



Science

Time - 2 hours

Name / Index No :

Grade 9

Part I

- Answer all the questions.
- Underline the Correct answer.

01. The group of micro – organism which show living features as well as non living features and do not have a cellular organization.

- i. virus ii. Protozoa iii. fungi iv. Bacteria

02. Incorrect statement regarding micro – organisms.

- i. Group of organisms which are widely spread.
 ii. Have a simple cellular organization.
 iii. Have high growth rate.
 iv. All are unicellular organisms.

03. Select the incorrect relationship.

- i. produce diary product – lactobacillus
 ii. free living nitrogen fixing bacteria – Acetobactor
 iii. Production of bio gas – Methanococcus
 iv. Decomposition of oil layer – on the ocean – Pseudomonas

04. Vaccine made from toxins of microbes.

- i. polio ii.Measles iii.Tetanus iv. Hepatitis B

05. A metal that is extracted by bio – leaching.

- i. Iron ii. Uranium iii.silver iv. lead

06. One of a heavy metals that are releasted to the environment from different industries.

- i. Na ii.Fe iii.Ca iv. Cr

07. The plant tissue which affected in wilting by bacteria and fungi.

- i. pholem ii. xylem iii.roots iv. pith

08. The outermost layer of the eye.

- i. choroid layer ii.selerotic iii.Retina iv. Iris

09. A transparent watery liquid.
 i. Vitreous humour ii. Aqueous humour iii. Lens iv. Cornea
10. Light sensitive cells in the retina.
 i. cone cells ii. rod cells
 iii. Blood cells iv. rod cells and cone cells.
11. Not a feature of the eye when observing a distant object.
 i. Contraction of ciliary muscles.
 ii. focus the image on retina.
 iii. Increase the focal length of the eye lens.
 iv. Converge parallel Light rays on to one point by the eye lens.
12. Incorrect statement regarding long sight.
 i. Inability to increase the curvature of the eye lens.
 ii. Eye ball being too short.
 iii. Can be corrected by using a concave meniscus lens.
 iv. Image formed behind the retina.
13. Not an ability of man due to the binocular vision.
 i. has a broader range of binocular vision.
 ii. Ability to determine the distance of an object.
 iii. Ability to determine the depth or the height of an object.
 iv. Ability to identify inverted image formed on retina.
14. The part of the ear which vibrates in response to the sound wave and acquires the auditory senses.
 i. Tympanic membrane ii. Ear ossicles
 iii. Cochlea iv. auditory nerve
15. The element which denote as 'Argentum' in latin.
 i. Mercury ii. silver iii. Lead iv. Iron
16. The unique property of an element.
 i. The number of protons.
 ii. The number of electrons
 iii. The number of neutrons
 iv. The sum of the number of protons and neutrons in the nucleus.
17. The first scientist who stated that matter is made up of particles.
 i. John Dalton ii. Democritus iii. Rutherford iv. Thompson
18. Not a homo atomic molecule.
 i. Hydrogen ii. Oxygen iii. Nitrogen iv. Ammonia
19. The physical method that use to separate components in crude oil.
 i. Distillation ii. Sifting
 iii. Fractional distillation iv. vapourisation
20. Not a homogeneous mixture.
 i. Salt solution ii. sea water
 iii. Muddy water iv. Alcohol solution

Part II

- **First question is compulsory. Answer 4 questions including the 1st question.**

(01).

(A). Micro – organisms have high growth and metabolic rate.

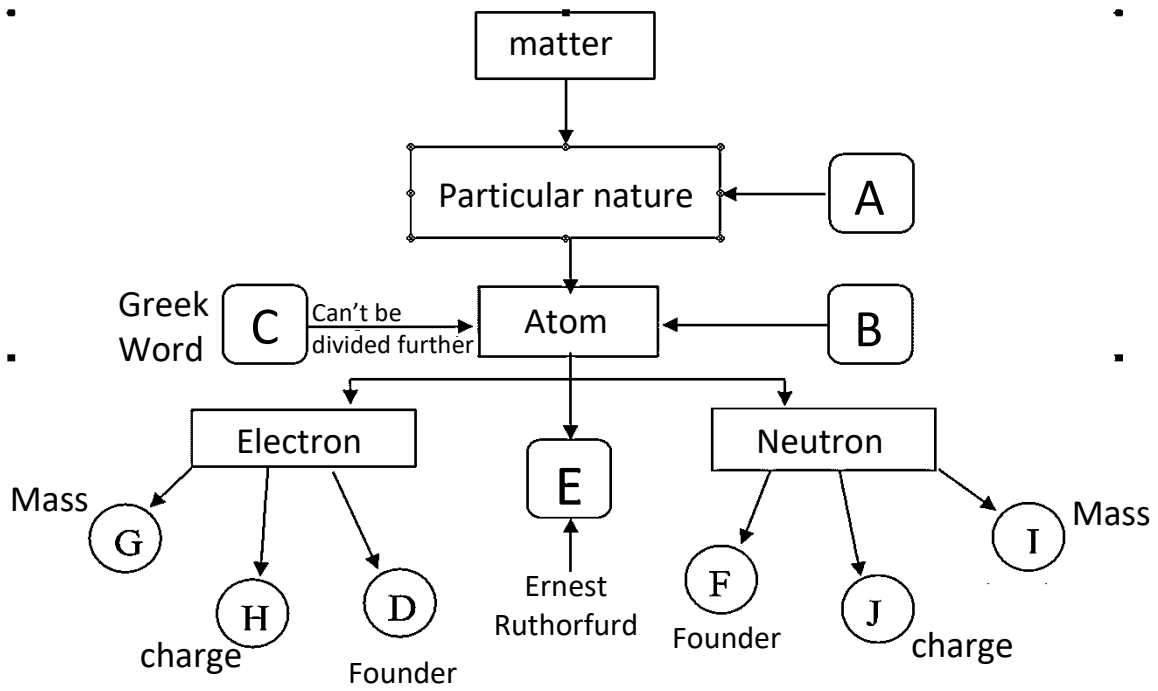
- i. Who are micro – organisms ?
- ii. Name an unicellular micro – organism.
- iii. Name a hostile environment which micro – organism can survive.
- iv. Name the micro – organism which responsible for the following industries and mention the functions of them.
 - a) compost production.
 - b) Bio gas production.
 - c) Bakery industry.
 - d) production of diary products.
 - e) coir industry.

(B). If the statements given below are correct put “✓” and if incorrect put “x” in the bracket.

- i. Some algal varieties visible to the naked eye (.....)
- ii. Antibiotics can kill all the micro – organisms (.....)
- iii. Microscopic algae floating on water surface are called phytoplanktons. (.....)
- iv. Eye lens is made up of proteins. (.....)
- v. Hardening of ossicles is a hearing disorder. (.....)
- vi. Human ear is not sensitive for the sounds below 20Hertz (.....)
- vii. Relative to the entire volume of the atom, the volume of the nucleus is big. (.....)
- viii. Electron has an opposite charge to the proton (.....)
- ix. An element is composed of the atoms of the same type. (.....)
- x. Elements are the pure substances with specific properties which can't be divided further. (.....)

(03)

(C). Concept map creates to describe the matter is given below.



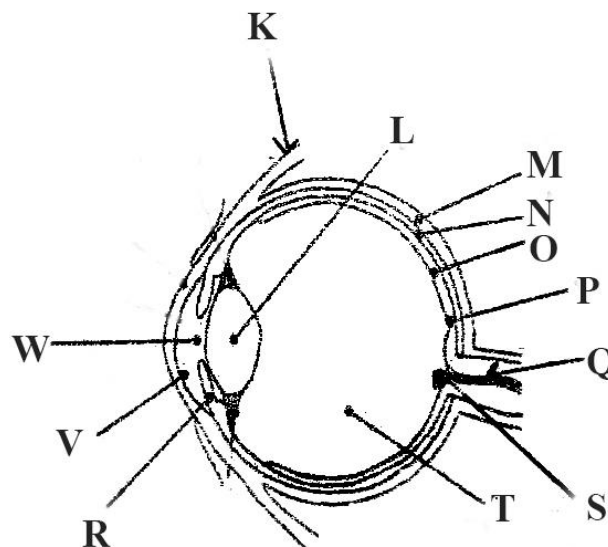
- i. Write the name of the philosopher named as A .
- ii. Who is the scientist which introduced the atom to the world.
- iii. Write the word denoted by C
- iv. Give the suitable words or the values for E, D, F, G, H, I, and J.

(30 marks)

(02).

- i. Label the parts of the following diagram.

(3 marks)

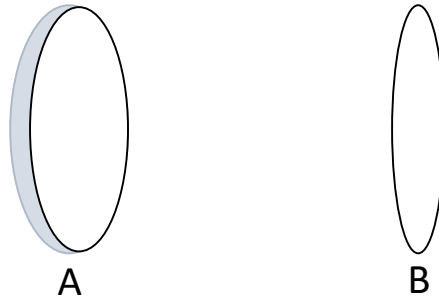


- ii. what are the functions of the eye muscles ?

(1 marks)

(04)

iii. which lens is suitable to get a clear image of a nearby object without changing the image distance. (01 marks)



- iv. How do you change the curvature of the lens to get the clear image for a distant object without changing the image distance? (½ marks)
- v. Which is the focal length that is comparatively high ? (½ marks)
- vi. What is the main factor for the Glaucoma? (½ marks)
- vii. Who has an increased risk of developing glaucoma. (01 marks)
- viii. What is known as binocular vision? (01 marks)
- ix. Give two most common defects of vision (01 marks)
- x. Name the process images that are real inverted and smaller than the object formed on the retina is interpreted by the brain. (01 marks)

(03).

- i. What is the mixture.
- ii. Indicate whether the mixtures given below are homogeneous or heterogeneous

Tea, sea sand, Rice mixed with chaff, vinegar, salt solution, Muddy water, mortar mixture, fruit salad, sea water, coconut oil, ice cream, sugar solution.

(03 marks)

Homogeneous	Heterogeneous

- iii. Name the subatomic particles in an atom. (01 marks)
- iv. Which subatomic particles are contained in the nucleus. (0.5 marks)
- v. Which subatomic particle is move around the nucleus . (0.5 marks)
- vi. What are isotopes. Give 2 examples for isotopes. (01 marks)

vii. write the separating method of the following mixtures.

Separating sugar from sugar syrup.

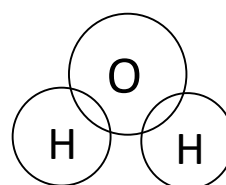
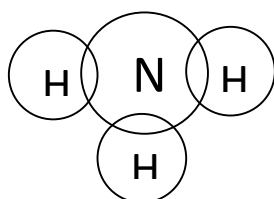
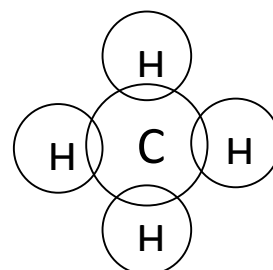
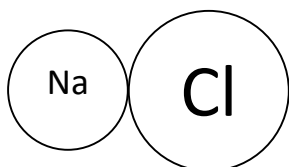
Separating gems from ores.

Obtaining salt from sea water.

Separating minerals from mineral sands.

(01 marks)

viii. Identify the following molecules.



(01 marks)

ix. chlorine atom has 17 protons and 18 neutrons. Represent it in a standard method.

(01 marks)

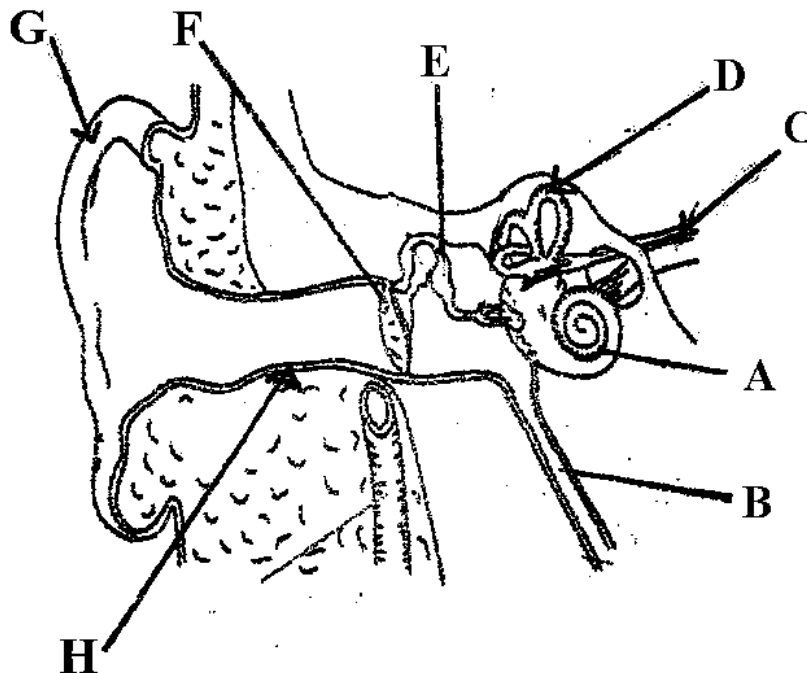
(04).

- i. What are the materials used to produce bio gas. (01 marks)
- ii. Which anaerobic bacteria react on the organic surfaces to produce bio gas. (01 marks)
- iii. What is the main constituent of bio gas. (½ marks)
- iv. What is the use of the above gas ? (½ marks)
- v. What are the plants that are used to get fiber ? (01 marks)
- vi. Which enzyme is produced by the relevant bacteria in helping to separate these fibres by digesting pectate. (½ marks)
- vii. Write 3 adverse effects of microbes? (½ marks)
- viii. What is the importance of having an acidic medium when preparing yoghurt? (01 marks)
- ix. Write the chemical changes in a food when spoiling. (½ marks)
- x. what are the internal factors affect for food spoilage (1 ½ marks)

(05).

i. Identify the parts of the ear.

(02 marks)



ii. write in order the parts of the ear passed by a sound impulse made in the surroundings as it travels to the brain. (01 marks)

iii. Name the defects that can occur in the ear. (01 marks)

iv. write 3 precautions that should be followed to protect the ear. (1½marks)

v. what are the three bones in the middle ear. (1½ marks)

vi. which part of the ear that contributes to main the balance of the body ? (1½marks)

vii. what is the range of audibility of the human ear? (01 marks)

viii. Mention the functions of the following parts of the ear.

- a. Ear lobe
- b. Eustachian tube
- c. Auditory nerve

(1½ marks)

(07)