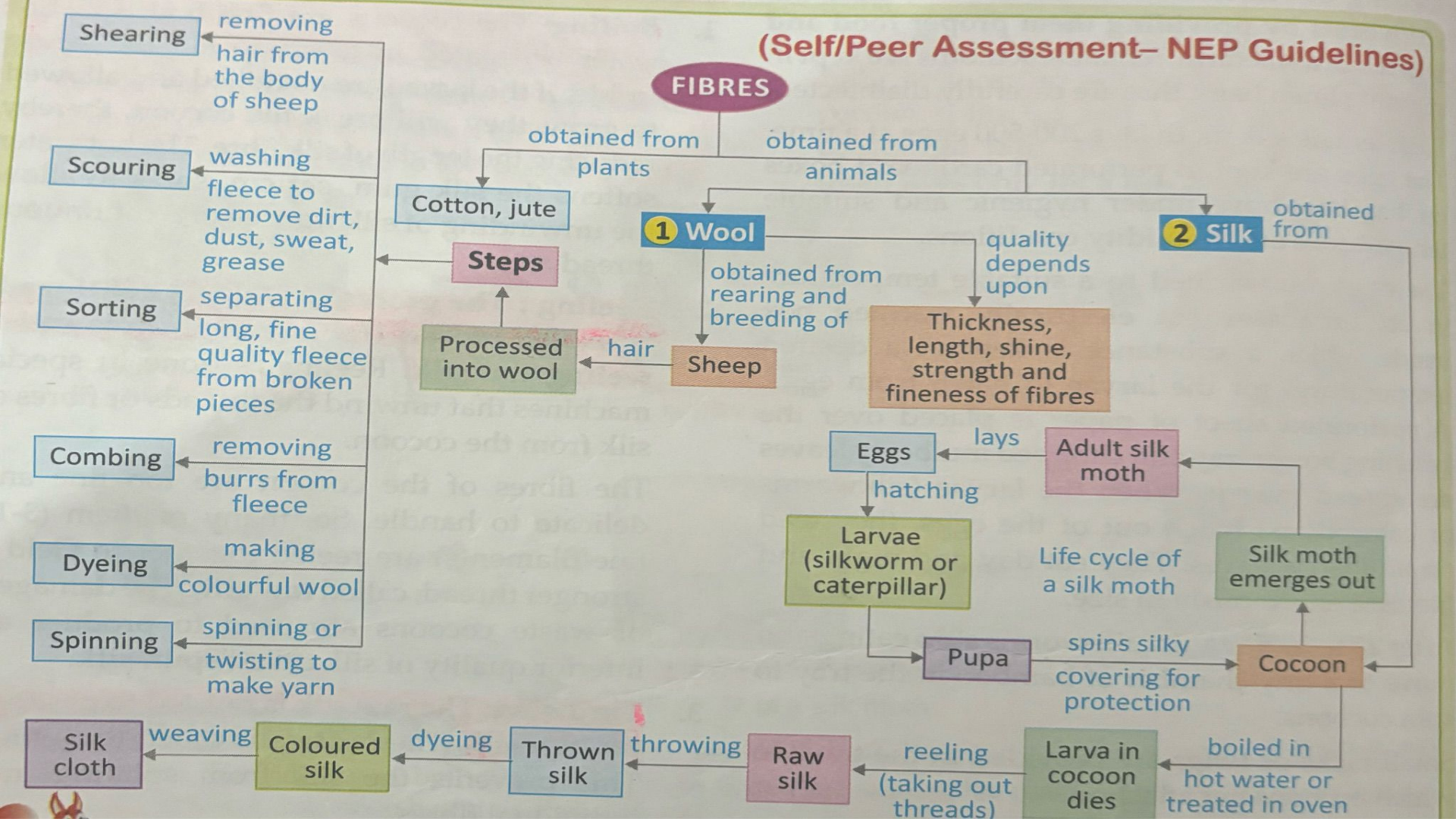
(Self/Peer Assessment– NEP Guidelines)



(Self/Peer Assessment– NEP Guidelines)

SUBSTANCES

acidic or basic nature is determined by → 3 Indicators

3 Indicators → Naturally occurring, Human-made

Naturally occurring → Litmus → Blue (in base), Red (in acid)

Naturally occurring → Turmeric (yellow) → Yellow (in acid), Red (in base)

Naturally occurring → China rose (light pink) → Magenta (in acid), Green (in base)

Human-made → Phenolphthalein (colourless) → Colourless (in acid), Pink (in base)

Human-made → Methyl orange (orange) → Red (in acid), Yellow (in base)

1 Acids

Properties → Sour in taste, soluble in water, conduct electricity, turn blue litmus red, corrosive in nature

Types → found in plants and animals → Organic acids (e.g., oxalic acid)

Types → prepared from minerals of the earth → Mineral acids (e.g.,sulphuric acid)

Types → have large quantity of → acid → Concentrated acid

Types → have large quantity of → water → Dilute acid

Properties → Solid, usually soluble in water, good conductor of electricity, have high melting and boiling points

2 Bases

Bases → which dissolve in water → Alkalis (e.g., sodium hydroxide)

Bases → react with each other → Neutralisation reaction

Neutralisation reaction → form → Salt, Water

Neutralisation reaction → used in treatment of:

- Indigestion → cured by → Milk of magnesia (weak base)
- soil → if acidic → Quick lime (base)
- soil → if basic → Organic matter (releases acid)
- ant and bee sting (acidic) → Baking soda or calamine solution (weak base)
- factory wastes (acidic) → Treated with base before disposal

Properties → Bitter in taste, soapy to touch, turn red litmus blue, corrosive in nature, conduct electricity

neither acidic nor basic → Neutral

100.Matter around us can exist in three different states, namely, solid, liquid and gas. The correct order of their compressibility is

A. Liquid < Gas < Solid
B. Solid < Liquid < Gas
C. Gas < Liquid < Solid
D. Solid < Gas < LIquid

101.Which one of the following oxides dissolves in water?

A. CuO
B. Al_2O_3
C. Fe_2O_3
D. Na_2O

102.Suppose you have four test tubes labelled as 'A', 'B', 'C' and 'D'. 'A' contains plain water, 'B' contains the solution of an alkali, 'C' contains the solution of an acid, and 'D' contains the solution of sodium chloride. Which one of these solutions will turn phenolphthalein solution pink?

A. Solution 'A'
B. Solution 'B'
C. Solution 'C'
D. Solution 'D'

95.Match List I with List II and select the correct answer using the code given below the Lists :

List I (Element)	List II (Highest Valency)
A. Sulfur	1. Five
B. Phosphorous	2. Six
C. Lead	3. Two
D. Silver	4. Four

A. A-2 B-4 C-1 D-3
B. A-2 B-1 C-4 D-3
C. A-3 B-1 C-4 D-2
D. A-3 B-4 C-1 D-2

96.What is the number of mole (s) of $H_2(g)$ required to saturate one-mole benzene?

A. 1
B. 2
C. 3
D. 4

97.Which one of the following carbon compounds will not give a sooty flame?

A. Benzene
B. Hexane
C. Naphthalene
D. Anthracene

91.The LPG cooking gas contains propane and butane as the constituents. A sulfur-containing compound is added to the LPG, because

A. it lowers the cost of production
B. it enhances the efficiency of LPG
C. it facilitates easy detection of leakage of the gas
D. it assists in liquefying hydrocarbons

92.When one strikes a safety match, the first step is

A. burning of sulfur
B. decomposition of potassium chlorate into potassium chloride and oxygen
C. conversion of a small amount of red phosphorus into white phosphorus
D. burning of glue and starch

63. Which one of the following processes involves chemical reaction ?

(a) Evaporation of petrol

(b) Dissolution of salt in water

(c) Storing of oxygen gas under pressure in a gas cylinder

(d) Burning of magnesium ribbon in air

79.How many moles of hydrogen atom are present in one mole of Aluminium hydroxide?

A. One mole
B. Two moles
C. Three moles
D. Four moles

80.Which one of the following gases gives acidic solution on dissolving in water?

A. Hydrogen
B. Carbon dioxide
C. Nitrogen
D. Oxygen

81.If one mixes up ashes with animal fat, the substance received in the crude form is called

A. Pheromone
B. Soap
C. Cement
D. Concrete

82.Emulsion is known as a

A. Colloidal solution of substances having different physical states
B. true solution
C. distillation mixture for making alcohols
D. colloidal solution of two liquids

Which one of the following petroleum refinery products has the lowest boiling point?

(a) Kerosene

(b) Gasoline

(c) Diesel

(d) Lubricating oil

Which one of the following is used as a mordant in dyeing and tanning industry?

(a) Magnesium oxide

(b) Magnesium carbonate

(c) Magnesium chloride

(d) Magnesium sulphate

Which of the following statements about the commonly used automobile battery are true?

I. It is usually a lead-acid battery.

II. It has six cells with a potential of 2 V each.

III. Its cells work as galvanic cells while discharging power.

IV. Its cells work as electrolytic cells while recharging.

Select the correct answer using the codes given below

(a) I, II, III and IV

(b) I, II and III

(c) II and IV

(d) III and IV

The heating element in an electric iron is usually made of

(a) Constantan

(b) Tungsten

(c) Nichrome

(d) Copper

Sita, 1·5 m high, stands before a plane mirror fixed on a wall to view her full image. What should be the minimum height of the plane mirror so that Sita can view her image fully ?

(a) 0·50 m

(b) 0·35 m

(c) 0·75 m

(d) 0·25 m

Galvanization is a method of protecting iron from rusting by coating with a thin layer of

(a) Gallium

(b) Aluminum

(c) Zinc

(d) Silver

69.The valency of an element depends upon the

A. total number of Protons in an atom
B. Mass Number of an atom
C. total number of Neutrons in an atom
D. total number of Electrons in the outermost shell of an atom

70.20 g of common salt is dissolved in 180 g of water. What is the mass percentage of the salt in the solution?

A. 5%
B. 9%
C. 10%
D. 15%

71.Which one of the following elements corrodes rapidly?

A. Aluminium
B. Iron
C. Zinc
D. Silver

72.Which one of the following elements forms highest number of compounds?

A. Oxygen
B. Hydrogen
C. Chlorine
D. Carbon

Which one of the following metals does NOT react with cold water to liberate hydrogen gas ?

(a) Potassium

(b) Iron

(c) Calcium

(d) Sodium

Consider the following reaction :

$$2HgO \xrightarrow{\blacktriangle} 2Hg + O_2$$

The respective state of HgO, Hg and O_2 in the above reaction is

(a) Liquid, solid, gas

(b) Solid, solid, gas

(c) Liquid, solid, liquid

(d) Solid, liquid, gas

Consider the following reaction :

$Fe_2O_3(s) + 2Al(s) \rightarrow 2Fe(s) + Al_2O_3(s)$

Which of the following statements about the given reaction is NOT correct ?

(a) It is an example of displacement reaction

(b) It is highly endothermic reaction

(c) Fe_2O_3 acts as oxidizing agent

(d) This reaction is applicable to joining of railway tracks

1. **The flavor of apple is mainly due to which one of the following?**
   (a) Formalin
   (b) Ethanol
   (c) Benzene
   (d) Benzaldehyde
2. **Nail varnish remover generally contains which one of the following?**
   (a) Acetone
   (b) Benzene
   (c) Methyl alcohol
   (d) Vinegar
3. **In which categories did Marie Curie win her two different Nobel prizes?**
   (a) Physics and Chemistry
   (b) Chemistry and Medicine
   (c) Physics and Medicine
   (d) Chemistry and Peace
4. **'Freon' used as refrigerants is chemically known as**
   (a) chlorinated hydrocarbon
   (b) chlorofluoro hydrocarbon
   (c) fluorinated hydrocarbon
   (d) fluorinated aromatic compound

7. **Which of the following metals are present in hemoglobin and chlorophyll, respectively?**
   (a) Fe and Zn
   (b) Fe and Mg
   (c) Mg and Zn
   (d) Zn and Mg

8. **Which one of the following is involved for desalination of sea water?**
   (a) Simple osmosis
   (b) Reverse osmosis
   (c) Use of sodium aluminum silicate as zeolite
   (d) Use of ion selective electrodes

9. **The cleaning of dirty clothes by soaps and detergents is due to a type of molecules called surfactants, which are present in soaps and detergents. The surfactant molecules remove the dirt by**
   (a) making the cloth slippery
   (b) producing some gases between the dirt and the cloth
   (c) dissolving the dirt
   (d) forming some aggregates of themselves and take away the dirt in the core of the aggregates

#2. Hydrogen bomb is based on the principle of ?

- Nuclear fission
- Nuclear fusion
- Natural radioactivity
- Artificial radioactivity

#3. Chromium oxide in paints makes the colour of paint?

- white
- green
- red
- silver

18. **'Misch metal' is widely used in the manufacture of which of the following?**
    (a) Material of car brake
    (b) Cigarette lighters
    (c) Smoke detectors
    (d) Emergency lights
19. **What is the pH value of pure water?**
    (a) 1
    (b) 6
    (c) 7
    (d) 10
20. **Which one of the following is an element?**
    (a) Topaz
    (b) Diamond
    (c) Ruby
    (d) Sapphire
21. **Which one of the following substances is used in the manufacture of safety matches?**
    (a) Red phosphorus
    (b) White phosphorus
    (c) Phosphorus trioxide (P203)
    (d) Black phosphorus

Stung by hairs of nettle leaves causes burning pain. This is due to the injection of

(a) Acetic acid

(b) Methanoic acid

(c) Sulphuric acid

(d) Hydrochloric acid

Which one of the following elements is least reactive with water ?

(a) Lithium

(b) Sodium

(c) Potassium

(d) Cesium

Rutherford's alpha-particle scattering experiment was responsible for the discovery of

(a) Electron

(b) Proton

(c) Nucleus

(d) Helium

Which one of the following statements is NOT correct ?

(a) In the conduction mode of transference of heat, the molecules of solid pass heat from one molecule to another without moving from their positions

(b) The amount of heat required to raise the temperature of a substance is called its specific heat capacity

(c) The process of heat transfer in liquids and gases is through convection mode

(d) The process of heat transfer from a body at higher temperature to a body at lower temperature without heating the space between them is known as radiation

The amount of heat required to change a liquid to gaseous state without any change in temperature is known as

(a) specific heat capacity

(b) mechanical equivalent of heat

(c) latent heat of vaporization

(d) quenching

63.Rutherford's alpha-particle scattering experiment was responsible for the discovery of

A. Electron
B. Proton
C. Nucleus
D. Helium

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B. Sodium
C. Potassium
D. Cesium

65.Stung by hairs of nettle leaves causes burning pain. This is due to the injection of

A. Acetic acid
B. Methanoic acid
C. Sulphuric acid
D. Hydroloric acid

66.Temporary hardness in water is due to which one of the following of Calcium and Magnesium?

A. Hydrogencarbonates
B. Carbonates
C. Chlorides
D. Sulphates

Which one of the following is the secondary source of light in a fluorescent lamp?

(a) Neon gas

(b) Argon gas

(c) Fluorescent coating

(d) Mercury vapor

Which one of the following is heavy water used in nuclear reactor?

(a) Water having molecular weight 18 u

(b) Water having molecular weight 20 u

(c) Water at 4°C but having molecular weight 19 u

(d) Water below the ice in a frozen sea

The rusting of iron nail

(a) decreases its weight

(b) increases its weight

(c) does not affect weight but iron is oxidized

(d) does not affect weight but iron is reduced

Which one of the following when dissolved in $H2O$ gives hissing sound?

(a) Limestone

(b) Slaked lime

(c) Soda lime

(d) Quicklime

Glass is a

(a) liquid

(b) colloid

(c) non-crystalline amorphous solid

(d) crystalline solid

84.Combination of one volume of Nitrogen with three volumes of Hydrogen produces

A. one volume of ammonia
B. two volume of ammonia
C. three volume of ammonia
D. one and a half volume of ammonia

85.Which one of the following has different number of molecules? (All are kept at normal temperature and pressure)

A. 3 gram of Hydrogen
B. 48 gram of Oxygen
C. 42 gram of Nitrogen
D. 2 gram of Carbon

86.There are six electrons, six protons and six neutrons in an atom of an element. What is the atomic number of the element?

A. 6
B. 12
C. 18
D. 24

87.Identify the element having zero valency

A. Sulphur
B. Phosphorous
C. Lead
D. Radon

Which among the following is NOT true with respect to colloidal solution ?

(a) Particles are uniformly distributed throughout the solution

(b) Colloidal solution is homogenous in nature

(c) They show Tyndal effect

(d) They do not settle down when kept undisturbed

Kerosene and petrol mixture can be best separated by

(a) Sublimation

(b) Separating funnel

(c) Fractional distillation

(d) Compressing and cooling

What is the action of litmus on ethanol ?

(a) Litmus is neutral towards ethanol

(b) Ethanol turns blue litmus to red; confirming acidic nature of ethanol

(c) Ethanol turns red litmus to blue; confirming basic nature of ethanol

(d) Ethanol decolorizes litmus through bleaching action

Which one of the following metal is NOT an essential component in stainless steel ?

(a) Iron

(b) Nickel

(c) Chromium

(d) Tin

An important cause of tooth decay by the bacterium *Streptococcus mutans* is because of their ability to attach to teeth surface by producing slime layer from

(a) Sugar
(b) Alcohol
(c) Saliva
(d) Teichoic acid

Aluminium is manufactured from

(a) Copper ore
(b) Bauxite ore
(c) Mica ore
(d) Manganese ore

Which one of the following metals does NOT react with cold water to liberate hydrogen gas ?

(a) Potassium

(b) Iron

(c) Calcium

(d) Sodium

Consider the following reaction :

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The respective state of HgO, Hg and O_2 in the above reaction is

(a) Liquid, solid, gas

(b) Solid, solid, gas

(c) Liquid, solid, liquid

(d) Solid, liquid, gas

Which one of the following has maximum inertia ?

(a) An atom

(b) A molecule

(c) A one-rupee coin

(d) A cricket ball

The accidental touch of Nettle leaves creates a burning sensation, which is due to inject of

(a) Hydrochloric acid

(b) Methanoic acid

(c) Citric acid

(d) Sulphuric acid

Which of the following properties is true for a tooth paste ?

(a) It is acidic

(b) It is neutral

(c) It is basic

(d) It is made up of Calcium phosphate, the material of tooth enamel

Which one of the following gives the highest amount of hydrogen ions (H^+) ?

(a) Sodium hydroxide solution

(b) Milk of magnesia

(c) Lemon juice

(d) Gastric juice

Which one of the following elements will be an isobar of calcium if the atomic number of calcium is 20 and its mass number is 40?

(a) Element with 20 protons and 18 neutrons

(b) Element with 18 protons and 19 neutrons

(c) Element with 20 protons and 19 neutrons

(d) Element with 18 protons and 22 neutrons

Which one of the following is NOT true for bleaching powder ?

(a) It is used as a reducing agent in chemical industries

(b) It is used for bleaching wood pulp in paper factories

(c) It is used for disinfecting drinking water

(d) It is used for bleaching linen in textile industry

How is carbon black obtained ?

(a) By heating wood at high temperature in absence of air

(b) By heating coal at high temperature in absence of air

(c) By burning hydrocarbons in a limited supply of air

(d) By heating coal at high temperature in presence of air

Which one of the following properties is NOT true for graphite ?

(a) Hybridisation of each carbon atom is sp^3

(b) Hybridisation of each carbon atom is sp^2

(c) Electrons are delocalized over the whole sheet of atoms

(d) Each layer is composed of hexagonal rings

Which one of the following is the purest form of Carbon ?

(a) Charcoal

(b) Coke

(c) Fullerene

(d) Carbon black

The Poisonous nature of Carbon monoxide (CO) is due to its

(a) insolubility in water

(b) ability to form a complex with haemoglobin

(c) ability to reduce some metal oxides

(d) property of having one sigma bond

Bright light is found to emit from photographer's flashgun. This brightness is due to the presence of which one of the following noble gases?

(a) Argon

(b) Xenon

(c) Neon

(d) Helium

Which one of the following is ***not*** a characteristic of a compound?

(a) Composition is variable.

(b) All particles of compound are of only one type.

(c) Particles of compound have two or more elements.

(d) Its constituents cannot be separated by simple physical methods.

An important cause of tooth decay by the bacterium *Streptococcus mutans* is because of their ability to attach to teeth surface by producing slime layer from

(a) Sugar

(b) Alcohol

(c) Saliva

(d) Teichoic acid

Match List I with List II and select the correct answer using the code given below the Lists :

List I *(Process)*	List II *(Separation method)*
A. Separation of acetone and water from their mixture	1. Chromatography
B. Separation of water and kerosene oil from their mixture	2. Centrifugation
C. Separation of cream from milk	3. Distillation
D. Separation of pigments from plant extract	4. Separating Funnel

Which one of the following acid is used by goldsmith for cleaning of gold and silver articles ?

(a) Sulphuric acid

(b) Nitric acid

(c) Hydrochloric acid

(d) Phosphoric acid

Which among the following statements with respect to carbon is/are correct ?

1. Carbon forms the basis for all living organisms and many things we use
2. Carbon shows tetra-valency and the property of catenation
3. Carbon forms covalent bonds with itself and other elements
4. Carbon forms compounds containing triple and tetra bonds between carbon atoms

Select the correct answer using the code given below :

(a) 1 only

(b) 1 and 2 only

(c) 1, 2 and 3

(d) 2 and 4