{n^2a^2}{n^2}](V-nb)=nRT$ b) $[P + \frac{na}{n^2V^2}](V-nb) = nRT$ d) $[P + \frac{n^2a^2}{V^2}](V-nb) = nRT$ c) $\left[P + \frac{an^2}{v^2}\right]$ (V-nb)=nRT 000 4. When an ideal gas undergoes unrestrained expansion, no cooling occurs because the molecules a) are above inversion temperature b) exert no attractive forces on each other c) do work equal to the loss in kinetic energy d) collide without loss of energy 5. Equal weights of methane and oxygen are mixed in an empty container at 298 K. The fraction of total pressure exerted by oxygen is a) 1/3 b) $\frac{1}{2}$ c) 2/3 d) 1/3×273×298 6. The temperatures at which real gases obey the ideal gas laws over a wide range of pressure is called a) Critical temperature **b)** Boyle temperature c) Inversion temperature d) Reduced temperature 7. In a closed room of $1000m^3$ a perfume bottle is opened up. The room develops a smell. This is due to which property of gases? a) Viscosity b) Density c) Diffusion d) None 8. A bottle of ammonia and a bottle of HCL connected through a long tube are opened simultaneously at both ends. The white ammonium chloride ring first formed will be b) near the hydrogen chloride bottle a) at the center of the tube c) near the ammonia bottle d) throughout the length of the tube 9. The value of universal gas constant depends upon a) temperature of the gas b) volume of the gas c) number of the moles of the gas d) units of pressure and volume 10. The value of the gas constant R is b) 0.987 cal $mol^{-1}K^{-1}$ c) 8.3 J $mol^{-1}K^{-1}$ d) 8 erg $mol^{-1}K^{-1}$ a) $0.082 \, dm^3 a tm$ 11. Use of hot air balloon in sports at meteorological observation is an application of a) Boyle's law b) Newton's law c) Kelvin's law d) Brown's law

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Gas	02	<i>N</i> ₂	NH ₃	CH ₄
Α	1.360	1.390	4.170	2.253

	Gas	02	<i>N</i> ₂	NH ₃	CH ₄
	Α	1.360	1.390	4.170	2.253
The g	gas which can	n be most easily liq	uefied is a)	$\overline{\boldsymbol{O}_2}$ b) N_2	c) <i>NH</i> ₃ d) <i>C</i>
13. Cons	ider the follo	owing statements i)	Atmospheric pr	ressure is less at t	he top of a mountain
at se	a level ii) (Gases are much	more compressi	ble than solids	or liquids iii) Whe
atmo	spheric pres	ssure increases th	e height of the	mercury column	n rises select the c
state	nent				
a) I a	nd II	b) II and III	c) I and II	I d) I,II	and III
14. Com	pressibility f	factor for CO_2 at	t 400 K and 7	1.0 bar is 0.869	7. The molar volu
<i>CO</i> ₂ 1	under these of	conditions is a	a) 22.04 dm° b)	2.24 <i>dm</i> ³ c) 0.4	$(1 \ dm^{3} \ d) \ 19.5 \ dm^{3}$
15. If ten	nperature ar	nd volume of an id	eal gas is increas	sed to twice its va	alue, the initial press
	nes	a) 4P	D) 2P		a) $3P$
10. At id	entical temp	erature and pressu	ire, the rate of d	musion of hydro	gen gas is $\sqrt{3}$ times
a nyo 17 Egya	rocarbon ha	aving molecular iol	$\mathbf{T}_{n} = \mathbf{C}_{n} \mathbf{H}_{2n-2} \mathbf{v}_{n-2}$	vnat is value of n	(a) 8 b) 4 c) 3 d) 1 - with a nin hala th
17. Equa whiel	n moles of m	scope what fraction	n of ovygon osco	nos in the time re	r, with a pill hole the
hvdr	ngen to escar	ne a) 3/8	$\frac{1}{2} \frac{1}{2} \frac{1}$	pes in the time re 1/8	$\frac{d}{14}$
18. The	variation of	volume V. with	temperature T.	keening nressu	re constant is calle
eooff	ciont of ther	mal avanancion ia c	$x = \frac{1}{2} \left(\frac{\partial v}{\partial v} \right)$ for a	, neeping pressu	uel to
			$t = \frac{1}{v} \left(\frac{1}{\partial T}\right)_{p}$ for all	1 Iucai gas u 15 cy	
a) T 10 E		b) 1/1 D 1 C h 1	c) P	d) noi	e of these
19. Four	gases P, Q,	K and S nave alm	ost same values	of 'D' but their (a' values (a, d are v
waars tho m	ost osily lie	are in the order Q<	A < S < F. At a pa		are, among the tour
20. Maxi	mum deviati	ion from ideal gas	is expected from	a) $CH_{\ell}(a)$ b) NF	$H_{a}(a) c) H_{a}(a) d) N$
21. The 1	inits of Vand	der Waals constant	s 'b' and 'a' rest	nectively a) mo	L^{-1} and L at $m^2 m o$
b) ma	ol L and L a	$tm mol^2$ c) mol	$^{-1}$ L and L^2 atm	mol^{-2} d) not	ne of these
22. Assei	tion : Critic	al temperature of (CO_2 is 304 K. it	can be liquefied a	above 304 K
Reaso temp	on : For a g erature	iven mass of gas,	volume is to dir	ectly proportion	al to pressure at co
a) bo	oth assertion	and reason are tru	ie and reason is t	the correct explan	nation of assertion.
b) bo	oth assertion	and reason are tru	ie but reason is r	not the correct ex	planation of assertio
c) as	sertion is tru	e but reason is fals	se d)	both assertion ar	nd reason are false
23. What	t is the densi	ty of N_2 gas at 227	°C and 5.00 atm	pressure?	1) 0.00 7
a) 1.4	W g/L b of 4b c f-11	D) 2.81 g/L	c) 3.41 g/L	a the hehe-to-	a) v.29 g/L f a fixed many f
24. Whice	II OF the foll	owing diagrams contain K) as	birrectly describe	es the denavior o	i a lixed mass of an
gas:	(1 is measur				
	(c)			
			• 	all of these	
			u) :	an or these	
25. 25 g o	of each of th	e following gases a	re taken at 27°C	and 600 mm Hg	pressure. Which of
will h	ave the least	t volume?			
	Rr	b) HCl	c) HF	d) HI	
a) HI	<i>,</i>	~) == 0=	,		

00	10000000000000000000000000000000000000	rmodynamics	
1	The amount of heat exchanged with the su	rrounding at constant	t temperature and press
	given by the quantity (a) ΔE	$\frac{h}{AH} = c$	Λ S d) Λ G
2.	All the naturally occurring processes proceed	ed spontaneously in a	direction which leads to
	a) decrease in entrony) increase in enthalpy	
	c) increase in free energy d) decrease in free ener	ØV
3.	In an adjabatic process, which of the followi	ing is true? a) a=w b	$a = 0 c \wedge E = a d P \wedge V =$
4.	In a reversible process, the change in entror	by of the universe is a)	(a + b) = (a +
5.	In an adiabatic expansion of an ideal gas a	$\mathbf{w} = -\Delta \mathbf{u}$ b $\mathbf{w} = \Delta \mathbf{u}$	$+ \Delta H$ c) $\Delta u = 0$ d) w=
6.	The intensive property among the quantitie	s below is	, , ,
	a) mass b) volume c)) enthalpy d)	mass/volume
7.	An ideal gas expands from the volume of	f $1 \times 10^{-3} m^3$ to $1 \times 10^{-3} m^3$	10 ⁻² m ³ at 300 K agai
	constant pressure at $1 \times 10^5 Nm^{-2}$. The wor	rk done is	
	a) -900 J b) 900 kJ c) 270 kJ d)	-900kJ
8.	Heat of combustion is always	, , , , , , , , , , , , , , , , , , ,	
	a) positive b) negative c)) zero d)	either positive or negative
9.	The heat of formation of CO and CO_2 a	are -26.4 kCal and -9	4 kCal, respectively. He
	combustion of carbon monoxide will be	a) +26.4 kCal	b) -67.6 kCal
		c) -120.6 kCal	d) +52.8 kCal
10.	. C (diamond) \rightarrow C(graphite), $\Delta H = -ve$, this	s indicates that	
	a) graphite is more stable than diamond	b) graphite has	more energy than diamor
	c) both are equally stable	d) stability cann	ot be predicted
11.	. The enthalpies of formation of Al_2O_3 and	Cr_2O_3 are -1596 kJ a	nd -1134 kJ, respectively
	for the reaction 2Al+ $Cr_2O_3 \rightarrow 2Cr + Al_2O_3$	D ₃ is	
	a) -1365 kJ V V O b) 2730 kJ	c)-27301	√ d) -462 kJ
12.	. Which of the following is not a thermodynamic	mic function?	
	a) internal energy b) enthalpy	c) entropy	d) frictional energy
13.	. If one mole of ammonia and one mole of hy	ydrogen chloride are i	nixed in a closed contain
	form ammonium chloride gas, then		
	a) $\Delta H > \Delta U$ b) $\Delta H - \Delta U = 0$	$0 \qquad \mathbf{c}) \Delta H + \Delta U = 0$	$\mathbf{d}) \Delta \boldsymbol{H} < \Delta \boldsymbol{U}$
14.	. Change in internal energy, when 4 kJ of w	ork is done on the sys	stem and 1 kJ of heat is
1 -	out by the system is $a + 1 K J = b$	() -5 KJ = () + 3 KJ	(1) - 3 KJ
15.	. The work done by the liberated gas when	55.85 g of iron(mola)	$r \max 55.85 \text{ g mol}^{-1}$
	with hydrochloric acid in an open beaker at	1 25°C	J) . 7 40 L T
17	a) -2.48 KJ D) -2.22 KJ	C) +2.22 KJ	a) +2.48 KJ
10.	. The value of ΔH for cooling 2 moles of an 1d	ieal monatomic gas fro	$125^{\circ} U = 1025^{\circ} U = 1025$
	pressure will be [given $C_P = \frac{3}{2}R$] a) -250 F	R b) -500 R c)	500 R d) +250 R
17.	. Given that $C(g) + O_2(g) \rightarrow CO_2(g) \Delta H^\circ =$	$= -a kJ: 2CO(g) + O_2$	$(g) \rightarrow 2CO_2(g) \Delta H^\circ = -$
	calculate the ΔH° for the reaction C(g)+1/2	$\boldsymbol{O}_2(\boldsymbol{g}) \rightarrow \boldsymbol{C} \boldsymbol{O}(\boldsymbol{g})$	
	a) b+2a/2 b) 2a-b	c) 2a-b/2	d) b-2a/2
18.	. When 15.68 litres of a gas mixture of method	hane and propane are	e fully combusted at 0 ⁰ (
	atmosphere, 32 litres of oxygen at the same	me temperature and	pressure are consumed.
	amount of heat of released from the com	mbustion in kJ is Δ	$H_c(CH_4) = -890 \text{ kJ } mol^{-1}$
	$\Delta H_c(C_3H_8) = -2220 \text{kJ} mol^{-1}$		
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19. The Dona als	sociation energy of	methane and ethan	ne are 360 kJ m	ol^{-1} and 620
<i>mol</i> ⁻¹ respecti	vely. Then the bond d	issociation energy of	C-C bond is	
a) 170 kJ <i>mol</i> -	¹ b) 50 kJ mol^{-1}	c) 80 kJ <i>mol</i> ⁻¹	d) 220 kJ <i>mo</i>	l^{-1}
20. The correct the	ermodynamic conditio	ons for the spontaneou	us reaction at all ter	nperature is
a) $\Delta H < 0$ and	$\Delta S > 0$ b) $\Delta H < 0$ and	$d \Delta S < 0 \mathbf{c} \Delta H > 0 c$	and $\Delta S = 0$ d) ΔH	> 0 and $\Delta S >$
21. The temperatur	re of the system, decre	eases in an		
a) Isothermal e	xpansion	b) Isothermal c	compression	
c) adiabatic exp	ansion	d) adiabatic coi	mpression	w ana nagnaati
22. In an isothermal $a) +$	\mathbf{h} + -	(c) + - +	d) +	w are respect
23. Molar heat of	vanourisation of a	liquid is $4.8 \text{ kJ} mc$	a_{J}^{-1} . If the entron	v change is
$mol^{-1}K^{-1}$ the	boiling point of the li	anid is	<i>i</i> in the entrop	y change is
a) 323 K	b) 27°C	c) 164 K	d) 0.3 K	
24. ΔS is expected to	to be maximum for the	e reaction	, -	
a) $Ca(s)+1/2 O_2$	$g(g) \rightarrow CaO(s)$	b) C(s)+ $\boldsymbol{0}_2(\boldsymbol{g})$	$\rightarrow CO_2(g)$	
c) $N_2(g) + O_2$	$(g) \rightarrow 2NO(g)$	d) $CaCO_3(s) \rightarrow$	$CaO(s) + CO_2(g)$	
25. The values of	ΔH and ΔS for a rea	ction are respectively	y 30 kJ mol^{-1} and	$1 \ 100 \ JK^{-1} \ m_{0}$
Then the temp	erature above which t	the reaction will beco	me spontaneous is	
a) 300 K	b) 30 K	c) 100 K	d) 20 ⁰	С.
	w.Pa	lolasa	121.I	Vet
	W.Pa	ldasa	121.F	Vei
	W.Pa	ICLASA	lai.F	Vet
	W.Pa	lolasa	1 <u>a</u> 1.F	Vet
	w.Pa	lasa	121.7	Vet
	w.Pa	UIASA	lai.F	Vet
	w.Pa	UCLASA	laî.F	Vet
	w.Pa	idlasa	1aî.F	Vet
	w.Pa	udlasa	1 <u>a</u> î.F	Vet
	w.Pa	udasa	laî.F	Vet
	w.Pa	idasa	lai.F	Vet
	w.Pa	udasa	lai.f	Vet
	w.Pa	udasa	lai.F	Vet
	w.Pa	idasa	lair	Vet
	w.Pa	udasa	lai.	Vet
	w.Pa	alasa	Jaij	Vet
	w.Pa	idasa	lai.t	Vet
	w.Pa	udasa	lai.	Vet

<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>	, a a a a a a a a a a a a a a a a a a a	, a a a a a a a a a a a a a a a a a a a	ggggggg
		, na	
Unit-1 Basic concepts of	17. [A][B][C][D]	13. [A][B][C][D]	10. [A][B][C][D]
<u>chemistry</u>	18. [A][B][C][D]	14. [A][B][C][D]	11. [A][B][C][D]
and chamical	19. [A][B][C][D]	15. [A][B][C][D]	12. [A][B][C][D]
and chemical colculations	20. [A][B][C][D]	16. [A][B][C][D]	13. [A][B][C][D]
	21. [A][B][C][D]	17. [A][B][C][D]	14. [A][B][C][D]
1. [A][B][C][D]	22. [A][B][C][D]	18. [A][B][C][D]	15. [A][B][C][D]
2. [A][B][C][D]	23. [A][B][C][D]	19. [A][B][C][D]	16. [A][B][C][D]
3. [A][B][C][D]	24. [A][B][C][D]	20. [A][B][C][D]	17. [A][B][C][D]
4. [A][B][C][D]	25. [A][B][C][D]	21. [A][B][C][D]	18. [A][B][C][D]
5. [A][B][C][D]	Unit 2 Domindia	Unit 5 Alleali and	19. [A][B][C][D]
6. [A][B][C][D]	<u>elassification of</u>	<u>ollialino corth</u>	20. [A][B][C][D]
7. [A][B][C][D]	elements	<u>arkanne earth</u> metals	21. [A][B][C][D]
8. [A][B][C][D]	<u>cicinents</u>	metany	22. [A][B][C][D]
9. [A][B][C][D]	1. [A][B][C][D]	1. [A][B][C][D]	23. [A][B][C][D]
10. [A][B][C][D]	2. [A][B][C][D]	2. [A][B][C][D]	24. [A][B][C][D]
11. [A][B][C][D]	3. [A][B][C][D]	3. [A][B][C][D]	25. [A][B][C][D]
12. [A][B][C][D]	4. [A][B][C][D]	4. [A][B][C][D]	Tinit 7
13. [A][B][C][D]	5. [A][B][C][D]	5. [A][B][C][D]	<u>UIIIt -7</u> Thormodynamics
14. [A][B][C][D]	6. [A][B][C][D]	6. [A][B][C][D]	<u>1 nermouynamics</u>
15. [A][B][C][D]	7. [A][B][C][D]	7. [A][B][C][D]	1. [A][B][C][D]
16. [A][B][C][D]	8. [A][B][C][D]	8. [A][B][C][D]	2. [A][B][C][D]
17. [A][B][C][D]	9. [A][B][C][D]	9. [A][B][C][D]	3. [A][B][C][D]
18. [A][B][C][D]	10. [A][B][C][D]	10. [A][B][C][D]	4. [A][B][C][D]
19. [A][B][C][D]	11. [A][B][C][D]	11. [A][B][C][D]	5. [A][B][C][D]
20. [A][B][C][D]	12. [A][B][C][D]	12. [A][B][C][D]	6. [A][B][C][D]
21. [A][B][C][D]	13. [A][B][C][D]	13. [A][B][C][D]	7. [A][B][C][D]
22. [A][B][C][D]	14. [A][B][C][D]		8. [A][B][C][D]
23. [A][B][C][D]	15. [A][B][C][D]	15. [A][B][C][D]	9. [A][B][C][D]
24. [A][B][C][D]	16. [A][B][C][D]	16. [A][B][C][D]	10. [A][B][C][D]
25. [A][B][C][D]	17. [A][B][C][D]	17. [A][B][C][D]	11. [A][B][C][D]
Unit 2 Quantum	18. [A][B][C][D]	18. [A][B][C][D]	12. [A][B][C][D]
<u>Unit -2 Ottantum</u> Machanical Madal	19. [A][B][C][D]	19. [A][B][C][D]	13. [A][B][C][D]
of A tom	20. [A][B][C][D]	20. [A][B][C][D]	14. [A][B][C][D]
	21. [A][B][C][D]	21. [A][B][C][D]	15. [A][B][C][D]
1. [A][B][C][D]	22. [A][B][C][D]	22. [A][B][C][D]	16. [A][B][C][D]
2. [A][B][C][D]	23. [A][B][C][D]	23. [A][B][C][D]	17. [A][B][C][D]
3. [A][B][C][D]	Unit 1 Hudnogon	24. [A][B][C][D]	18. [A][B][C][D]
4. [A][B][C][D]	<u>umi – 4 rivarogen</u>	25. [A][B][C][D]	19. [A][B][C][D]
5. [A][B][C][D]	1. [A][B][C][D]	Unit 6 Casaana	20. [A][B][C][D]
6. [A][B][C][D]	2. [A][B][C][D]	<u>omi – o Gaseous</u> state	21. [A][B][C][D]
7. [A][B][C][D]	3. [A][B][C][D]	state	22. [A][B][C][D]
8. [A][B][C][D]	4. [A][B][C][D]	1. [A][B][C][D]	23. [A][B][C][D]
9. [A][B][C][D]	5. [A][B][C][D]	2. [A][B][C][D]	24. [A][B][C][D]
10. [A][B][C][D]	6. [A][B][C][D]	3. [A][B][C][D]	25. [A][B][C][D]
11. [A][B][C][D]	7. [A][B][C][D]	4. [A][B][C][D]	
12. [A][B][C][D]	8. [A][B][C][D]	5. [A][B][C][D]	
13. [A][B][C][D]	9. [A][B][C][D]	6. [A][B][C][D]	
14. [A][B][C][D]	10. [A][B][C][D]	7. [A][B][C][D]	
15. [A][B][C][D]	11. [A][B][C][D]	8. [A][B][C][D]	
16. [A][B][C][D]	12. [A][B][C][D]	9. [A][B][C][D]	-

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