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Chemistry paper 1



S.#	Topic	Sub Topics	Question	Answer Option (A)	Answer Option (B)	Answer Option (C)	Answer Option (D)
1	Introduction to Fundamentals Concepts of Chemistry	concept of mole	A mole of a substance contains _____ particles	6.2 x 10 ²²	6.22 x 10 ²²	6.22 x 10 ²³	6.2 x 10 ²²
2	Introduction to Fundamentals Concepts of Chemistry	molecules	Which one of them is used as an automobile antifreeze	Ethanol	ethene	ethylene glycol	propene
3	atomic structure	BOHR'S model of an atom	Electrons can revolve only in those orbits having _____ angular momentum which depends on its _____ number.	variable, quantum	fixed, principal	fixed, quantum	variable, principal
4	atomic structure	spectrum	an element or its compound is first _____ to get its _____ spectrum by spectrometer	freezed, continuous	freezed, line	volatilized, line	volatilized, continuous
5	atomic structure	principal quantum number	How many electrons can occupy in 7th energy level of an atom. Calculate by using 2n ² formula	24	5	72	98
6	Gases	Dalton's law of partial pressure	When animals inhale air, oxygen will move into the lungs due to difference in partial pressure of oxygen in lungs and atmosphere. This obeys	Pascal's law	Dalton's law	Charles's law	Bohr's law
7	Gases	Diffusion of gases	The rate of diffusion of a gas having molar mass 32 as compared to H ₂ gas will be	6 times ammonia	4 times water	one fourth kerosene oil	one eighth HCl
8	Gases	London forces	London forces are present in	smaller, closer	greater, closer	smaller, far away	greater, far away
9	Liquids	properties of liquids	The densities of liquids are much _____ than gases but _____ to solids	smaller, closer	greater, closer	smaller, far away	greater, far away
10	Liquids	liquid crystals	a liquid crystalline state exist between two temperatures i.e melting temperature and _____ temperature	boiling	freezing	clearing	all of these
11	Liquids	H-bonding	Which of the following shows H-bonding?	CH ₃ CH ₂ OH	CH ₃ -O-CH ₃	CH ₃ CH ₂ Cl	All of these
12	Solids	Amorphous solids	Amorphous solids turns into glass like state from rubber like state, this is called	transition	crack transition	glass transition	all of these
13	Solids	Properties of crystalline solids	The variation in physical properties of a crystal due to direction is called	isotropy	entropy	anisotropy	none of these
14	Solids	Ionic Solids	The nature of Binding Force in Ionic Crystals is	Magnetic	Repulsive	Electrostatic	Weak
15	Chemical Equilibrium	Reversible and irreversible reactions	A reaction with a tendency of occurring in forward and backward direction simultaneously is termed as	Irreversible	Unidirectional	Multidirectional	Reversible
16	Chemical Equilibrium	State of chemical equilibrium	Concentration of reactants and products are expressed as Moles per unit	Area	length	Volume	None of these
17	Chemical Equilibrium	Le Chatelier's Principle	The E. m. f. of a Cell is equals to	Emf(oxidation) - Emf (Reduction)	Emf(oxidation) + Emf (Reduction)	Emf(oxidation) x Emf (Reduction)	None of these
18	Reaction Kinetics	Order of reaction and its determination	In general Photochemical reactions are of order	1	3	2	0
19	Reaction Kinetics	Rate Determining Steps	Rate determining step of a chemical reaction which occur in more than one step depends upon the	fastest step	Slowest Step	catalyst used	Temperature of reaction
20	Reaction Kinetics	Determination of the rate of a chemical reaction	Type of reactants or product decides the nature of method adapted for finding	Rate constant	Enthalpy	Temperature	Rate of a Reaction
21	Thermo chemistry and Energetic of Chemical Reactions	Energy in chemical reactions	Thermochemistry is very important to learn about	Chemical Equilibrium	Chemical Bonding	Heat contents of a compound	All of these
22	Thermo chemistry and Energetic of Chemical Reactions	System, Surrounding and State function	In Chemistry the work is generally	Done by Temperature change	Pressure - Temperature Work	Pressure Volume Work	None of these
23	Thermo chemistry and Energetic of Chemical Reactions	First Law of thermodynamics	Work done on the system is	Negative	depends upon Boundary Conditions	Positive	Zero
24	Electrochemistry	Introduction to Electrochemistry	Conversion of Electrical energy into chemical energy is	Mechanical Energy	Electromechanical Energy	Electrochemistry	Chemical Energy
25	Electrochemistry	Give the characteristics of a redox reaction.	Each half reaction in ion electron method is balanced by adding	Electrons on left hand side	Electron on right hand side	Both left or right hand side	None of these
26	Electrochemistry	Give the characteristics of a redox reaction.	Only those substances are written in Ion Electron Method	which are oxidizing	which are reducing	which are not taking part in reaction	Which will take part in reaction
27	chemical bonding	cause of chemical bond	The outermost s and p orbitals of Noble gases are completely filled that why they are	stable, reactive	stable, uncreative	unstable, reactive	unstable, uncreative
28	chemical bonding	Energetics of bond formation	When repulsive forces are dominant over repulsive forces during bond formation, it leads to	stability	instability	accuracy	all of these
29	chemical bonding	atomic sizes	The atomic radius means the average distance b/w the _____ and its _____	proton, innermost shell	nucleus, system	nucleus, outermost shell	proton, system
30	S and p block elements	Electronic configuration	Group 1 elements are called?	alkaline earth metals	alkali metals	chalcogens	noble metals
31	S and p block elements	alkaline earth metals	The formula of Chile Saltpeter is	NaNO ₃	CaCO ₃	Ba (NO ₃) ₂	NH ₄ Cl
32	Transition Elements	General Characteristics	Why transition metals have strong metallic bonding?	Because of high melting point	Because d-electrons of outer shell take part in bonding	Because s-electrons of outer shell take part in bonding	Both s and d electrons takes part in bonding
33	Transition Elements	General properties	What is a complex/coordination compound?	A compound in which a metal atom or ion is covalently bonded with a group of neutral molecules or anions.	A compound that contains 2 or more than 2 different elements	A compound which has complex molecular geometry	A compound that contains a complex ion and can exist independently
34	Transition Elements	General Characteristics	Which orbitals take part in binding of transition elements	Outermost s orbital and p orbitals	Outermost d orbital and underlying half-filled f-orbitals	Outermost p orbital and underlying half-filled d-orbitals	Outermost s orbital and underlying half-filled d-orbitals
35	Fundamental principles of Organic Chemistry	Isomerism	Which class of compounds cannot show positional isomerism	alkane	alkene	alkyne	alcohol
36	Fundamental principles of Organic Chemistry	Classification of Organic Compounds	Formyl group is present in	Aldehydes	ethers	thiol	acetone
37	Fundamental Principles of Organic Chemistry	Classification of organic compound	Functional groups are _____ part of organic compounds	Physical	Polar	Chemical	Neutral
38	Chemistry of Hydrocarbons	Benzene	The bond angles in benzene ring are	90°	60°	120°	180°
39	Chemistry of Hydrocarbons	Alkynes	Polymerization of _____ produces synthetic rubber	Formaldehyde	Chloropropene	Chloroform	Vinyl bromide
40	Chemistry of Hydrocarbons	Nomenclature of alkanes, alkenes and alkynes	Which one of the following is correct structure of 2,2-Dimethylbutane?	CH ₃ (CH ₂) ₂ CCH ₂ CH ₃	CH ₃ (CH ₂)CCH ₂ CH ₃	CH ₃ (CH ₂)CCH ₂ CH ₂	CH ₃ CH ₂ CH ₂ CH ₂
41	Alkyl Halides	Classification and Nomenclature	In general formula of alkyl halide RX, X represents _____	Noble gases	Halogens	Metals	Metalloids
42	Alkyl Halides	Reactions	Which gases are produced when alcohol reacts with thionyl chloride	Sulphuric acid and carbon dioxide	Sulphur dioxide and hydrogen chloride	Sulphur chloride and hydrogen dioxide	Sulphuric acid and hydrogen chloride
43	Alkyl Halides	Reactions	Which of the following bond has highest bond energy value ?	C-I	C-H	C-Cl	C-F
44	Alcohol and Phenols	Alcohols	Which of the following is more soluble in water _____?	Ethanol	Phenol	Hexanol	Dimethyl ether
45	Alcohol and Phenols	Reactivity	The method which is used on industrial scale for production of alcohol from alkene	Hydrohalogenation of alkenes	Dehydration of alkenes	Hydration of alkenes	Hydroxylation of alkenes

46	Alcohol and Phenols	Physical properties of phenol	Phenol is _____ liquid ?	Dense	Hard	Deliquescent	intermittent
47	Aldehydes and Ketones	Nomenclature	What is the Hybridization of carbon atom in Aldehyde group?	Sp ²	Sp ³	Sp	dsp ²
48	Aldehydes and Ketones	Reactions	Which of the following centers are present in the carbonyl compounds?	Electrophilic	Nucleophilic	Electron deficient	All of these
49	Aldehydes and Ketones	Reactions	Cyanohydrins when reacted with mineral acid produces _____?	Beta Hydroxy carboxylic acids	Alpha hydroxy carboxylic acids	Carboxylic acids	Unsaturated acids
50	Carboxylic Acids	Nomenclature	Acetic acid derived from the word 'Acetum' which means _____?	Acetic acid	Bitter	Citric	Vinegar
51	Carboxylic Acids	Physical properties of carboxylic acids	Solubility of carboxylic acids _____?	Decreases with increase of volume	Decreases with increase in molecular mass	Increases with increase in molecular mass	None of these
52	Carboxylic Acids	Reactivity	On reacting with which of the following carboxylic acids produce CO ₂ ?	Carbonate	Bicarbonate	Bisulphites	Both a and b
53	Macromolecules	Enzymes	Enzymes that catalyze hydrolysis:	Oxidoreductase	Hydrolases	Ligases	Transferases
54	Macromolecules	Proteins	Regular coiling & twisting of polypeptide chain caused by H-bonding in between NH & CO occurs in _____.	Primary structure	Secondary structure	Tertiary structure	Quaternary structure
55	Macromolecules	Proteins	Three dimensional folding of polypeptide chain results in formation of _____.	Primary structure	Secondary structure	Tertiary structure	Quaternary structure
56	Macromolecules	Proteins	Which of the following element is not usually present in all proteins?	Carbon	Hydrogen	Nitrogen	Sulphur

Answers:

- | | | | |
|-------|---|----------------------------------|-------|
| 1. C | 18. D | 32. D | 48. D |
| 2. C | 19. B | 33. D | 49. B |
| 3. C | 20. D | 34. D | 50. D |
| 4. C | 21. D | 35. A | 51. B |
| 5. D | 22. C | 36. A | 52. D |
| 6. B | 23. C | 37. B | 53. B |
| 7. C | 24. C | 38. C | 54. B |
| 8. C | 25. C | 39. B | 55. C |
| 9. B | 26. D | (CHLOROPRENE, not chloropropene) | 56. D |
| 10. C | 27. B | 40. A | |
| 11. A | 28. Wrong question | 41. B | |
| 12. C | (When repulsive forces are dominant over attractive forces during bond formation, it leads to: INSTABILITY) | 42. B | |
| 13. C | | 43. D | |
| 14. C | | 44. A | |
| 15. D | | 45. C | |
| 16. C | 29. C | 46. C | |
| 17. A | 30. B | 47. A | |
| | 31. A | | |

Chemistry paper 2

S.#	Question	Option (A)	Option (B)	Option (C)	Option (D)	Correct Answer
1	The term which shows the quantitative relationship between the products and reactants is called as _____?	Percentage yield	Stoichiometry	Limiting reactant	All of these	B
2	In the reaction of burning of an organic compound in the presence of oxygen, which of the following is a reagent present in excess?	Organic compound	Oxygen	Fuel	All of these	B
3	If uncertainty in momentum of electron is zero, the uncertainty in its position would be _____?	Less than zero	more than zero	one	infinite	D
4	In the discharge tube positive rays move in which direction?	Towards anode	Towards cathode	move randomly	Move towards vacuum in the tube	B
5	The unit _____ is commonly used by meteorologist	Bar	centibar	millibar	kilobar	C
6	If pressure and volume of a gas are variable while temperature remains constant, this belongs to	Charles's law	Boyle's law	Avogadro's law	Pascal's law	B
7	If a graph is plotted between pressure on x-axis and volume on y-axis for Boyle's law verification, the curve obtained is called	pseudothorn	isotherm	biothorn	all of these	B
8	All the halogens are _____ diatomic molecules	polar	non polar	reactive	non reactive	B
9	Sodium metal shows metallic luster is explained by	diffusion of Na ⁺	oscillation of loose electrons	excitation of free protons	strong crystal lattice	D
10	which one the characteristic of ionic solids?	high vapor pressure	good conductivity	low melting point	solubility in polar solvents	D
11	In close packing of metal atoms, space occupied is	.67	.44	.74	.64	C
12	$\delta^+ \quad \delta^- \quad \delta^+ \quad \delta^-$ H—Cl—...—H—Cl	Hydrogen bonding	dipole dipole forces	induced dipole forces	London forces	B
13	The type of hybridization in diamond is	spherical	sp ²	sp ³	sp-sp	C
14	A reaction with a tendency of occurring in forward and backward direction simultaneously is termed as	Irreversible	Unidirectional	Multidirectional	Reversible	D
15	The rate of reaction	Increases as the reaction proceeds	Decreases as the reaction proceeds	Remains unchanged	None of these	B
16	Rate of chemical reactions helps in designing industrial process which is	Completed instantaneously	Slow	Economical	None of these	C
17	Instantaneous rate of reaction is the rate at any	At Equilibrium	one instant	Given Temperature	Given Pressure	B
18	Exothermic Reactions heat is	Taken in	Give out to surroundings	Neither given nor lost	None of these	B
19	Anything under test or observation in laboratory is called	Surrounding	System	Confined space	None of these	B
20	Heat is the energy that flows across the	Surroundings	Boundaries of the system	only within the system	All of these	B
21	Conversion of Electrical energy into chemical energy is	Mechanical Energy	Electromechanical Energy	Electrochemistry	Chemical Energy	C
22	Decrease in Oxidation number is	Oxidation	Reduction	Both A and B	None of these	B
23	Where the attractive forces dominate the repulsive force, a state corresponding to the distance of _____ is reach.	89pm	79.4pm	75.4pm	8:00 PM	C
24	How much hydrogen atoms approach each other when potential energy decrease?	two	three	four	five	A
25	In periodic table, the ionization energies decrease from _____?	right to left	left to right	top to bottom	bottom to top	A
26	Group 1 elements are called?	alkaline earth metals	alkali metals	chalcogens	noble metals	B
27	Which of the following is non-metallic in nature	Nh	Tl	B	Ga	C
28	Which of the following is NOT a coinage element	Cu	Fe	Au	Ag	B
29	What are interstitial compounds?	Transition elements containing small proportion of H, B, C, N	Transition elements containing small proportion of He, Ne, Ar, Xe	The compounds in which transition elements are in their highest oxidation state.	The compounds of transition elements which are not stable	A
30	The formula of esters is	R - COOH	R - COR	R - COOR	R - COH	C
31	The number of isomers of hydrocarbon with thirty carbon atoms	7 billion	4 billion	2 billion	5 billion	B
32	Alicyclic organic compounds belong to	Heterocyclic compounds	Carbocyclic compounds	Saturated compounds	Aromatic compounds	B
33	Methane gas is also known as	Marsh gas	Pepper gas	Mustard gas	None of the above	A
34	If both double and triple bonds are present in the chain, double bond is given the _____	Higher number	Lower Number	Priority	Second position	B
35	Which of the following is NOT explained by Kekule structure of benzene	Hexagonal planar structure	The usual saturated behaviour of benzene	Unsaturation	Presence of three double bonds	B
36	In general formula of alkyl halide RX, X represents	Noble gases	Halogens	Metals	Metalloids	B
37	Which catalyst is used in the preparation of alkyl halide from alcohols	Zinc chloride	Pyridine	Sodium chloride	Thionyl chloride	A
38	CH ₃ CH ₂ CCl ₂ CH ₃ is called	3,3-Dichlorobutane	3,3-Trichlorobutane	2,2-Dichlorobutane	1,1-Dichlorobutane	C
39	The compounds which are formed by the replacement of one of the H of water by a alkyl group are called as _____?	Ethers	Phenols	Alcohols	Carboxylic acids	C
40	The alcohols in which the carbon which is attach to the OH group is further attach with two carbon atoms is called as?	Primary alcohols	Secondary alcohols	Tertiary alcohols	None of these	B

41	Which of the following alcohol does not converted into carboxylic acid when react with $K_2Cr_2O_7/H_2SO_4$?	$CH_3C(CH_3)_2OH$	$CH_3CH(CH_3)OH$	CH_3OH	C_2H_5OH	A
42	Nucleophilic addition reactions of carbonyl compounds can be catalyzed by _____?	Acid	Base	Water	Both acid and base	D
43	Which of the following compound is present in camphor and menthone?	Aldehyde	Alcohol	Esters	Ketones	D
44	Cyanohydrins when reacted with mineral acid produces _____?	Beta Hydroxy carboxylic acids	Alpha hydroxy carboxylic acids	Carboxylic acids	Unsaturated acids	B
45	The compounds having -COOH group are called as _____?	Aldehydes	Ketones	Carboxylic acids	Alcohols	C
46	Which of the following is an example of Monocarboxylic acid ?	Oxalic acid	Methanoic acid	Glutaric acid	Adipic acid	B
47	Which type of carboxylic acid is produced from the hydrolysis of nitriles?	Beta-hydroxy carboxylic acids	Acids having one carbon more than the starting material	Acids having one carbon less than the starting material	Alpha-hydroxy acids	B
48	Which of the following element is present in all proteins ?	S	C	N	O	C
49	Which enzyme is used for diagnosis of Jaundice ?	LDH-1	Protease	Alkaline phosphatase	None of these	C
50	Most of the enzyme reactions are _____?	Reversible	Irreversible	Condensation	Oxidation	A

Answer corrections:

The answer for question 9 should be B

The answer for question 25 can be both A or C

The answer for question 48 can be both B or C



Chemistry paper 3

S.#	Question	Answer Option (A)	Answer Option (B)	Answer Option (C)	Answer Option (D)
1	The mass of one mole of electron is	1. 8 mg	.184mg	.54 mg	.64 mg
2	In the gaseous state, the distance between the molecules is ____ times _____ than their diameters.	2 ,lesser	3 ,lesser	3 ,greater	2 ,greater
3	The value of Planck's constant 'h' is	6.626 x 1 -3 KJs	6.262 x 1 -3 Js	6.626 x 1 -3 Js	6.262 x1 -3K Js
4	The radius of an electron orbit in a hydrogen atom is of the order of	1 -8 m	1 -1 m	1 -11 m	1 -13 m
5	line spectrum of sodium contains _____ colored lines separated by a definite distance	one yellow	two yellow	two brown	two golden
6	The unit_ is commonly used by meteorologist	Bar	centibar	millibar	kilobar
7	Boyle's law is stated as:"The product of pressure and volume of a fixed amount gas at constant temperature is a _____ quantity	variable	constant	discreet	decreasing
8	Number of molecules in one dm ³ of water will be almost	18x6. 2x1 23	55.6x6. 2x1 23	18x6. 2x1 23	2x6. 2x1 23
9	Following are example of Intramolecular forces except?	Ionic bond	Covalent bond	Metallic bond	Dipole Dipole forces
10	The properties of liquid crystals are intermediate b/w crystals and	anisotropic liquids	nematic liquids	isotropic liquids	liquids
11	Which of the following shows H-bonding?	CH ₃ CH ₂ OH	CH ₃ -O-CH ₃	CH ₃ CH ₂ Cl	All of these
12	Atoms in solids are	Loosely Packed	In random motion	Excited	Closely packed
13	The temperature at which one crystalline form changes to other is called _temperature	critical	absolute	transition	none of these
14	Which statement is 1?	Amorphous solids have sharp melting Points	Amorphous solids have zero percent arranged	Amorphous Solids have a range of boiling points	Amorphous solids have definite heat of fusion
15	Activated complex is formed due to	Pressure	Temperature	Effective collision	Ineffective collision
16	Le Chatier Principle is about	Reaction Mixture	Reactants	Equilibrium Mixture	Products
17	Reaction of Sodium with water is an example of	Reversible reaction	Endothermic	Irreversible	Slow
18	The change in concentration of reactants or products per unit time is	rate constant	reaction speed	Rate of a reaction	All of these
19	Specific Rate constant is also known as	Time Constant	relative rate constant	Instantaneous rate constant	velocity constant
20	Hydrolysis means reaction with	Oxygen	Hydrogen	Water	Air
21	Exothermic Reactions heat is	Taken in	Give out to surroundings	Neither given nor lost	None of these
22	Anything under test or observation in laboratory is called	Surrounding	System	Confined space	None of these
23	Lattice Energy of ionic compounds are found by	Hess law	Bon Habers Cycle	Law of Mass action	Law of conservation of mass
24	In Balancing Redox equation the first thing is to	balance out all the Reactants	Write the skeleton Equation	Calculate the oxidation Number	Identify the elements
25	Current in electrolysis is carried through	Free electrons	Positive Ions	Negative Ions	Both B and C
26	The hydrogen gas bubbling into one molar solution of HCl has a pressure of	2atm	780 mmHg	19 Psi	1 atm
27	The shielding effect _____ from left to right in a period	decreases	increases	remains same	no change
28	When two atoms bonded to form a stable compound, the attractive forces will ___repulsive forces and the potential energy of the system will be ___-	recessive, higher	dominate, minimum	dominate,maximum	recessive, lower
29	The ionic radius is always _____ than the atomic radius from which t is derived	higher	larger	moderate	smaller
30	Which one is natron?	Na ₂ CO ₃	Na ₂ CO ₃ .1 H ₂ O	Na ₂ CO ₃ .H ₂ O	NaHCO ₃
31	The Oxidation state of Alkali metals is?	1	2	3	zero
32	Pure metal	Corrode slowly	Does not corrode easily	Corrode rapidly	None of these
33	Which of the methods to prevent corrosion?	Alloying two metals	Coating the surface with less reactive metal	Painting the surface with a dye	All
34	d-block elements are present _____ in the periodic table ?	Right of the periodic table	Left of the periodic table	Bottom of periodic table	Between s and p block elements
35	Who rejected vital force theory	Wohler	Berzelius	Wallus	Lyil
36	Which one of the following is not a heterocyclic compound	thiophene	anthracene	fulan	pyrrole
37	structure of cyclohexane is	trigonal	pentagonal	hexagonal	none
38	Acetylene polymerizes to make	cyclohexane	benzene	hexane	toluene
39	position of double bond is called in alkenes can be identified by	bromine water	ozonolysis	baeyer's reagent	wurtz synthesis
40	alkene is _____	electrophile	nuleophile	both	none
41	Electrophile is _____	Electron loving	Electron donor	Electron repellent	Electron giver
42	2 Chloro 2 methylpropane is an example of	Primary alkyl halide	Secondary alkyl halide	Tertiary alkyl halide	None of the above
43	What is the correct order of reactivity of alkyl halides ?	R-Cl>R-Br>R-F>R-I	R-I>R-Br>R-Cl>R-F	R-I>R-Cl>R-Br>R-F	None of these
44	The classification of monohydric alcohols is due to	hydrogen atom	carbon atom	hydroxyl group	carbonyl group
45	Which of following has higher boiling and melting point	acetone	2 - butanol	propane	2 - methylpropene
46	The alkenes can be formed by alcohols in the presence of	acidified KMnO ₄	acidified K ₂ Cr ₂ O ₇	acidified cucl ₂	pyridine
47	What is the nature of Carbon present in Aldehyde is?	Nucleophilic	Electrophilic	Neutral	all of these
48	Which of the following is the correct IUPAC name of acetone?	Propanone	3-Propanone	2-Butanone	2-Propanone
49	Which of the following reaction takes place when acetone reacts with HCN ?	Electrophilic addition	Nucleophilic elimination	Nucleophilic addition	Electrophilic addition
50	Which of the following is correct general formula of aliphatic carboxylic acid ?	RCOOH	ArCOOH	PhCOOH	None of these
51	In IUPAC nomenclature, Carboxylic acids are named as _____?	Alkoxy acid	Alkanoic acid	Alkyl carboxylic acid	Alkoxyate acid
52	Carboxylic acid reduction to alcohol can be achieved by using?	H ₂ /Ni	Pd/C	NaBH ₄	LiAlH ₄
53	High molecular mass organic compounds, upon hydrolysis yield amino acids are called _____.	Carbohydrates	Lipids	Proteins	DNA
54	Most abundant protein in animals forming 25%-35% of body protein is which type of protein?	Simple proteins	Conjugated proteins	Derived proteins	None
55	A peptide having up to 10000 amino acids is called as _____?	Dipeptide	Protein	Polypeptide	Peptide
56	The temperature at which enzyme activity is maximum is called as _____?	Maximum temperature	Absolute temperature	Critical temperature	Optimum temperature

Answers:

- | | | |
|--|---|-------|
| 1. C | 24. D | 45. B |
| 2. C | 25. D | 46. B |
| 3. C | 26. D | 47. B |
| 4. C | 27. C | 48. A |
| 5. B | 28. B | 49. C |
| 6. C | 29. Ionic radius is greater and smaller in case of anions and cations respectively than their atomic radii. However if we see the options (larger, higher, moderate, smaller) D makes more sense. | 50. A |
| 7. B | | 51. B |
| 8. B | | 52. D |
| 9. D | | 53. C |
| 10. C | | 54. B |
| 11. A | | 55. C |
| 12. D | 30. B | 56. D |
| 13. C | 31. A | |
| 14. Question is not clear (If they are asking about which statement is correct then it is C) | 32. C | |
| 15. C | 33. D | |
| 16. C | 34. D | |
| 17. C | 35. A | |
| 18. C | 36. B | |
| 19. D | 37. C | |
| 20. C | 38. B | |
| 21. B | 39. B | |
| 22. B | 40. B | |
| 23. B | 41. A | |
| | 42. C | |
| | 43. B | |
| | 44. B | |



Chemistry paper 4

S.#	Question	Answer Option (A)	Answer Option (B)	Answer Option (C)	Answer Option (D)
1	How many times Mg atom is heavier than Carbon atom?	2 times	3 times	12 times	4 times
2	The reagent which leaves in the reaction mixture after reaction has completed is called as ___?	Limiting reactant	Excessive reagent	Consumed reagent	All of these
3	When we calculate radii of Hydrogen atom by this equation $r = .529A(n^2)$ where $n = 1,2,3,4,$, the distance between orbits of hydrogen atom will	decrease	increase	remains same	be constant
4	Spectrum is the visual display or _____ of component of white light when it is passed through prism	rarefaction	radiation	collection	dispersion
5	Which of the following shows Planck's quantum theory	$E=h\nu$	$E=c/\nu$	$E = c\nu$	none of these
6	A gas having volume of 1 dm ³ is enclosed in a vessel at 1 c and 2.5 atm. This gas is allowed to expand until new pressure is 2 (No Suggestions) will be new volume if the temperature is maintained at 273 k?	12dm ³	12.5dm ³	1 dm ³	12 .3dm ³
7	If a graph is plotted between pressure on x- axis and volume on y- axis for Boyle's law verification, the curve obtained is called	pseudoderm	isotherm	biotherm	all of these
8	The properties of gases, liquids and solids can be understand by	atomic theory	potential molecular theory	kinetic molecular theory	none of these
9	The forces present between the molecules are called as ?	Chemical bond	Intermolecular forces	Intra molecular forces	Strong forces
10	Which force present in a mixture of H ₂ and HCl molecules?	Dipole Dipole forces	Debye forces	London Dispersion forces	None of these
11	Which instrument is used to measure the vapour pressure of a liquid?	Barometer	Manometer	Thermometer	Sphygmometer
12	In polar solvents ionic crystals react	Slowly	fast	reacts on heating	No reaction
13	Melting point of crystalline solids are	Fixed	Variable	have a range of value	None of these
14	Lattice Points are also called	space lattice	crystal lattice	lattice sites	Lattice location
15	In an Irreversible reaction the tendency of it to go in reverse direction is	High	low	negligible	none Of these
16	Equilibrium constant has	Units	No Units	Both A and B	A negative value
17	The equilibrium Constant is always written as a ratio of	Reactants over products	Products over reactants	Product times Reactants	None of these
18	Example of fast reactions are	Neutralization	Double Decomposition Reactions	Ionic Reactions	All of these
19	Activation energy for forward and backward reactions is always	Same	Different	Reciprocal of each other	Higher for forward reaction
20	Following are slow reactions except?	Rusting of iron	Weathering of stones	Reaction between silver nitrate and sodium chloride	Fermentation of sugar
21	An enthalpy cycle used to calculate the lattice energy is	Hess Law	Carnot Cycle	Born haber Cycle	Haber's Process
22	Hess law is known as	Law of heat summation	Law of constant heat capacity	Law of mass action	Law of conservation of mass
23	Work done by the system is always	Positive	Zero	Negative	Equals to Unity
24	Standard Hydrogen Electrode is dipped into	1 molar solution of NaOH	1 molar solution of HCl	Nitric Acid	KOH
25	Standard Reduction potential is found by dipping the electrode in its own ion with molarity equals to	0.1	1	1.5	0
26	In Industry Caustic Soda is formed by electrolysis of	Dilute NaCl Solution	Fused NaCl	Concentrated NaCl Solution	NaCl Solution
27	The covalent radius of Hydrogen is	37.6pm	37.7pm	37.7nm	37.6nm
28	The minimum amount of energy required to remove an electron from its gaseous atom to form an ion is known as	electron affinity	ionization energy	electronegativity	potential energy
29	The sum of cationic and anionic radius in a crystal lattice is equal to	inter-fitian distance R	inter ionic distance R	inter- cationic distance R+	inter-anionic distance R-
30	Which of the following is NOT an alkali metal	Li	Fr	H	Cs
31	Which oxidation state is shown by alkali metals	-1	-2	1	2
32	Which elements form alloys	Alkali metals	Alkaline earth metals	Transitions metals	Halogens
33	Transition elements have properties of_____?	Metals	None metals	Between both metals and nonmetals	None of these
34	The species which donates electrons to the central metal atom in the coordination sphere is called	Anion	Cation	The ligand is positively charged	Acid
35	Compounds with same molecular formula but different structural formula and properties are called:	Isomers	Organic compounds	Monomers	Tautomers
36	What is the origin of organic compounds?	Plants	Animals	Anything except living organisms	Both a) and B)
37	Isomerism becomes possible when:	There more than two carbon atoms	There more than three carbon atoms	There more than three hydrogen atoms	There more than three in the atoms in the molecule
38	the catalytic oxidation of alkane is used	as fuel	in organic synthesis	prepare higher fatty acids	all of these
39	The stability of benzene is due to	cyclic structure	that it gives addition reaction	delocalization of pi electrons	none
40	Which of the following belongs to the class of saturated hydrocarbons	Propene	Butane	Isobutylene	Ethyne
41	Victor Grignard was awarded a Nobel Prize in	Physics	Chemistry	Mathematics	Quantum chemistry
42	In primary alkyl halide, halogen atom is attached to a carbon atom which is	Attached to one or no carbon	Attached to two or no carbon	Attached to one or two carbons	Attached to one or three carbons
43	Chloroethane is an example of	Primary alkyl halide	Secondary alkyl halide	Tertiary alkyl halide	None of the above
44	In cannizzaro's reaction, Benzyl alcohol is obtained from	benzaldehyde	benzene	picric acid	benzyl chloride
45	The compounds which are formed by the replacement of one of the H of water by a alkyl group are called as_____?	Ethers	Phenols	Alcohols	Carboxylic acids
46	The alcohols in which the carbon which is attach to the OH group is further attach with two carbon atoms is called as?	Primary alcohols	Secondary alcohols	Tertiary alcohols	None of these
47	Bulky ketones do not react with	Sodium bisulphite	HCl	Grignard reagent	HCN
48	If both alkyl groups attached to carbonyl in ketone are same then it is called as_____?	Mixed	Unsymmetrical	Symmetrical	None of these
49	In IUPAC nomenclature, aldehydes are named as _____?	Alkanol	Alkanal	Alkanone	Alkaldehyde
50	Which of the following is correct about IUPAC naming of carboxylic acid?	In the parent name COOH position is not mentioned	COOH is written as substituent and position is mentioned	COOH is given 1st position in all carboxylic acid	Both a and c

51	Carboxylic acids are produced by the oxidation of _____?	Alcohol	Aldehyde	Ketone	All of these
52	The compounds which have -CN group are called as _____?	Aldehydes	Imines	Amines	Nitriles
53	Amino acids in proteins are held together by:	Peptide bond	Phosphodiester linkage	H-bonding	Ether linkage
54	What is the Optimum temperature for working of enzyme in human body?	40°C	35°C	37°C	32°C
55	After digestion proteins change into:	Amino acids	Starch	Glycogen	Lipids
56	The name protein is derived from _____ word proteios meaning _____.	Greek, Important.	French, Prime Importance	Greek, Functional	Greek, Prime Importance

Answers:

- | | | |
|---|-------|-------|
| 1. A | 21. C | 41. B |
| 2. B | 22. A | 42. A |
| 3. B | 23. C | 43. A |
| 4. D | 24. B | 44. A |
| 5. D | 25. B | 45. C |
| 6. (1.25 dm ³ is the correct answer. Closest to this is C) | 26. C | 46. B |
| 7. B | 27. B | 47. A |
| 8. C | 28. B | 48. C |
| 9. B | 29. B | 49. B |
| 10. C | 30. C | 50. C |
| 11. B | 31. C | 51. D |
| 12. B | 32. C | 52. D |
| 13. A | 33. C | 53. A |
| 14. C | 34. C | 54. C |
| 15. C | 35. A | 55. A |
| 16. C | 36. D | 56. D |
| 17. B | 37. D | |
| 18. D | 38. D | |
| 19. A | 39. C | |
| 20. C | 40. B | |