

OLYMPIAD QUESTIONS

CHEMISTRY VI - CLASS

LANGUAGE OF CHEMISTRY

1.	$2Pb(NO_3)_{2(s)} \xrightarrow{\Delta} 2Pb$	$OO_{(s)} + 4NO_{2(g)} + O_{2(g)}$	is an example for		[]
	a) Chemical combinationc) Chemical displacement	n	b) Chemical decompos d) Chemical double dec			
2.	Among the following the a) Germanium	e examples of metalloid b) Arsenic	ds are c) selenium	d) Tellurium	[]
3.	Assertion (A): The oxidate a) Both A and R are true b) Both A and R are true c) A is correct and R is in	tion number of every ele and R is the correct ele and R is not correct ele	lement in its elementary xplanation of A	form is always	[zero.]
4.	Statement (A): Chemic Statement (B): Chemic Statement (C): Chemic a) All the above statement c) A and B are correct by	cal formula of Magnesic cal formula of Sodium onts are correct	um chloride is MgCl ₂ .]
Cher	nistry and its importanc	ce :-				
5.	The alloy used for making a) Bronze	ng aircraft frames is b) Brass	c) Duralumin	d) Gun metal	[]
6.	Which of the following are correct with respective to Burette a) it is a long graduated tube provided with a glass stopcock at its end b) It has the capacity of 50 ml c) it is used for pouring out a fixed volume of liquid less than 50 ml d) it is available even in 100 ml, 150ml, 200 ml of capacity]
7.	Assertion (A): Knowledge of chemistry helps us to make useful materials. Reason (R): Steel is the back bone of any industrialized country. a) Both A and R are true and R is the correct explanation of A b) Both A and R are true and R is not correct explanation of A c) A is correct and R is incorrect d) A is incorrect and R is correct.				[]
8.	Statement (A) : Conical neck.	flask is a cone shaped fl	ask with a flat base and p	rovided with a c	cylind	rical
	Statement (B): Pipette middle	is a long narrow tube p	rovided with a nozzle at	one end and a b	oulb in	the
		g out liquids.		_	[p of
	a) All the above statements are correct c) A, B are correct and C is in correct d) A, B are incorrect and C is correct					

MATTER IN OUR SURROUNDINGS

9.	Arrange the follo	wing substances in decreas:	ing order of force of att	traction between th	ie par	ticles
	1) Water	2) Sugar	3) Oxygen		Ī]
	a) Water > Sugar		b) Sugar > Oxyger			
	c) Sugar > water		d) Water > Oxyger	n > Sugar.	_	
10.		ing are different forms of m		1/ 337 1	[]
	a) Air	b) Water	c) Glass	d) Wood		
11.	Assertion (A): A	Alcohol evaporates faster th	an water.			
	, ,	e interparticle forces of attra		ss than in water.		
	· ·	are true and R is the correct	-		Ĺ]
		are true and R is not correct	•	d D is sorrest		
	c) A is correct an		d) A is incorrect an			_
12.		The process due to which	a solid changes into li	iquid state by abso	orbing	g hea
		nelting (or) fusion. The process due to which a	liquid changes into ga	saous stata by abo	l orbina	g han
		oiling (or) vapourisation.	inquid changes into ga	scous state by abso	JI UIII	ginca
		The process due to which a ga	s changes directly into s	olid state is called s	ublim	ation
	a) All the above statements are correct		b) All the above sta			
	c) A, B are correct	et and C is in correct	d) A, B are incorre	ct and C is correct		
		MATERIAL	S & THINGS			
13.	Choose the opaqu	ue object from the following	g		[]
	a) Charcoal	b) Air	c) Glass	d) Water		
14.	Which one of the	following is soluble in wat	er		[]
	a) Alcohol	b) Sodium chloride	c) Coconut oil	d) Sugar		
15.	Assertion (A) : I	ron is good conductor of he	eat		Г]
		terials which conduct heat		luctor of heat.	L	ı
	a) Both A and R	are true and R is the correct	t explanation of A			
		are true but R is not the cor	•			
	c) A is correct an	d R is incorrect	d) A is incorrect an	d R is correct		
16.	Statement (A):	The amount of mater in any	object is called its we	ight	[]
	Statement (B):	Things can be grouped on t	he basis of their shape	and size		
	Statement (C):	Water and glass are from tra	ansperent materials.			
	· ·	tatements are correct	b) All the above sta		ect.	
	c) A, B are correc	et and C is incorrect.	d) A, B are incorre	ct and C is correct		
		SEPARATION (OF SUBSTANCE			
17.	A mixture of ami	nonium chloride and sand i	s separated by		ſ	1
	a) Evaporation	b) Decantation	c) Sublimation	d) Filtration	L	1
18.	Sand from water	,	•		Г	1
10.	a) Sieving	b) Sedimentation	c) Decantation	d) Filtration	L	J

19.	Reason (R): Milk is a mixture	ter milk by churning		L	J
	a) Both A and R are true and R is the correct b) Both A and R are true but R is not the corc) A is correct and R is incorrect	•	R is correct		
20.	Statement (A): Elements are pure substance Statement (B): Boiling point of pure water Statement (C): Solid form of carbon dioxid	is less than impure water	r	[]
	a) All the above statements are correctc) A, B are correct and C is incorrect.	b) All the above stated) A, B are incorrect			
	CHANGES	AROUND US			
21.	The change of state from liquid to vapour is a) Condensation b) Solidification	called c) Evaporation	d) All	[]
22.	Among the following, fossil fuels are a) Coal b) Oil	c) Gas	d) Sugar	[]
23.	Assertion (A): Rusting of iron is a chemical Reason (R): Due to heat, a place gets heater	_	ered]]
	a) Both A and R are true and R is the correct b) Both A and R are true but R is not the correct A is correct and R is incorrect	•	R is correct		
24.	Statement (A): The change of state from gastatement (B): Curd is in semi solid state	as to liquid is called cond	densation	[]
	Statement (C): Change in colour of leaves a) All the above statements are correct c) A, B are correct and C is incorrect.	b) All the above state d) A, B are incorrect	ements are inco		
	VII -	CLASS			
	ACIDS A	ND BASES			
1.	Phenolpthalein indicator is colourless in	•		[ium]
2.	 a) Baisc, Acidic b) Acidic, Basic Which one of the following is the characteristal sour in taste b) red litmus changes to blue c) Exothermic when reaction with water d) To evolve hydrogen gas when reacted with 		d) Basic, B	asic []
3.	Assertion (A): Ammonium chloride is an example Reason (R): Ammonium chloride is formed	-	n strong acid ar	[nd weak] c base
	a) Both A and R are true and R is the correctb) Both A and R are true but R is not the corec) A is correct and R is incorrect	-	R is correct		

4.	Statement (A): Hydrated copper sulphate is commonly known as blue vitriol. Statement (B): All soluble hydroxides are alkalies				
	Statement (C): Antacid is used for the treating indigestion				
		statements are incorrect and C is correct			
	CHANGES AROUND US				
5.	Ripening of fruits is a a) Temporary change b) Physical change c) Natural change	e d) All the a	[bove]	
6.		undisturbed for has is deposited on thurns from blue to r	[e nail	our or]	
7.	Assertion (A): Zinc metal is generally used for galvanization. Reason (R): Iron rust can be prevented by galvanization]]	
	 a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is correct and R is incorrect d) A is incorrect at 				
8.		ented by cold wate statements are incorrect and C is corre	orrect.]	
	PERIODIC PROPERTIES				
9.	The number of groups and periods in the long form of the periodi a) 7, 18 b) 18, 7 c) 8, 17	c table is d) 17, 8	[]	
10.	Which of the following elements have zero or positive electron a a) He b) C c) Ar	affinity d) Ne	[]	
11.	Assertion (A): The first ionization energy of Be is greater than the Reason (R): 2p electrons are more loosely held than 2s electron a) Both A and R are correct and R is the correct explanation of A b) Both A and R are correct but R is not the correct explanation of C) A is correct, R is incorrect but R is not the correct but R is incorrect but R is inc	ns. of A.]]	
12.			[orrect]	
	CHEMICAL BONDING				
13.	Reasons for the participation of valence shell electrons in chemica a) Valence electrons are firmly bounded to the nucleus b) Valence electrons are easily attracted by other approaching ator c) Valence electrons are tightly bounded to the nucleus d) Valence electrons are not easily attracted by other approaching 4	n	[]	

14.	Ionic bond is also called a) Electrovalent bond c) Polar bond	b) Dative bondd) Covalent bond		[]
15.	Assertion (A): In Methane molecule, carbon Reason (R): Four bond pairs are present in n			[]
	a) Both A and R are correct and R is the correct b) Both A and R are correct and R is not the c c) A is correct, R is incorrect	-	rrect.		
16.	Statement (A): In hydronium ion, H ⁺ ion is a Statement (B): The dative bond is present in Statement (C): The dative bond is also name a) All the statements A, B, C are correct c) A, B are correct and C is incorrect	hydronium ion.	B, C are incor	[rect]
	MOLECONCE	EPT PART - I			
17.	Gram molecular weight of oxygen is a) 16 a.m.u b) 32 a.m.u	c) 16 g	d) 32 g	[]
18.	One mole of KNO ₃ contains a) 1 mole of potassium c) two moles of Nitrogen	b) three moles of oxyger d) 1 mole of Nitrogen	n	[]
19.	Assertion (A): Vapour density = $\frac{Densit}{Density \ of}$]]
	Reason (R): Vapour density of oxygen mole a) Both A and R are correct and R is the corre b) Both A and R are correct and R is not the c c) A is correct, R is incorrect	ect explanation of A.	rrect.		
20.	Statement (A): One mole of sodium ions (N	a ⁺) containing 6.023×10^2	³ Na ⁺ ions	[]
	Statement (B): Gram atomic mass of chloring	ne is 35.5 g			
	Statement (C): The units of vapour density a a) All the above statements are correct c) A and B are correct but C is incorrect	b) All the above statemed) A and B are incorrect			
	LANGUAGE OF	CHEMISTRY			
21.	Different weights of an element is combining simple ratio is called a) law of conservation of mass c) law of multiple proportions	g with a fixed weight of o b) law of definite propor d) law of reciprocal prop	tions	ind b	ear a
22.	Among the following which element exhibits a) Fe b) H	oxidation number as + 2	d) Ca	[]
23.	Assertion (A): Non-metals exhibit variable var	•		[]
	a) Both A and R are correct and R is the correb) Both A and R are correct and R is not the cc) A is correct, R is incorrect	-	rrect.		

24.	Statement (A): Nitrogen is a metal Statement (B): Aluminium is a non-metal Statement (C): Gold is a metalloid a) All the above statements are correct	b) All the above statements are incorre	l ect]
	c) A and B are correct but C is incorrect	d) A and B are incorrect but C is corre	ect	
	SOLUT	IONS		
25.	The component present in lesser quantity in a back a) Solvent b) Solute	c) Solution is d) Either a or	[b]
26.	The factors that are affecting the solubility of a a) Temperature b) Pressure	solid in a liquid are c) Nature of solute d) Nature of s	[olvent] t
27.	Assertion (A): Molality is independent of term Reason (R): There is no volume factor in the a) Both A and R are correct and R is the correct b) Both A and R are correct and R is not the correct A is correct, R is incorrect	ne expression of molality et explanation of A	[]
28.	Statement (A): If a solution contains the maxim	num quantity of solute, then it is called u	nsatur	ated
	solution. Statement (B) : If a solution contains less that saturated solution.	n the maximum quantity of solute, then	it is ca	alled
	Statemnet (C): If a solution contains more that supersaturated solution.	in the maximum quantity of solute, then	it is ca	alled]
	a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	b) All the statements A, B and C are in d) A, B are incorrect and C is correct	icorre	ct
	VIII - C	LASS		
	ATOMIC ST	RUCTURE		
1.	The canal rays are a) A stream of electrons c) Light rays	b) A stream of positively charged particles	[icles]
2.	Among the following electronic configuration a) 1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 4s ² 3d ⁴ c) 1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 4s ¹ 3d ⁵	of chromium is b) [Ar] 4s ¹ 3d ⁵ d) [Ar] 4s ² 3d ⁵	[]
3.	Assertion (A): The maximum number of electron (R): The maximum number of electron		[]
	a) Both A and R are true and R is the correct eb) Both A and R are true but R is not the correctc) A is correct and R is incorrect	-		
4.	Statement (A): Alpha particles are much heavestatement (B): Alpha particles are positively. Statement (C): Alpha particles move with your	charged.	[]
	Statement (C): Alpha particles move with ve a) All the above statements are correct c) A, B are correct and C is incorrect.	b) All the above statements are incorredd) A, B are incorrect and C is correct	ect.	

CHEMICAL BONDING

5.	Among the following a) Helium	the element followsSodium	duplet rule is c) Oxygen	d) Sulphur	[]
6.	Among the following a) Oxygen	, the monovalent elec b) Potassium	tropositive element is c) Chlorine	d) Sodium	[]
7.	Assertion (A): σ bond is formed by the axial overlap of the two orbitals. Reason (R): π bond is formed by the lateral overlap of two orbitals. a) Both A and R are correct and R is the correct explanation of A. b) Both A and R are correct and R is not the correct explanation of A. c) A is correct, R is incorrect. d) A is incorrect, R is correct.					
8.	Statement (A): In SI Statement (B): In PO Statement (C): In SI a) All the above stater c) A, B are correct an	Cl ₃ molecule, 'P' obeg F ₆ molecule, all the atments are correct	y octet rule.]
		MOLE	CONCEPT			
9.	1 mole of KClO ₃ weight a) 142.5g	ghs b) 122.5g	c) 245g	d) 402g	[]
10.	Which of the following a) H ₃ PO ₂	ng compound has the b) HCl	same molecular weight a c) HNO ₃	and equivalent we d) H ₃ PO ₄	eight []
11.	Assertion (A): Vapo	$ur density = \frac{Den}{Density}$	nsity of gas of hydrogen gas		[]
	a) Both A and R are tb) Both A and R are tc) A is correct and R id) A is incorrect and I	rue and R is the correrue and R is not correst incorrect	ect explanation of A			
12.	Statement (A): One mole of any substance contains 6.023×10^{23} particles Statement (B): The gram formula mass of CaCO ₃ is 100g Statement (C): The volume of one mole any gas at S.T.P is 22.4 lit a) All the above statements are correct b) All the above statements are incorrect. c) A, B are correct and C is incorrect d) A, B are incorrect and C is correct					
		SOL	UTIONS			
13.	If air is taken as a bina a) N ₂	ary solution, the solve b) O_2	ent is c) CO ₂	d) H ₂]]
14.	Among the following a) NaNO ₃	substances, solubility b) KOH	y in water increases with c) NaCl	increase of temped d) NH ₄ Cl	erature [in]

15.	Reason (R): Molarity of a solution decrea Reason (R): As the temperature increases, a) Both A and R are correct and R is the corre b) Both A and R are correct and R is not the c c) A is correct, R is incorrect	volume of the solution i ct explanation of A	ncreases	[]
16.	Statement (A): Mass percentage has no units Statement (B): Volume percentage has no un Statemnet (C): Concentration of a solution solution	its	present in unit	[volur] me of
	a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	b) All the statements A d) A, B are incorrect a			ect
	GASEOUS	S STATE			
17.	2.5 L of a sample of gas at 27°C and 1 bar press temperature constant, the increase in pressure a) 2 bar b) 4 bar	-	ume of 500 ml l	keepir [ng the
18.	Gases are a) Highly compressible c) Exerts pressure in all directions	b) Highly expansible d) Have low density		[]
19.	Assertion (A): Compressibility factor of non-Reason (R): Non-ideal gases exert higher proal Both A and R are correct and R is is correct b) Both A and R are correct, but reason is not c) A is correct but R is incorrect	essure than expected. t explanation of A		. []
20.	Statement (A): At constant temperature grap Statement (B): At constant temperature the v to pressure of gas. Statement (C): According to Boyle's Law P a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	olume of given mass of $v_1V_1 = P_2V_2$	gas is directly property of the state of the	incor	
	CHEMICAL	BONDING			
21.	The rate of reaction that does not involve gase a) pressure b) temperature	es, is not dependent on c) concentration	d) catalyst	[]
22.	Among the following, which are affected by partial and $CaCO_{3 (s)} \rightleftharpoons CaO_{(s)} + CO_{2(g)}$ c) $NH_2COONH_{4(s)} \rightleftharpoons 2NH_{3(g)} + CO_{2(g)}$	b) $2 \text{ NaNO}_{2(s)} + O_{2(g)}$		[]
23.	Assertion (A): N _{2(g)} + 3H _{2(g)}	forward and backward rect explanation of A	eactions move v	with e	equal

24.	Statement (A): Equilibrium constant has meaning only when the corresponding balanced chemical equation is given []				
	Statement (B): Equilibrium constant for the reverse reaction is the inverse of the equilibrium constant for the reaction in the forward direction.				
	Statement (C): $K_p = K_C$ for all reactions. a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	b) All the statements A		incorre	ect
	LANGUAGE OF	CHEMISTRY			
25.	The highly electropositive elements are a) Metals b) Non-metals	c) Metalloids	d) Anions	[]
Peri	odic properties :				
26.	Choose the incorrect statement a) Loss of electrons is called oxidation c) Non-metals are highly electronegative and p d) Metals have low IP and high EN values.	b) Gain of electrons is ossess high IP.	called reductio	[n.]
	LANGUAGE OF	CHEMISTRY			
27.	Assertion (A): Silicon is a non - metal Reason (B): Silicon loses electrons a) Both A and R are correct and R is the corre b) Both A and R are correct but R is not the c c) A is correct and R is incorrect	•		[]
28.	Statement (A): Generally metals are solids Statement (B): Helium is mono atomic eleme Statement (C): All compounds are molecules a) All the above statements are correct	. b) All the above statem]
	c) A and B are correct but C is incorrect	d) A and B are incorre	ct but C is corre	ect	
	SYNTHENTH	ETIC FIBRES			
29.	The symbol 24 represents			[]
	a) PET b) HDPE	c) LDPE	d) Others		
30.	Which of the following is a thermosetting plast	ic		[]
	a) PVC b) Melamine	c) Bakelite	d) Nylon		
31.	Assertion (A): Thermo plastics can be recycle Reason (R): Thermo setting plastics can not a) Both A and R are correct and R is the correct b) Both A and R are correct and R is not the cocc) A is correct, R is incorrect	t be recycled. t explanation of A	correct	[]
32.	Statement (A): Nylon has weakest intermolec	cular forces of attraction		[]
	Statement (B): Polythene is a co polymer Statement (C): PVC is an example of synthetic polymer a) All the statements A, B and C are correct c) A, B are correct and C is incorrect d) A, B are incorrect and C is correct				

IX - CLASS

MATTER AROUND US

1.	Which of the following statements donot go with the liquid state a) Particles are loosely packed in the liquid state b) Fluidity is the maximum in the liquid state c) Liquids cannot be compressed or less extent d) Liquids take up the shape of any container in which these are placed	[]		
2.	Which of the following increases the rate of evaporation a) surface area b) humidity c) temperature d) wind	[]		
3.	Assertion (A): The amount of heat energy required to convert one 'kg' of a solid state without any rise in temperature is called latent heat of fusion		liquid		
	Reason (R): The amount of heat energy required to convert one 'kg' of a liquid in without any rise in the temperature is called latent heat of vapourisat a) Both A and R are true and R is the correct explanation of A b) Both A and R are true and R is not correct explanation of A c) A is correct and R is incorrect d) A is incorrect and R is correct.	_	state		
4.	Statement (A): The process due to which a solid changes into liquid state by absorbence energy is called melting (or) fusion. Statement (B): The process due to which a liquid changes into gaseous state by absorbence energy is called boiling (or) vapourisation. Statement (C): The process due to which a gas changes directly into solid state is called sure a) All the above statements are correct b) All the above statements are incorrect c) A, B are correct and C is in correct d) A, B are incorrect and C is correct.				
	IS MATTER PURE				
5.	Two micible liquids with different boiling points separated by a) Seperating funnel b) distillation c) Sublimation d) Sloven	[t extracti] on		
6.	In which of the following, sedimentation will not takes place a) Sulphur + water b) Soil + water c) Finesand + water d) Album	[in + wate] er		
7.	Assertion (A): Tyndall effect is observed in colloids Reason (R): Scattering of light is observed in colloids a) Both A and R are true and R is the correct explanation of A b) Both A and R are true and R is not correct explanation of A c) A is correct and R is incorrect d) A is incorrect and R is correct.	[]		
8.	Statement I : A mixture without visible boundaries between its components is calle mixture.	d homog	enous		
	Statement II: All homogenous mixtures are called suspensions a) Statement I is correct, II is incorrect. b) Statement II is correct, I is incorrect. c) Both statements I and II are correct. d) Both statements I and II are incorrect.	[]		

ATOMIC STRUCTURE

9.	The specific charge for a) Constant c) Dependent upon the d) Dependent upon the	material of the cathode			[]					
10.	Hydrogen atom contain a) Electron	ns b) Proton	c) Neutron	d) Position	[]					
12.	Assertion : In α - part Reason : At the centre a) Both A and R are cob) Both A and R are coc) A is correct and R is	of the atom positively or rrect and R is the corre prrect but R is not the co	charged particles are pr ct explanation of A.	esent.	ced bac	ek.]					
12.	 Statement (A): The atom consists of uniformly distributed positive and negative charged Statement (B): There are no shared paritcles inside the atom. Statement (C): According to Rutherford's α - particle scattering experiment the atom has small positively charged core at the centre. a) All the above statements are correct b) All the above statements are incorrect c) A, B are correct and C is incorrect. d) A, B are incorrect and C is correct 										
	CHEMICAL BONDING										
13.	Octet rule was propose a) Kossel	ed by b) Lewis	c) Pauling	d) Hund	[]					
14.	Among the following, a) Ethane	the molecule(s) with or b) H ₂	aly σ bonds is (are) c) O_2	d) N ₂	[]					
15.	Assertion (A): Polar of Reason (R): The electron a) Both A and R are control b) Both A and R are control c) A is correct, R is incompared to the control of	tronegativity difference rrect and R is the corre brrect and R is not the c	between H and Cl is get explanation of A.		[]					
16.											
		MOLECO	ONCEPT								
17.	The weight of one C - a) 1.9926×10^{23} g	12 atom is b) 1.9926×10^{-23} kg	c) 1.9926×10^{23} kg	d) 1.9926 × 1	[10 ⁻²³ g]					
18.	Among the following,	redox reaction is			[]					
	a) $HCl + NaOH \rightarrow N$ c) $BaCl_2 + Na_2CO_3 \rightarrow N$	2	b) $Zn + 2HCl \rightarrow Zn$ d) $S + O_2 \rightarrow SO_2 \uparrow$	nCl ₂ +H ₂ ↑							

19.		P, one mole of any gas colume.	occupies 22.4 litres o	of volume. This i	s called (Gram
	Reason (R): S.T.P mean Both A and R are true	eans standard temperature and R is the correct of the and R is not correct	explanation of A	and R is correct	L	J
20.		mic mass of element and entage composition of el		-	nown the	en the
		times two compounds met in them.	ay have same perce	entage composition	on of elen	nents
		Benzene (C_6H_6) and E nt in them.	Ethyne (C_2H_2) have	same percentage	e of elen	nents
	a) All the above statem c) A, B are correct and		b) All the above so d) A, B are incorr			
		NOMENC	LATURE			
21.	Urea was prepared firs a) Ammonium cyanate c) Ammonium isocyna		by heating b) Ammonium cy d) Ammonium iso		[]
22.	IUPAC name of the co	mpound CH ₂ -CH=	-CH ₂ is]]
	a) 3 – cyclobutyl – 1 p c) 1 – cyclobutyl – 3 –	±	b) 3 – cyclobutyl d) 3 – cyclobutyl			
			(Cl OH		
23.	Assertion (A): The	IUPAC name of the	compound $CH_3 - C$	$CH - CH_2 - CH - CH$	$CH_2 - CC$	ООН
	Reason (R): The order IUPAC a) Both A and R are true	Hydroxy–2–chlorohexa er of preference of func C is COOH > – OH > – $Cthe and R is the correct extend R is not the correct C$	tional groups accord Cl xplanation of A	ding to	[]
	c) A is true but R is fal		d) A is false but R	R is true		
24.	Statement (B): The fe		oloride is $CH_3 - CH$	H_2Cl tatements are incompared to the statements are incompared to the statement of the]
		ISOME	RISM			
25.	n–Butane and isobutan a) Chain isomers	ne are a pair of b) Position isomers	c) Metamers	d) Function	[nal isom] ers
26.	Which of the following a) $abC = C cd$	g structure permits geom b) $abC = C d_2$	etrical isomerism c) abC = Cbx	d) $abC = C$	[C ax]

27.	Assertion (A): The optical isomer wich rotate dextro rotatory	es the plane polarised light in anti clock	directi	ion is
	Reason (R): The optical isomer wich rotates dextro rotatory	the plane polarised light in clock wise	directi	on is
	a) Both A and R are true and R is the correct ofb) Both A and R true and R is not the correct	explanation of A		
	c) A is true but R is false	d) A is false	but R is	s true
28.	Statement (A): Enantiomers are mirror imag Statement (B): Diastereomers are not mirror Statement (C): Carbon atom which is bonded center.	images of each other and non superim	posable	
	a) All the statements A, B and C are correct	b) All the statements A, B and C are		ect
	c) A, B are correct and C is incorrect	d) A, B are incorrect and C is correct	et	
	SOLUT	CIONS		
29.	Colligative properties of a dilute solution depe	end on	[]
	a) Nature of solutec) Number of solute particles	b) Nature of solventd) Number of solvent particles		
30.	Which of the following is / are influenced mor	e by temperature.	[]
	a) Freezing point b) Boiling point	c) Vapour pressure d) Osmotic p	ressur	e
31.	Assertion (A): 1 gram formula weight of Na property than 1 gram molecu Reason (R): Formula weight of NaCl is less a) Both A and R are true and R is the correct of Both A and R are true and R is not the correct of A is true but R is false	lar weight of glucose in one litre of wa than the molecular weight of glucose explanation of A	_]
32.	Statement (A): Solutions which have same of isotonic solutions. Statement (B): Elevation in boiling point will high Statement (C): Ethylene glycol is used as an a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	be high if the molal elevation constant	[of solve incorre] ent is
	X - CI	LASS		
	ELECTRO C	HEMISTRY		
1.	Which of the following is incorrect for the eleca) Solid lead bromide conducts electric current b) Fused lead bromide conducts electric current c) Aqueous solution of lead bromide conducts d) Molten wax do not conduct electric current	t nt electric current	[]
2.	In down's method sodium is prepared by the electrodes (cathode and anode) a) $2Cl^- \rightarrow Cl_2 + 2e^-$ b) $Na^+ + e^- \rightarrow Na$	ectrolysis of molten NaCl the reactions c) $Na^+ + e^- \rightarrow Na$ d) $Na^+ \rightarrow Na$	[erent

3.	Assertion (A): The cell constant of a cell electrodes	ssertion (A): The cell constant of a cell depends upon the nature of the material of the							
	Reason (R): The observed conductance of a	solution depends upon t	the nature of the	mate	rial of				
	the electrodes a) Both A and R are correct, R is the correct	explanation of A		L]				
	b) Both A and R are correct but R is not the content by Both A and R are correct but R is not the content by Both A and R are correct but R is not the content by Both A and R are correct but R is not the content by Both A and R are correct.	-							
	c) A is incorrect R is correct. d) A is correct, R is incorrect.								
4.	Statement (A): The zinc rod loses its mass while the copper rod gains in mass during electric current.								
	Statement (B): Salt bridge is connected between two half cells								
	Statement (C): Agar - Agar gel is used in salt bridge.								
	a) All the statements are correct b) All the statements are in correct								
	c) A,B are correct, C is incorrect d) A,B are incorrect, C is correct								
	METAL	LURGY							
5.	Which one of the following is not a method of	of concentration of ore		[1				
	a) Gravity separation	b) froth floatation pro	ocess	-	-				
	c) electromagnetic separation	d) smelting							
6.	Which of the following metals are extracted by	y electrolytic reduction	?	[]				
	a) Cu b) Al	c) Mg	d) Ag						
7.	Assertion (A): Metals of high purity are obtained Reason (R): Impurities are more soluble in that a) Both A and R are true and R is the correct ab) Both A and R are true and R is not correct ac) A is correct and R is incorrect and R is correct and R is correct and R is correct.	he melt than in pure met explanation of A	al.	L]				
8.	Statement (A): The chemical formula of Rust is Fe ₂ O ₃ . XH ₂ O [] Statement (B): The composition of German Silver is 25-50% copper, 24-35% zinc and 10-35% nickel.								
	Statement (C): Duralimine is used in making some parts of aeroplanes.								
	a) All the statements are correct c) A and B are incorrect and C is correct	b) A and B are corrected All the statements	et and C is incom	rect					
	NONENC	LATURE							
9.	The alicyclic compound is			Г	1				
9.	a) Cyclohexane b) Benzene	c) Pyrrole	d) Hexane	L	J				
10.	1-buten-3-yne contains totally			[]				
	a) 3π bonds	b) 7σ bonds							
	c) three $-C \equiv C$ – bonds are present	d) one $C = C$ is pr	resent						
11.	Assertion (A): The formula of methyl isocy Reason (R): The formula of methyl cyanide a) Both 'A' and R are correct and 'R' is the cob) Both 'A' and 'R' are correct but R is not the c) 'A' is false R is true	e is CH ₃ CN rrect explanation of 'A']]				

- **Statement A:** When the ring contains more or equal number of carbon atoms than the alkyl group 12. attached to it, then it is named as a derivative of cyclo alkane and the alkyl group is treated as substituent.
 - **Statement B:** When the alkane chain contains greater number of carbon atoms than present in the ring, the compound is considered as the derivative of alkane and the ring is designated as substituent.
 - Statement C: The word cyclo is prefixed before the name of alkene and alkyne having the same number of carbon atoms as in the ring.
 - a) All the statements A, B and C are correct
- b) All the statements A, B and C are incorrect
- c) A, B are correct and C is incorrect
- d) A, B are incorrect and C is correct

ISOMERISM

- 13. Both acetaldehyde and vinyl alcohol belongs to
 - b) Tautomerism

a) Metamerism

d) Geometrical isomerism

c) Position isomerism

- Geometrical isomerism is possible about which of the following multiple bond

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- a) C = N
- b) -N = N c) C = C d) O = O
- Assertion (A): C = CBr
 does not show geometrical isomerism

Reason (**R**): Double bonded carbon atom has two identical groups.

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R true and R is not the correct explanation of A
- c) A is true but R is false

- d) A is false but R is true
- **Statement (A):** Superimposable mirror image is called chiral 16.

Statement (B): Non super imposable mirror image is called achiral

Statement (C): The necessary condition for a molecule to exhibit optical isomerism is that it should be dissymmetric or chiral.

- a) All the statements A, B and C are correct
- b) All the statements A, B and C are incorrect
- c) A, B are correct and C is incorrect
- d) A, B are incorrect and C is correct

CARBON & ITS COMPOUNDS

- 17. The hydrocarbons with functional group – CHO are called
- d) Acids

- a) Aldehydes
- b) Alcohols
- c) Ketones
- 18. Which of the following as correct structural isomers of butane

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19.	Assertion (A): Diamond and fullerences are the Reason (R): Although diamond and fullerene heating.	_	ney produce s	[ame g] gas on
	a) Both 'A' and R are correct and 'R' is the correb) Both 'A' and 'R' are correct but R is not the cc) 'A' is false, R is true d) 'A' is true, R is false	-			
20.	Statement (A): C ₄ H ₁₀ , C ₆ H ₁₄ belongs to same Statement (B): Urea was prepared first time in Statement (C): Soap particles gets aggregated known as micelles	n the laboratory by heatir	•	•	
	a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	b) All the statements A, d) A, B are incorrect an			ect
	CHEMICAL	BONDING			
21.	The hybridisation of 'O' in H ₂ O is a) sp ² b) sp ³	c) sp	d) sp ³ d	[]
22.	The molecules formed by p-p overlapping are a) Br_2 b) H_2	c) N ₂	d) I ₂	[]
23.	Assertion: Ionic bond is strongest bond Reason: Strong electrostatic forces of attract ions. a) Both A and R are correct and R is the correct b) Both A and R are correct and R is not the co c) A is correct, R is incorrect. d) A is incorrect, R is correct.	et explanation of A.	two opposite	ely cha	arged
24.	Statement (A): The electrons present in outers Statement (B): Generally, the electrons of inn Statement (C): The valence electrons are repra a) All the statements A, B and C are correct c) A, B are correct and C is incorrect	er shell do not participate	e in chemical mbols. B and C are	bondi:	
	PERIODIC CLA	SSIFICATION			
25.	Ionization energy of nitrogen is more than oxyga) Nucleus has more attraction for electrons. c) Nitrogen atom is small.	gen because b) Half filled p orbitals d) More penetration eff		[le.]
26.	Which of the following factors effect the E.A a) atomic size c) nuclear charge	b) Shielding effect d) Lanthanide contracti	on	[]
27.	Assertion (A): Na ⁺ ion radius is always small Reason (R): The radius of the cation is always a) Both A and R are true and R is the correct eb Both A and R are true and R is not correct ec A is correct and R is incorrect	ys smaller than parent ato explanation of A		[]

28.	State	ement	t (A):	Repe	ating the properties of	element	ts in a	regul	ar inte	rvals known as 1	period r	licity.
	State a) Al	e ment I the a	t (C): above s	High staten	ng the similar valence er the inner electrons g nents are correct but C is incorrect	greater s b) A	hall be	e the value the	value o	_	ect.	J
				SP	ECTRUM & AT	OMIC	STI	RUC	TUR	RE		
29.				" and	"Y" have the wave le	engths o	f 1nm	and	1A ⁰ . T	The ratio of the	energi	ies of
	"X" a	and "`): 1	Y" is		b) 1:1	c) 1	00:1			d) 1:10	[]
30.	ĺ		sible s	et of a	quantum numbers is	,				,	[]
50.	11101	n n	l	m	S		n	l	m	S	L	J
	a)	3		-2	+1/2	b)	1	1	0	+1/2		
	c)	3	3	2	+1/2	d)	5	3	0	-1		
31.	Asse	rtion	(A) :	In So	mmerfelds model, circ	cular ort	oit is p	ossib	le for t	he electron in K	shell	
							-				[]
	a) Bo b) Bo	oth A	and R and R	are co	ipal quantum number orrect and R is the cororrect and R is not the correct.	rect exp correct	lanatio expla	on of nation	A. n of A.	-	1.	
32.	32. Statement (A): Angular momentum of electron in orbits is quantised. Statement (B): While revolving in stationary orbits electrons do not lose energy							[]			
	State	ement	t(C):	mvr =	$=\frac{nh}{2\pi}$.							
	a) All the above statements are correctc) A, B are correct and C is incorrect.						b) All the above statements are incorrect.d) A, B are incorrect and C is correct					
					IONIC EQ	UILIB	RIU	M				
33.	Wha	t is the	е рН о	of 0.0:	5M Ba(OH) ₂						[1
	a) 1		1		b) 13	c) 5				d) 9		•
34.	Amo a) Ho	_	e follo	wing,	strong acids are b) HCN	c) H	H_2SO_4			d) H ₂ CO ₃	[]
35.	Assertion (A): NH ₄ Cl is salt of strong acid and weak base Reason (R): The aqueous solution of NH ₄ Cl is basic in nature a) Both A and R true and R is the correct explanation of A b) Both A and R are true and R is not correct explanation of A c) A is correct and R is incorrect d) A is incorrect and R is correct							[]			
36.	State State a) Al	ement ement 1 A, B	t (B) : 1 t (C) : s, C are	Meta Meta e corr	ls reacts with acids, ar l carbonates reacts wit l oxides reacts with ac ect l C is incorrect	h acids, ids, to fo b) A	and li orm sa A, B, C	berate alt and are i	e carbo l wate ncorre	ondioxide gas. r.	[]

CHEMICAL REQCTIONS & EQUATION

31.	Based on the reaction given below, who	at is the correct decreasing order of reactivity of	i meta	ais !			
	i) $Zn_{(s)} + CuSO_{4(aq)} \rightarrow ZnSO_{4(aq)} + Co$	$u_{(s)}$	[]			
	ii) $Fe_{(s)} + CuSO_{4(aq)} \rightarrow FeSO_{4(aq)} + Fe$	(s)					
	iii) $Cu_{(s)} + 2AgNO_{3(aq)} \rightarrow Cu(NO_3)_{2(s)}$						
	iv) $Zn_{(s)} + FeSO_{4(aq)} \rightarrow ZnSO_{4(aq)} + I$	$\vec{Fe}_{(s)}$					
	a) $Ag < Cu < Fe$ b) $Fe > Cu > A$	Ag > Zn c) $Zn > Fe > Cu > Ag$ d) $Zn < Fe <$	Ag <	Cu			
38.	Which one of the following reaction ca a) combination b) decomposition	an be a non- redox reaction on c) displacement d) double disp	[placen] nent			
39.	Assertion (A): In a reaction, $Mg_{(s)} + C$ gets oxidised.	$CuSO_{4(aq)} \rightarrow MgSO_{4(aq)} + Cu_{(s)}$. Mg is a reductar	nt but i	itself]			
	Reason (R): Oxidant is reduced by accepting electrons and reductant is oxidised by losing ectrons.						
	a) Both 'A' and R are correct and 'R' is	the correct explanation of 'A'					
	b) Both 'A' and 'R' are correct but R is	-					
	c) 'A' is false, R is true	d) 'A' is true, R is false					
40.	Statement (A): Rancidity is an oxidation reaction in which the spoilage of food occurs						
	Statement (B): Rusting of iron is an e	xample of corrosion reaction.	[]			
	Statement (C): The colour of PbI ₂ precipitate is white						
	a) All A, B, C are correct	b) A, B, C are incorrect					
	c) A B are correct and C is incorrect	d) A R are incorrect and C is correct					