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வடமேல் மாகாணக் கல்வித் திணைக்களம்
Provincial Department of Education - NWP

Grade 9 **First Term Test - 2019** **34 E**

Index No..... **Science - I** **Time : 2 hours**

Important
- **Answer all questions.**
- **Underline the most suitable or alternative.**

01. The symbol of the element chlorine is,
1. KL 2. Kl 3. CL 4. Cl

02. What is the most sensitive part of the retina that forms a sharp image with the light entering into the eye?
1. Yellow spot 2. Optic nerve 3. Choroid layer 4. Iris

03. Which one of the following is a mixture?
1. Distilled water 2. Coconut oil 3. Crude oil 4. Ethyl alcohol

04. Which name is given for the ability to determine the depth or height of an object by the eye?
1. Bicolour vision
2. Three dimensional (3D) vision
3. Binocular vision
4. Stereoscopic vision

05. Select the answer which represents the standard international unit of pressure.
1. NM^{-2} 2. Nm 3. Nm^{-2} 4. Nm^{2}

06. When applying a force
A) Any object can be moved
B) Any object at rest can be moved
C) The shape of some objects are changed
1. B only 2. A and B only 3. B and C only 4. All A, B and C

07. Choose the incorrect statement about " Glaucoma"
1. Glaucoma is a result of high blood pressure in the eye
2. A person with diabetes has an increased risk of developing glaucoma.
3. The optic nerve is damaged due to Glaucoma
4. Glaucoma causes for the instant blindness.

08. Pb and Hg symbols represent the elements.
1. Potassium and Hydrogen
2. Zinc and Copper
3. Iron and Gold
4. Lead and Mercury

09. Which quantity has a direction?
1. Mass 2. Force 3. Time 4. Pressure

10. The pure substances can be categorized as,
1. Elements and compounds
2. Mixtures and compounds
3. Matter and mixtures
4. Elements and mixtures

- ***Give answers for the questions (11) and (12) using the symbol given below.***

$$\boxed{{}^{23}_{11}\mathrm{Na}}$$

11. The maximum number of subatomic particles in the nuclens of Na is,
    1. 11 2. 12 3. 23 4. 34

12. The numbers of negative subatomic particles of Na is
    1. 11 2. 12 3.23 4. 34

13. A. The building unit of the elements is the " atom"
    B. Electrons, protons and neutrons are the subatomic particles of an atom
    C. Electrones are negatively charged and protons are positively charged.

    Out of these, what is / are the true statements ?
    1. A and B only 2. B and C only 3. A and C only 4. All A , B and C

14. A metal which is extracted by the process of " bio-leaching,
    1. Iron 2. Gold 3. Copper 4. Silver

15. Given below are some of the statements about virus
    a. Grow inside the living cells
    b. Have a cellular organization
    c. Multiply in the living cells

    Out of these, what is/ are true statements?
    1. a and b only 2. a and c only 3. b and c only 4. All a, b and c

16. Which diseases caused by micro-organisms can be treated using the vaccines made from killed microbes?
    1. Tetanus and cholera 2. Cholera and Influenza
    3. Tuberculosis and Tetanus 4. Polio and Influenza

17. Which of the following explains best the effect of the falling down of D sized dry cell (torch batteries) on a wet clayboard from a same height is,
    1. Using pressure exerted by dry cells. 2. Using weight of the dry cells.
    3. Using mass of the dry cells. 4. Using gravitational acceleration.

18. The factor affecting for the depth which is exerted by the foot print of a bull and a man with same masses on a sand floor is,
    1. The pressure exerted by the foot of bull is low.
    2. The pressure exerted by the foot of the man is high.
    3. The area which touches the sand floor of human feet is less.
    4. The area which touches the sand floor of 4 feet of the bull is less than the man.

19. Choose the answer which is suitable for the Dengue disease,

Pathogen	Vector	Host
1. Dengue virus	Mosquito	Man
2. Man	Mosquito	Dengue virus
3. Mosquito	Dengue virus	Man
4. Dengue virus	Man	Mosquito

20. The most effective application of microrganisms related to the environment is,

1. The majority of micro-organisms can be obtained at very low rates or free of charge.
2. The large amount of energy is not required for the industries by micro-organisms.
3. They are capable of acting and multiplying on various substances.
4. They can be easily used for genetic engineering.

Part - II

(01) A. The steps of producing curd is given below.

Boiling of fresh cow's milk ⟶ Cooling ⟶ Adding culture ⟶ curd

i. a. Give the reason for boiling cow's milk.
   b. What is the purpose of adding culture ?
   c. What is the group of micro- organisms used to produce curd ?
ii. State one other milk product produced using micro - organisms.
iii. State 3 instances where micro - organisms are used in environmental conservation.
iv. Name one organic substrate that can be used for the production of bio gas.

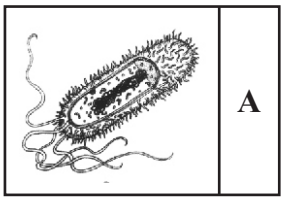
B. It was revealed that sand and iron powder were mixed in a rice sample and palm oil was contained in coconut oil in the market.

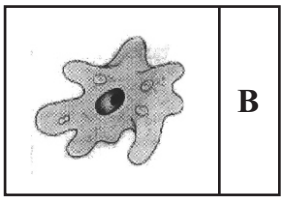
i. Name the homogeneous mixture from above two.
ii Copy down the following table in your answer script and fill it, using the methods to separate other constituents to obtain pure rice. .

Method of separation	Substances removed

iii. Separate distilled water, fresh water and marine water as pure substances and non-pure substances.

(02) A. Magnified figures of two micro- organisms are given below


A

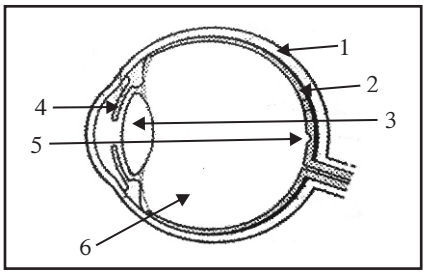

B

i. Name the groups of micro-organisms named as A and B
ii. Write the name of another group of micro-organisms
iii. Name a group in which both unicellular and multicellular organisms belong.
iv. state one reason for not classifying virus under micro-organisms

B. Micro- organisms cause both useful and harmful effects to man

i. Name the two groups of micro-organisms which cause for the spoilage of food.
ii. Name the micro-organism group which cause pityriasis .
iii. State one fungal disease in plants.
iv. Name two antibiotics.

(03) A. Cross section of a human eye is given below. Some parts are donated by numbers.



i. What are the two essential factors needed for seeing any object?
ii. State the numbers relevant to retina and iris?
iii. Draw a ray diagram to show the image formed on the retina if the object is far away.
iv. Explain the process in the lens of the eye to focus the image on the retina, if the object gets closer.
v. Is the image formed on the retina erect or inverted?
vi. State two common defects of eye.
vii. A person cannot see far objects clearly. Draw a ray diagram to show the instance, after correcting that defect.

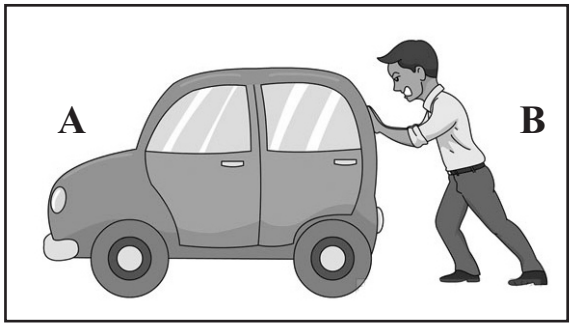
(04) Several labels of some chemical compounds in the laboratory are given below.

$C_6H_{12}O_6$ Glulose	NaCl sodium chloride	S sulphur
Fe Iron (Powder)	$CuSo_4$ Copper sulphate	

i. Separate above substances as elements and compounds.
ii. State the elements by which copper sulphate and glucose are formed of?
iii. Write the suitable answers for the blanks a, b, c, d, e, f, g

Name	Symbol	No. of Protons	No. of electrons	No. of Neutrons	Atomic No.	Mass No.
Nitrogen	a	7	7	7	7	14
Sodium	Na	11	b.....	12	11	23
Neon	Ne	10	10	10	c.....	20
Phosphorus	P	d	16	16	15	e .....
Potassium	K	19	19	20	19	39
f	Al	13	13	g.....	13	27

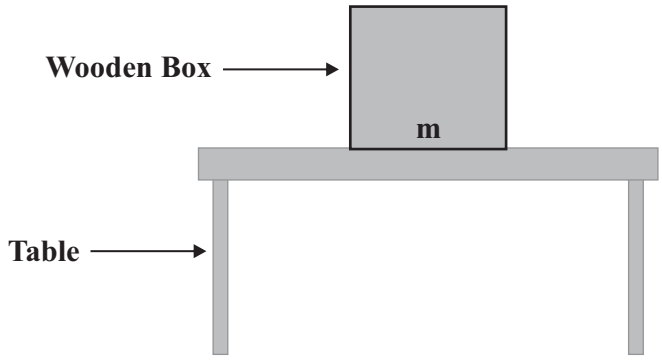
(05)



The above figure shows pushing a vehicle which is at rest. The force exerted by the man is 750 standard units of measuring force.

i. a. State the symbol of the standard unit of measuring force.
   b. State the force exerted above in standard form.
   c. Show the direction of the motion of the vehicle.
ii. Give the reason for introducing force as a vector quantity.
iii. What is the instrument that is used to measure force in the laboratory?
iv. Represent graphically the way of exerting force on the the vehicle.
v. State 2 changes that can be occurred when exerting a force on to an object which is in motion.

(06) The area of a side of the wooden block which is on the table is $0.25m^2$. The weight of it is 200 N. The force acting on a unit area is the pressure.



i. Mention an expression to calculate pressure.
ii. Calculate the pressure exerted by the wooden block on to the surface of the table.
iii. Four rollers are used to drag the wooden block along the surface of the table.
   a. What happens to the pressure exerted on to the surface of the table by wooden block?
   b. Explain the reason for your answer using pressure.
iv. State the strategy used in following instances to change the pressure.
   a. Keeping a plank of wood under the side stand of motor bike.
   b. Sharpening the knife by holding it on to the stone.
v. State one strategy that can be applied to your school bag to reduce, the pressure on your two shoulders.