I. Choose the correct answer

1) Inertia of a body depends on

a) weight of the object b) acceleration due to gravity of the planet c) mass of the object d) Both a & b

2) Impulse is equals to

a) rate of change of momentum. b) rate of force and time c) change of momentum d) rate of change of mass

3) Newton's III law is applicable

a) for a body is at rest b) for a body in motion c) both a & b d) only for bodies with equal masses

4) Plotting a graph for momentum on the Y-axis and time on X-axis. slope of momentum-time graph gives

a) Impulsive force b) Acceleration c) Force d) Rate of force

5) In which of the following sport the turning of effect of force used

a) swimming. b) tennis. c) cycling. d) hockey

6) The unit of 'g' is m s-2. It can be also expressed as a) cms^{-1} b) Nkg^{-1} c) $Nm^{2}\ kg^{-1}$ d) $cm^{2}\ s^{-1}$

7) One kilogram force equals to a) 9.8 dyne b) 9.8×10^{4} N. c) 98×10^{4} dyne d) 980 dyne

8) The mass of a body is measured on planet Earth as M kg. When it is taken to a planet of radius half that of the Earth then its value will be____kg. a) 4 M b) 2M c) M/4 d) M

9) If the Earth shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will. a) decrease by 50% b) increase by 50% c) decrease by 25% d) increase by 300%

10) To project the rockets which of the following principle(s) is /(are) required?

a) Newton's third law of motion. b) Newton's law of gravitation

c) law of conservation of linear momentum. d) both a and c

II. Fill in the blanks 1. To produce a displacement _____is required.

2. Passengers lean forward when sudden brake is applied in a moving vehicle This can be explained by ____

3. By convention, the clockwise moments are taken as ___ and the anticlockwise moments are taken as_____

4. _____ is used to change the speed of car.

5. A man of mass 100 kg has a weight of _____ at the surface of the Earth

III. State whether the following statements are true or false.

1. The linear momentum of a system of particles is always conserved.

2. Apparent weight of a person is always equal to his actual weight

3. Weight of a body is greater at the equator and less at the polar region.

4. Turning a nut with a spanner having a short handle is so easy than one with a long handle.

5. There is no gravity in the orbiting space station around the Earth. So the astronauts feel weightlessness.

IV. Match the following

a. Newton's I law. - propulsion of a rocket

b. Newton's II law - Stable equilibrium of a body

c. Newton's III law - Law of force

d. Law of conservation of Linear momentum - Flying nature of bird

V. Assertion & Reasoning Mark the correct choice as

(a) If both the assertion and the reason are true and the reason is the correct explanation of assertion.

(b) If both the assertion and the reason are true, but the reason is not the correct explanation of the assertion.

(c) Assertion is true, but the reason is false. (d) Assertion is false, but the reason is true.

1. Assertion: The sum of the clockwise moments is equal to the sum of the anticlockwise moments.

Reason: The principle of conservation of momentum is valid if the external force on the system is zero.

2. Assertion: The value of 'g' decreases as height and depth increases from the surface of the Earth.

Reason: 'g' depends on the mass of the object and the Earth.

I.Choose the correct answer. UNIT : 2 LIGHT

1.The refractive index of four substances A, B, C and D are 1.31, 1.43, 1.33, 2.4 respectively. The speed of light is maximum in. a) A b) B c) C d) D

2.Where should an object be placed so that A real and inverted image of same size is Obtained by a convex lens. a)F b) 2f c)Infinity d) between f and 2f

3.A small bulb is placed at the principal focus Of a convex lens. When the bulb is switched On, the lens will produce a)A convergent beam of light. b) A divergent beam of light.

c)A parallel beam of light d.A coloured beam of light

4.Magnification of a convex lens is a)Positive b) negative c) Either positive or negative d) zero

5.A convex lens forms a real, diminished point Sized image at focus. Then the position of the Object is at

a)Focus b) infinity c)At 2f d) between f and 2f

6.Power of a lens is –4D, then its focal length is a)4m b) –40m c)–0.25 m d) –2.5 m

7.In a myopic eye, the image of the object is Formed

a)Behind the retina b) on the retina c)In front of the retina d) on the blind spot

8.The eye defect 'presbyopia' can be corrected By

a)Convex lens b) concave lens c)Convex mirror d) Bi focal lenses

9.Which of the following lens would you prefer To use while reading small letters found in Dictionary?

a.A convex lens of focal length 5 cm b)A concave lens of focal length 5 cm

c)A convex lens of focal length 10 cm. d)A concave lens of focal length 10 cm

10.. If VB, VG, VR be the velocity of blue, green And red light respectively in a glass prism, The which of the following statement gives The correct relation?

a)VB = VG = VR. b) VB > VG >VR c)VB < VG < VR d) VB < VG > VR

II. Fill in the blanks:

1.The path of the light is called as ----2.The refractive index of a transparent Medium is always greater than ---

3.If the energy of incident beam and the Scattered beam are same, then the scattering Of light is called as

----------scattering.

4.According to Rayleigh's scattering law, the Amount of scattering of light is inversely Proportional to the fourth power of its ---------

5.Amount of light entering into the eye is Controlled by ----------

III.. True or False. If false correct it.

1.Velocity of light is greater in denser medium Than in rarer medium

2.The power of lens depends on the focal Length of the lens

3.Increase in the converging power of eye Lens cause 'hypermetropia'

4.The convex lens always gives small virtual Image.

IV. Match the following

1. Retina.	a Path way of light
2.Pupil	b Far point comes Closer
3. Ciliary muscles.	c near point moves Away
4 Myopia	d Screen of the eye
5 Hypermetropia.	f Power of accommodation

V. Assertion and reasoning

a)If both assertion and reason are true and Reason is the correct explanation of assertion.

b)If both assertion and reason are true but Reason is not the correct explanation of Assertion.

c)Assertion is true but reason is false. d)Assertion is false but reason is true.

1.Assertion: If the refractive index of the Medium is high (denser medium) the velocity Of the light in that medium will be small

Reason: Refractive index of the medium is Inversely proportional to the velocity of the Light

2.Assertion: Myopia is due to the increase in The converging power of eye lens.

Reason: Myopia can be corrected with the Help of concave lens.

I.Choose the correct answer. UNIT 3 THERMAL PHYSICS

1.The value of universal gas constant

a)3.81 Jmol $^{-1}$ K^{-1} b) 8.03 Jmol^{-1} K $^{-1}$ c)1.38 Jmol^{-1} K $^{-1}$ · d) 8.31 Jmol $^{-1}$ K $^{-1}$

2.If a substance is heated or cooled, the Change in mass of that substance is

a)Positive. b) negative c)Zero d) none of the above

3.If a substance is heated or cooled, the Linear expansion occurs along the axis Of

a)X or –X. b) Y or –Y. c) Both (a) and (b) d) (a) or (b)

4.Temperature is the average _____ Of the molecules of a substance

a)Difference in K.E and P.E b)Sum of P.E and K.E c)Difference in T.E and P.E d)Difference in K.E and T.E

5.In the Given diagram, the possible direction Of heat energy transformation is

II.Fill in the blanks:

1.The value of Avogadro number _____. 2.The temperature and heat are _____ Quantities

3.One calorie is the amount of heat energy Required to raise the temperature of _____ of water through_____.

4.According to Boyle's law, the shape of the Graph between pressure and reciprocal of Volume is ____

III.State whether the following statements Are true or false, if false explain why?

1.For a given heat in liquid, the apparent Expansion is more than that of real expansion.

2.Thermal energy always flows from a system At higher temperature to a system at lower Temperature.

3.According to Charles's law, at constant Pressure, the temperature is inversely Proportional to volume.

IV.Match the items in column-I to the Items in column-II

1.Linear expansion – (a) change in volume

2.Superficial expansion – (b) hot body to cold Body

3.Cubical expansion – (c)1.381 X 10-23 JK^{-1}

4.Heat transformation – (d) change in length

5.Boltzmann constant – (e) change in area

V.Assertion and reason type questions

a.Both the assertion and the reason are true And the reason is the correct explanation Of the assertion.

b.Both the assertion and the reason are True but the reason is not the correct Explanation of the assertion.

c.Assertion is true but the reason is false. d.Assertion is false but the reason is true.

1.Assertion: There is no effects on other end When one end of the rod is only heated.

Reason: Heat always flows from a region of Lower temperature to higher temperature of The rod.

2.Assertion: Gas is highly compressible than Solid and liquid

Reason: Interatomic or intermolecular Distance in the gas is comparably high.

I.Choose the best answer UNIT 4 : ELECTRICITY

1.Which of the following is correct?

a)Rate of change of charge is electrical power. b)Rate of change of charge is current.

c)Rate of change of energy is current. d)Rate of change of current is charge.

2.SI unit of resistance is a)Mho. b) joule c)Ohm d) ohm meter

3.In a simple circuit, why does the bulb glow When you close the switch?

a)The switch produces electricity. b)Closing the switch completes the circuit.

c)Closing the switch breaks the circuit. d)The bulb is getting charged.

4.Kilowatt hour is the unit of a)Resistivity b) conductivity c)Electrical energy d) electrical power

II. Fill in the blanks

1.When a circuit is open, _____ Cannot pass through it.

2.The ratio of the potential difference to the Current is known as _____.

3.The wiring in a house consists of _____ Circuits.

4.The power of an electric device is a product Of _____ and _____.

5.LED stands for _____.

III. State whether the following statements Are true or false: If false correct the Statement.

1.Ohm's law states the relationship between Power and voltage.

2.MCB is used to protect house hold electrical Appliances. 3.The SI unit for electric current is the Coulomb.

4.One unit of electrical energy consumed is Equal to 1000 kilowatt hour.

5.The effective resistance of three resistors Connected in series is lesser than the lowest Of the individual resistances.

IV. Match the items in column-I to the items In column-II:

Electric current.	(a)	volt
Potential difference.	(b)	ohm meter
Specific resistance.	(c)	watt
Electrical power.	(d)	joule
Electrical energy	(e).	ampere

1.Assertion and reason type questions:Mark the correct choice as

a.If both the assertion and the reason are true And the reason is the correct explanation of The assertion.

b.If both the assertion and the reason are True, but the reason is not the correct Explanation of the assertion.

c.If the assertion is true, but the reason is False. d.If the assertion is false, but the reason is True.

1.Assertion: Electric appliances with a Metallic body have three wire Connections.

Reason: Three pin connections reduce Heating of the connecting wires

2.Assertion: In a simple battery circuit the Point of highest potential is The positive terminal of the Battery.

Reason: The current flows towards the Point of the highest potential

3.Assertion: LED bulbs are far better than Incandescent bulbs.

Reason: LED bulbs consume less power Than incandescent bulbs.

I.Choose the correct answer. UNIT : 5 ACOUSTICS

1.When a sound wave travels through air, The air particles

a.Vibrate along the direction of the wave Motion b.Vibrate but not in any fixed direction

c.Vibrate perpendicular to the direction Of the wave motion d.Do not vibrate

2.Velocity of sound in a gaseous medium is 330 ms $^{-1}$ If the pressure is increased by 4 times Without causing a change in the temperature, The velocity of sound in the gas is.

a)330 ms $^{-1}$ b) 660 ms ^{1} c)156 ms $^{-1}$ d) 990 ms $^{-1}$

3.The frequency, which is audible to the Human ear is a)50 kHz b) 20 kHz c)15000 kHz d) 10000 kHz

4.The velocity of sound in air at a particular Temperature is 330 ms $^{-1}$ What will be its Value when temperature is doubled and The pressure is halved?

a)330 ms $^{-1.}$ b) 165 ms $^{-1}$ c)330 × √2 ms $^{-1}$ d) 320 / √ 2 ms $^{-1}$

5.If a sound wave travels with a frequency of 1.25 × 104 Hz at 344 ms $^{-1}$ the wavelength Will be

a)27.52 m. b) 275.2 m c)0.02752 m. d) 2.752 m

6.The sound waves are reflected from an Obstacle into the same medium from Which they were incident. Which of the Following changes? a)Speed b) frequency c)Wavelength d) none of these

7.Velocity of sound in the atmosphere of a Planet is 500 ms^{-1} . The minimum distance Between the sources of sound and the Obstacle to hear the echo, should be a)17 m. b) 20 m. c) 25 m d) 50 m

II.Fill up the blanks

1.Rapid back and forth motion of a particle About its mean position is called _____

2.If the energy in a longitudinal wave travels From south to north, the particles of the Medium would be vibrating in _____

3.A whistle giving out a sound of frequency 450 Hz, approaches a stationary observer at A speed of 33 ms^{-1} The frequency heard by The observer is (speed of sound = 330 ms^{-1}) _____.

4.A source of sound is travelling with a Velocity 40 km/h towards an observer and Emits a sound of frequency 2000 Hz. If the Velocity of sound is 1220 km/h, then the Apparent frequency heard by the observer Is _____

III.True or false:- (If false give the reason)

1.Sound can travel through solids, gases, Liquids and even vacuum.

2.Waves created by Earth Quake are Infrasonic. 3.The velocity of sound is independent of Temperature.

4.The Velocity of sound is high in gases than Liquids.

IV.Match the following

1.Infrasonic – (a) Compressions

2.Echo – (b) 22 kHz

3.Ultrasonic – © 10 Hz

4.High pressure Region – (d) Ultrasonography

V.Assertion and Reason Questions Mark the correct choice as

a.If both the assertion and the reason are true And the reason is the correct explanation of The assertion.

b.If both the assertion and the reason are True but the reason is not the correct Explanation of the assertion.

c.Assertion is true, but the reason is false. d.Assertion is false, but the reason is true.

1.Assertion: The change in air pressure affects The speed of sound.

Reason: The speed of sound in a gas is Proportional to the square of the pressure

2.Assertion: Sound travels faster in solids Than in gases.

Reason: Solid posses a greater density than That of gases.

I.Choose the correct answer UNIT : 6 NUCLEAR PHYSICS

1.Man-made radioactivity is also known as _____

a.Induced radioactivity. b .Spontaneous radioactivity c.Artificial radioactivity d.A & c

2.Unit of radioactivity is _____ a.Roentgen b. curie c.Becquerel d. all the above

3.Artificial radioactivity was discovered by a.Bequerel b. Irene Curie c.Roentgen d. Neils Bohr

4.In which of the following, no change in mass Number of the daughter nuclei takes place

i)A decay. ii) β decay. iii) γ decay. iv) neutron decay

a.(i) is correct b.(ii) and (iii) are correct . c.(i) & (iv) are correct. d.(ii) & (iv) are correct

5._____isotope is used for the Treatment of cancer.

a.Radio Iodine b. Radio Cobalt c.Radio Carbon. d. Radio Nickel

6.Gamma radiations are dangerous because

a.It affects eyes & bones. b.It affects tissues

c.It produces genetic disorder d.It produces enormous amount of heat

7.___aprons are used to protect Us from gamma radiations a.Lead oxide b. Iron c.Lead d. Aluminium

8.Which of the following statements is/are Correct?

i.A particles are photons. ii.Penetrating power of γ radiation is very low

iii.Ionization power is maximum for α rays iv.Penetrating power of γ radiation is very high

a.(i) & (ii) are correct. b.(ii) & (iii) are correct c.(iv) only correct d.(iii) & (iv) are correct

9.Proton – Proton chain reaction is an example of ----------

a.Nuclear fission b. α – decay. c.Nuclear fusion. d. β – decay

10.In the nuclear reaction 6X12 α decay ${}_{z}Y^{A}$, The value of A & Z.

a.8, 6. b. 8, 4. c.4, 8 d. cannot be determined With the given data

11.Kamini reactor is located at _____a.Kalpakkam b. Koodankulam c .Mumbai d. Rajasthan

12.Which of the following is/are correct?

i.Chain reaction takes place in a nuclear Reactor and an atomic bomb.

ii.The chain reaction in a nuclear reactor is Controlled

iii.The chain reaction in a nuclear reactor is not Controlled. iv.No chain reaction takes place in an atom bomb

a.(i) only correct b. (i) & (ii) are correct c.(iv) only correct. d. (iii) & (iv) are correct

II.Fill in the blanks

1.One roentgen is equal to _____ Disintegrations per second 2.Positron is an_____.

3.Anemia can be cured by _____ Isotope 4.Abbreviation of ICRP_____

5._____is used to measure exposure rate Of radiation in humans.

6._____ has the greatest penetration Power. 7.${}_{Z}Y^{A} \rightarrow Z + {}_{1}Y^{A} + X$; Then, X is _____

8. ${}_{Z}Y^{A} \rightarrow {}_{Z}Y^{A}$ This reaction is possible in _____ decay

9.The average energy released in each fusion Reaction is about _____ J.

10.Nuclear fusion is possible only at an Extremely high temperature of the order of ____ K.

11.The radio isotope of _____ helps to Increase the productivity of crops.

12.If the radiation exposure is 100 R, it may Cause _____.

III .State whether the following statements Are true or false: If false, correct the Statement

1.Plutonium -239 is a fissionable material.

2.Elements having atomic number greater Than 83 can undergo nuclear fusion.

3.Nuclear fusion is more dangerous than Nuclear fission.

4.Natural uranium U-238 is the core fuel used In a nuclear reactor.

5.If a moderator is not present, then a nuclear Reactor will behave as an atom bomb.

6.During one nuclear fission on an average, 2 To 3 neutrons are produced.

7.Einstein's theory of mass energy equivalence Is used in nuclear fission and fusion.

IV.Match the following

Match: I.		Match II
BARC.	Kalpakkam.	Fuel - lead
India's first atomic power	ApsaraStation.	Moderator – heavy water
IGCAR	Mumbai.	Control rods – cadmium rods
First nuclear reactor in India	Tarapur.	Shield - Uranium

Match: III.		Match IV
Soddy Fajan	Natural radioactivity.	Uncontrolled fission reaction – hydrogen Bomb
Irene Curie.	Displacement law.	Fertile material - Nuclear reactor
Henry Bequerel	Mass energy equivalence.	Controlled fission Reaction. - Breeder reactor
Albert Einstein.	Artificial Radioactivity.	Fusion reaction - Atom bomb

Match: V

Co – 60	Age of fossil	2.Arrange the following in the chronological Order of discovery
I – 131	Function of Heart.	Nuclear reactor, radioactivity, artificial Radioactivity,
Na – 24.	Leukemia	discovery of radium
C – 14.	Thyroid disease	

VI.Use the analogy to fill in the blank

1.Spontaneous process : Natural Radioactivity, Induced process : _____

2.Nuclear Fusion : Extreme temperature, Nuclear Fission : _____

3.Increasing crops : Radio phosphorous, Effective functioning of heart :_____

4.Deflected by electric field : α ray, Null Deflection : _____

I.Choose the best answer. UNIT :7 ATOMS AND MOLECULES

1.Which of the following has the smallest mass?

a.6.023 × 1023 atoms of He. b.1 atom of He c.2 g of He d.1 mole atoms of He

2.Which of the following is a triatomic Molecule? a.Glucose b. Helium. c.Carbon dioxide d. Hydrogen

3.The volume occupied by 4.4 g of CO2 at S.T.P a.22.4 litre b. 2.24 litre c.0.24 litre d. 0.1 litre

4.Mass of 1 mole of Nitrogen atom is a.28 amu b. 14 amu c.28 g d. 14 g

5.Which of the following represents 1 amu?

a.Mass of a C – 12 atom b.Mass of a hydrogen atom

c.$1/12^{th}$ of the mass of a C – 12 atom d.Mass of O – 16 atom

6.Which of the following statement is Incorrect?

a.12 gram of C – 12 contains Avogadro's Number of atoms.

b.One mole of oxygen gas contains Avogadro's number of molecules.

c.One mole of hydrogen gas contains Avogadro's number of atoms.

d.One mole of electrons stands for 6.023×10^{23} electrons.

7.The volume occupied by 1 mole of a diatomic Gas at S.T.P is a.11.2 litre b. 5.6 litre c.22.4 litre d. 44.8 litre

8.In the nucleus of $_{20}Ca^{40}$, there are

a.20 protons and 40 neutrons b.20 protons and 20 neutrons

c.20 protons and 40 electrons d.40 protons and 20 electrons

9.The gram molecular mass of oxygen Molecule is a.16 g. b. 18 g c.32 g d. 17 g

10.1 mole of any substance contains ____ Molecules

a.6.023×10^{23} b. 6.023×10^{-23} c.3.0115×10^{23} d. 12.046×10^{23}

II.Fill in the blanks

1.Atoms of different elements having ____ Mass number, but _____atomic Numbers are called isobars.

2.Atoms of different elements having same Number of _____ are called isotones.

3.Atoms of one element can be transmuted Into atoms of other element by _____

4.The sum of the numbers of protons and Neutrons of an atom is called its _____

5.Relative atomic mass is otherwise known as _____

6.The average atomic mass of hydrogen is _____ amu.

7.If a molecule is made of similar kind of Atoms, then it is called _____ atomic Molecule.

8.The number of atoms present in a molecule Is called its _____

9.One mole of any gas occupies _____ ml At S.T.P 10 Atomicity of phosphorous is _____

III.Match the following

1. 8 g of O2 – 4 moles
2. 4 g of H2 – 0.25 moles
3. 52 g of He – 2 moles
4. 112 g of N2 – 0.5 moles
5. 35.5 g of Cl2 – 13 moles

IV.True or False: (If false give the correct Statement)

1.Two elements sometimes can form more Than one compound. 2.Noble gases are Diatomic

3.The gram atomic mass of an element has No unit

4.1 mole of Gold and Silver contain same Number of atoms. 5.Molar mass of CO2 is 42g.

V..Assertion and Reason:

i)A and R are correct, R explains the A. ii)A is correct, R is wrong.

iii)A is wrong, R is correct. Iv)A and R are correct, R doesn't explains A.

1.Assertion: The Relative Atomic mass of Aluminium is 27

Reason: An atom of aluminium is 27 times Heavier than $1/12^{th}$ of the mass of the C – 12 atom.

2.Assertion: The Relative Molecular Mass of Chlorine is 35.5 a.m.u.

Reason: The natural abundance of Chlorine Isotopes are not equal.

I.Choose the best answer. UNIT : 8 PERIODIC CLASSIFICATION OF ELEMENTS

1.The number of periods and groups in the Periodic table are_____. a)6,16 b) 7,17 c)8,18 d) 7,18

2.The basis of modern periodic law is_____.

a)Atomic number. b)Atomic mass c)Isotopic mass. d)Number of neutrons

3._____ group contains the member of Halogen family. a)17^{th} b) 15^{th} c)18^{th} d) 16^{th}

4.___is a relative periodic property a)Atomic radii b) ionic radii c)Electron affinity d) electronegativity

5.Chemical formula of rust is _____. a)$FeO.xH_2O$ b) $FeO_4.xH_2O$ c)$Fe_2O_3.xH_2O$ d) FeO

6.In the alumino thermic process the role of Al is _____

a)Oxidizing agent b)Reducing agent c)Hydrogenating agent d)Sulphurising agent

7.The process of coating the surface of metal With a thin layer of zinc is called_____.

a)Painting b) thinning c)Galvanization d) electroplating

8.Which of the following have inert gases 2 electrons in the outermost shell. a)He b) Ne c)Ar d) Kr

9.Neon shows zero electron affinity due to _____.

a)Stable arrangement of neutrons b)Stable configuration of electrons

c)Reduced size. d)Increased density

10._____ is an important metal to form Amalgam. a)Ag b) Hg. c)Mg. d) Al

II.Fill in the blanks

1.If the electronegativity difference Between two bonded atoms in a molecule Is greater than 1.7, the nature of bonding Is _____

2._____ is the longest period in the Periodical table. 3._____ forms the basis of modern Periodic table.

4.If the distance between two Cl atoms in Cl2Molecule is 1.98Å, then the radius of Cl Atom is _____.

5.Among the given species A–,A+, and A, the Smallest one in size is _____.

6.The scientist who propounded the modern Periodic law is _____.

7.Across the period, ionic radii _____(increases,decreases).

8._____ and _____ are called inner Transition elements.

9.The chief ore of Aluminium is _____. 10.The chemical name of rust is _____.

III.Match the following

1. Galvanisation – Noble gas elements
2. Calcination – Coating with Zn
3. Redox reaction – Silver-tin amalgam
4. Dental filling – Alumino thermic Process
5. Group 18 Elements - Heating in the Absence of air

IV.True or False: (If false give the correct Statement)

1.Moseley's periodic table is based on atomic Mass.

2.Ionic radius increases across the period from Left to right.

3.All ores are minerals; but all minerals cannot Be called as ores;

4.Al wires are used as electric cables due to Their silvery white colour.

5.An alloy is a heterogenous mixture of metals.

V.Assertion and ReasonAnswer the following questions using the Data given below:

i)A and R are correct, R explains the A. ii)A is correct, R is wrong.

iii)A is wrong, R is correct. iv)A and R are correct, R doesn't explains A.

1.Assertion : The nature of bond in HF Molecule is ionic

Reason : The electronegativity difference Between H and F is 1.9

2.Assertion : Magnesium is used to protect Steel from rusting. Reason : Magnesium is more reactive than Iron

3.Assertion : An uncleaned copper vessel is Covered with greenish layer.

Reason : copper is not attacked by alkali

I.Choose the correct answer. UNIT : 9 SOLUTIONS

1.A solution is a _____ mixture.

a.Homogeneous b. heterogeneous c.Homogeneous and heterogeneous d.Non homogeneous

2.The number of components in a binary Solution is _____ a.2 b. 3. c.4 d. 5

3.Which of the following is the universal Solvent? a.Acetone b. Benzene. c.Water. d. Alcohol

4.A solution in which no more solute can be Dissolved in a definite amount of solvent at a Given temperature is called _____

a.Saturated solution. b.Un saturated solution c.Super saturated solution. d.Dilute solution

5.Identify the non aqueous solution.

a.Sodium chloride in water b.Glucose in water c.Copper sulphate in water d..Sulphur in carbon-di-sulphide

6.When pressure is increased at constant Temperature the solubility of gases in liquid _____.

a.No change b. increases c.Decreases d. no reaction

7.Solubility of NaCl in 100 ml water is 36 g. If 25 g of salt is dissolved in 100 ml of Water how much more salt is required for Saturation _____. a.12g b. 11g c. 16g d. 20g

8.A 25% alcohol solution means

a.25 ml alcohol in 100 ml of water b.25 ml alcohol in 25 ml of water

c.25 ml alcohol in 75 ml of water d.75 ml alcohol in 25 ml of water

9.Deliquescence is due to _____

a.Strong affinity to water b.Less affinity to water. c.Strong hatred to water. d.Inertness to water

10.Which of the following is hygroscopic in Nature?

a.Ferric chloride b.Copper sulphate penta hydrate c.Silica gel d.None of the above

II. Fill in the blanks

1.The component present in lesser amount, in A solution is called _____. 2.Example for liquid in solid type solution is ----------

3.Solubility is the amount of solute dissolved In _____ g of solvent. 4.Polar compounds are soluble in _____ Solvents

5.Volume persentage decreases with increases In temperature because _____

II.Match the following

1. Blue vitriol – $CaSO_4 .2H_2O$
2. Gypsum – CaO

3.Deliquescence – $CuSO_4 .5H_2O$

. 4.Hygroscopic – NaOH

IV.True or False: (If false give the correct Statement)

1.Solutions which contain three components Are called binary solution.

2.In a solution the component which is Present in lesser amount is called solvent.Sodium chloride dissolved in water forms a Non-aqueous solution.

3.The molecular formula of green vitriol is MgSO4.7H2O

4.When Silica gel is kept open, it absorbs Moisture from the air, because it is Hygroscopic in nature

I.Choose the correct answer. UNIT : 10 TYPES OF CHEMICAL REACTIONS

1.$H_2(g) + Cl_2(g) \rightarrow 2HCl(g)$ is a

a.Decomposition Reaction b.Combination Reaction

c.Single Displacement Reaction d.Double Displacement Reaction

2.Photolysis is a decomposition reaction Caused by _____a.Heat b. electricity c.Light d. mechanical energy

3.A reaction between carbon and oxygen is Represented by $C(s) + O_2(g) \rightarrow CO_2(g)$ + Heat. In which of the type(s), the above reaction Can be classified?

i.Combination Reaction ii.Combustion Reaction iii.Decomposition Reaction iv.Irreversible Reaction

a.i and ii b. i and iv c. i, ii and iii d. i , ii and iv

4.The chemical equation $Na_2SO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(s)\downarrow + 2NaCl(aq)$ Represents which of the following types of Reaction?

a.Neutralisation b.Combustion c.Precipitation d.Single displacement

5.Which of the following statements are Correct about a chemical equilibrium?

(i)It is dynamic in nature (ii)The rate of the forward and backward Reactions are equal at equilibrium

(iii)Irreversible reactions do not attain Chemical equilibrium

(iv)The concentration of reactants and Products may be different

a.i, ii and iii b. i, ii and iv c .ii, iii and iv d. i, iii and iv

6.A single displacement reaction is represented By $X(s) + 2HCl(aq) \rightarrow XCl_2(aq) + H_2(g)$. Which of

The following(s) could be X. (i)Zn (ii) Ag (iii) Cu (iv) Mg. Choose the best pair.

a.i and ii b. ii and iii c.iii and iv d. i and iv

7.Which of the following is not an "element + element → compound" type Reaction?

a.$C(s) + O_2(g) \rightarrow CO_2(g)$ b.$2K(s) + Br_2(l) \rightarrow 2KBr(s)$

c.$2CO(g) + O_2(g) \rightarrow 2CO_2(g)$ d.$4Fe(s) + 3O_2(g) \rightarrow 2Fe_2O_3(s)$

8.Which of the following represents a Precipitation reaction?

a.$A(s) + B(s) \rightarrow C(s) + D(s)$ b.$A(s) + B(aq) \rightarrow C(aq) + D(l)$

c.$A(aq) + B(aq) \rightarrow C(s) + D(aq)$ d.$A(aq) + B(s) \rightarrow C(aq) + D(l)$

7.The pH of a solution is 3. Its [OH–] Concentration is a.1×10^{-3}M . b.3 M c.1×10^{-11} M d.11 M

8.Powdered $CaCO_3$ Reacts more rapidly than Flaky $CaCO_3$ Because of _____.

a.Large surface area b.High pressure c.High concentration d.High temperature

II. Fill in the blanks

1.A reaction between an acid and a base is Called _____.

2.When lithium metal is placed in hydrochloric Acid, _____ gas is evolved.

3.The equilibrium attained during the melting Of ice is known as _____.

4.The pH of a fruit juice is 5.6. If you add slaked Lime to this juice, its pH _____(increse/decrese)

5.The value of ionic product of water at 250 C Is _____6.The normal pH of human blood is ____

7.Electrolysis is type of ____ Reaction 8.The number of products formed in a Synthesis reaction is _____

9.Chemical volcano is an example for _____ type of reaction

10.The ion formed by dissolution of H+ In water Is called_____

III. Match the following.Identify the types of reaction

$NH_4OH(aq) + CH_3COOH(aq) \rightarrow CH_3COONH_4(aq) + H_2O(l)$ Single Displacement

$Zn(s) + CuSO_4(aq) \rightarrow ZnSO_4(aq) + Cu(s)$ Combustion

$ZnCO_3(s) + Heat \rightarrow ZnO(s) + CO_2(g)$. Neutralisation

$C_2H_4(g) + 4O_2(g) \rightarrow 2CO_2(g) + 2H_2O(g) + Heat.$ Thermal decomposition

IV. True or False: (If false give the correct Statement)

1.Silver metal can displace hydrogen gas from Nitric acid.

2.The pH of rain water containing Dissolved gases like SO_3, CO_2, NO_2 Will Be less than 7.

3.At the equilibrium of a reversible reaction, The concentration of the reactants and the Products will be equal.

4.Periodical removal of one of the products Of a reversible reaction increases the Yield.

5.On dipping a pH paper in a solution, it turns Into yellow. Then the solution is basic.

I.Choose the best answer. UNIT : 11 CARBON AND ITS COMPOUNDS

1.The molecular formula of an open chain Organic compound is C_2H_6. The class of the Compound is.

a.Alkane b. alkene c.Alkyne d. alcohol

2.The IUPAC name of an organic compound is 3-Methyl butan-1-ol. What type compound It is?

a.Aldehyde b. Carboxylic acid c.Ketone d.Alcohol

3.The secondary suffix used in IUPAC Nomenclature of an aldehyde is ____. a.– ol. b. – oic acid c.– al d. – one

4.Which of the following pairs can be the Successive members of a homologous series?

a.C_3H_8 and C_4H_{10} b.C_2H_2 and C_2H_4 c.CH_4 and C_3H_6 d.C_2H_5OH and C_4H_4OH

5.$C_2H_5OH + 3O_2 \rightarrow 2CO_2 + 3H_2O$ is a

a.Reduction of ethanol b.Combustion of ethanol c.Oxidation of ethanoic acid d.Oxidation of ethanal

6.Rectified spirit is an aqueous solution which Contains about _____ of ethanol

a.95.5 %. b. 75.5 % c.55.5 % d. 45.5 %

7.Which of the following are used as Anaesthetics? a.Carboxylic acids. b. Ethers. c.Esters d. Aldehydes

8.TFM in soaps represents ____ Content in soap. a.Mineral b. vitamin c.Fatty acid d. carbohydrate

9.Which of the following statements is wrong About detergents?

a.It is a sodium salt of long chain fatty Acids. b.It is sodium salts of sulphonic acids

c.The ionic part in a detergent is $-SO^{3-}Na+$ d.It is effective even in hard water.

II.Fill in the blanks

1.An atom or a group of atoms which is Responsible for chemical characteristics of an Organic compound is called _____.

2.The general molecular formula of alkynes is _____

3.In IUPAC name, the carbon skeleton of a Compound is represented by _____ (root word / prefix / suffix)

4.(Saturated / Unsaturated) _____ Compounds decolourize bromine water.

5.Dehydration of ethanol by conc. Sulphuric Acid forms _____ (ethene/ ethane)

6.100 % pure ethanol is called _____ 7.Ethanoic acid turns _____ litmus to _____

8.The alkaline hydrolysis of fatty acids is Termed as _____

9.Biodegradable detergents are made of _____(branched / straight) chain Hydrocarbons

III.Match the following

Functional group –OH. - Benzene

Heterocyclic – Potassium stearate

Unsaturated – Alcohol

Soap. – Furan

Carbocyclic. – Ethene

IV.Assertion and Reason:

i)A and R are correct, R explains the A. . ii)A is correct, R is wrong.

iii)A is wrong, R is correct. iv)A and R are correct, R doesn't explains A.

1.Assertion: Detergents are more effective Cleansing agents than soaps in hard water.

Reason: Calcium and magnesium salts of Detergents are water soluble.

2.Assertion: Alkanes are saturated Hydrocarbons. Reason: Hydrocarbons consist of covalent Bonds.