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Science - I, II

Duration :- 2 hours

Name :- ..... Index No :-

Grade 9

Part I

• Underline the most correct answer

01) An example for micro-organisms is

- i. Bacteria
- ii. Fungi
- iii. Protozoa
- iv. All the above

02) The parasitic protozoa that infect human red blood cell is

- i. Amoeba
- ii. Euglena
- iii. Paramecium
- iv. Plasmodium

03) A = Bacteria – ability to spread wide range of environment

B = fungi – growth occurs on wet and damp substrates

C = Virus – having cellular organization

D = Algae - having unicellular or filament or thallus shape body structures

Out of the above descriptions, the **false** statement is

- i. A
- ii. B
- iii. C
- iv. D

04) A free living Nitrogen fixing bacteria, directly added to the cultivation lands is

- i. Rhizobium
- ii. Azotobacter
- iii. Acetobacter
- iv. Lactobacillus

05) The vaccine is **not** made from killed microbes

- i. Cholera
- ii. Influenza
- iii. Typhoid
- iv. Diphtheria

06) The group of micro-organism that cause to Leishmaniasis is

- i. Virus
- ii. Protozoa
- iii. Fungi
- iv. Bacteria

07) The correct statement about human eye is

- i. The eye fixed to the orbit by six eye muscles
- ii. Light move into the eye through the iris
- iii. Sclerotic layer is nourishing the eye
- iv. The light sensitive rods and cone cells are located in retina

08) The part of the eye that refract light rays on to the retina is

- i. Eye lens
- ii. Aqueous humor
- iii. Vitreous humor
- iv. All the above

09) The structure that understanding, formed inverted image on retina as upright one is

- i. Fovea
- ii. Brain
- iii. Optical area of the brain
- iv. Optic nerve

10) The **false** statement about long sight is

- i. Inability to reduce curvature of the eye lens
- ii. Shortening of the eye ball
- iii. In this defect, the image formed behind the retina
- iv. This defect can be corrected by using a convex meniscus lens.

11) Animal that has binocular vision is

- i. Man
- ii. Cattle
- iii. Dog
- iv. All the above

12) The first part of the ear that gain sound related sensations is

- i. Tympanic membrane
- ii. Ossicles
- iii. Eustachian tube
- iv. External auditory canal

13) Given below are few statements about the structure and function of the human ear.

- A. Ossicles are vibrating and transmitting sound to the inner ear.
- B. Semicircular canal helps to maintain body balance
- C. The limits of hearing of ear is 20 Hz to 20000 Hz

The correct statement / statements are

- i. A and B
- ii. B and C
- iii. A and C
- iv. All the above

14) The symbol of element that base on its Latin name is

- i. S
- ii. Al
- iii. Na
- iv. Zn

15) Under normal conditions, the element oxygen exists as

- i. As atom
- ii. A molecule
- iii. In compounds
- iv. Liquid state

16) The false statement about an atom is

- i. The central core is positively charged and is called the nucleus.
- ii. All space of atom is considering to decide its mass
- iii. An atom is made by sub atomic particles
- iv. Number of protons available in nucleus of different atoms are differ to each other

17) The compound not made by elements carbon and hydrogen is

- i. Hexane
- ii. Benzene
- iii. Ethen
- iv. Ethanol

18) The technic that use to separate components from crude oil is

- i. Vapourization
- ii. Fractional distillation
- iii. Steam distillation
- iv. Crystallization

19) Out of given mixtures, a homogeneous mixture is

- i. Sea water
- ii. Muddy water
- iii. Concrete
- iv. Ice cream

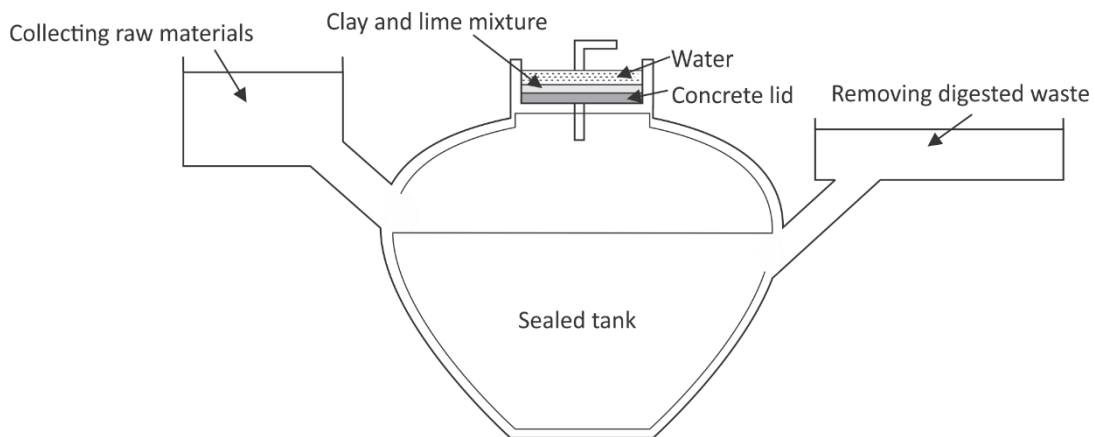
20) The instrument and SI unit of measuring force are respectively

- i. Spring balance and kg
- ii. Newton balance and N
- iii. Triple beam balance and g
- iv. Pan balance and kg

## Part II

The first question is compulsory and write another 3 questions.

(01) (A) The given sketch was drawn by group of student after investigating a biogas plant of a farm.



- What is the main component of biogas?
- Write 2 materials use to produce biogas?
- Write the name of micro-organisms that take part to produce biogas and write its specialty.
- Why does fermentation tank has sealed?
- Has a paste of clay and lime mixture above the concrete lid and its filled with water. Write 2 advantages of it.

(B) If the statement is correct put (✓) and incorrect put (×).

- Growth and reproduction rates of micro-organisms higher than the other organism ( )
- All algae that floats on water surface is considered as plankton ( )
- Fungi Alternaria uses to control weed salvinia ( )
- Bacteria, virus and fungi can be controlled by antibiotics ( )
- Bacteria available in curd or yoghurt culture converts lactose in to lactic acid ( )
- Coconut fibres attached to each other by pectin ( )
- Vectors are the animals that carry pathogens from one person to person ( )
- Sun fly is considered as vector of Leishmaniasis ( )
- Powdery mildew is a disease caused by a fungus. The leaves, stem, flowers and fruits of the plant are affected by this disease appearing white or gray colour powdery material ( )
- A cataract is a cloudiness or opacity in normally transparent crystalline lens of the eye ( )

(C) Complete the given table

Sub atomic particle	Charge	Mass	Location in atom
Proton			
	0	1	
	-1		

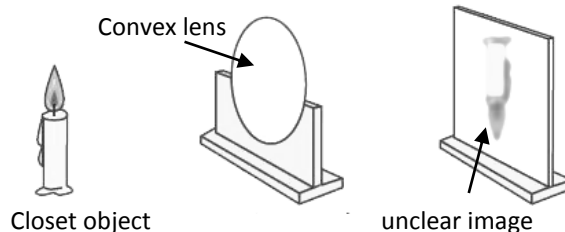
(02) (A)

- Write the part of the eye that perform given functions
  - Providing blood to eye and nourishing it
  - Help to change curvature of the eye lens
  - Maintain shape of the eye ball
  - Form clear images on retina

(B) Draw a suitable ray diagrams to show refraction of parallel light rays through convex and concave lenses

(C) The given setup was arranged to show correction of one of eye disease

- What is the above eye defects?
- What is the other lens use to get clear image on to the screen?
- Write the place of the above lens should be kept to get clear image.
- Explain the way of correcting above eye defect.



(03) (A) Write the part of the human ear that shown given features

- A cartilaginous part that direct sound
- The tube that connect to the pharynx from middle ear
- Transmitting vibrations from tympanic membrane to the Ossicles
- Transmitting impulses to the optic neuron

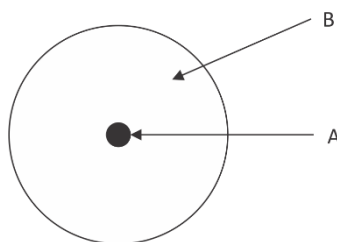
(B)

- Draw a sketch to show the range of binocular vision of human eye
- Write two advantage of binocular vision
- Write the information according to eye disease glaucoma
  - What is the main reason for glaucoma?
  - Write two damages cause to the eye due to glaucoma
  - Write a risky person liable to get this disease.

(C)

- Write the symbols of given elements
  - Carbon
  - Calcium
  - Copper
  - Magnesium
  - Silver
- Draw only two structure of the out of given molecules
  - Water
  - Methane
  - Carbon dioxide
  - Ammonia

(04) (A) Given below is an atomic structure of an element



- Write the name of scientist that denoted the above atomic structure
- Describe briefly about the above atomic structure
- Name A and B of the above atomic structure
- What are the sub atomic particles in unit A?
- What is the subatomic particle in zone B?

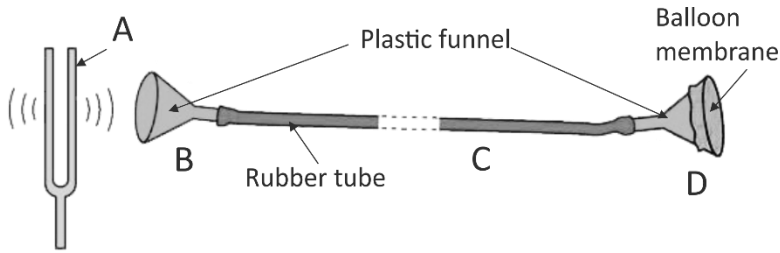
(B) Given symbol is illustrating the standard way of writing an element

Write the answer for given questions

- What is the atomic number
- What is the mass number
- Number of protons
- Number of neutrons
- Number of electrons



(C) Given setup demonstrate how a membrane is vibrated according to a sound



- i. Write the parts of the ear that denoted as B, C and D
- ii. What is the instrument A?
- iii. How to operate device A?
- iv. Write the observation of the above activity.

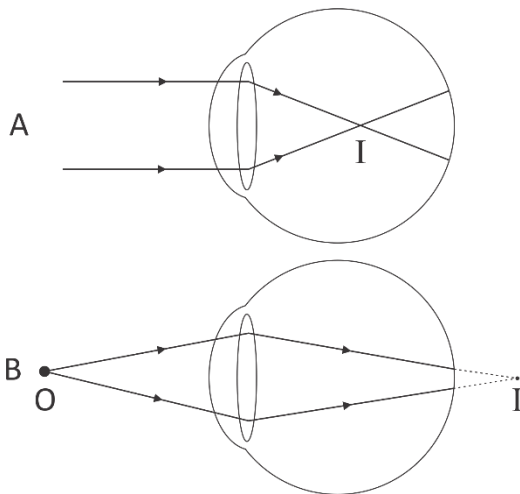
(05) (A) matter can be classified as pure and impure (non-pure) substances

1. Write 2 types of pure substances
2. Write 2 types of impure substances
3. Write main contents of given mixture
  - a. Air
  - b. Crude oil
4. Write the method of separating components of given mixtures
  - a. Rice and sand mixture
  - b. Extracting salt from sea water
  - c. Extracting oil from cinnamon leaves
  - d. Extracting components from crude oil

(B) Complete the given table

Atomic number	Element	Number of protons	Number of Neutrons	Mass number
	N		7	14
8	O			16
	F	9		19
11	Na		12	
17	Cl		18	
	Ca	20	20	

Given below are ray diagrams that shows one of main defects of the eye



- i. Name the defects A and B
- ii. Draw correction for one of the above eye disease