PROVINCIAL DEPARTMENT OF EDUCATION - NORTH WESTERN PROVINCE

SECOND TERM TEST - 2019

SCIENCE

Grade 09 **Two Hours**

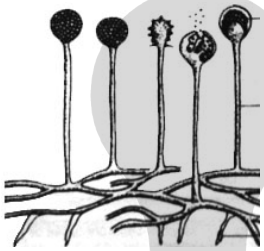
Name / Index No. :

Part I

Instructions:-

- **Answer all questions in the same paper.**
- **In each of the questions 1 to 20 pick one of the alternatives (1), (2), (3), (4) which you consider as the correct or most appropriate and underline it.**
- **First question is compulsory in part II. Answer another 4 questions in seperate paper.**
- **After answering, the part I and part II attach together and hand over.**

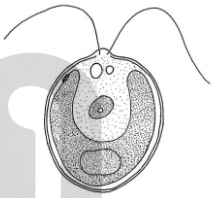
01. Underline the diagram which shows a fungi,



(1)

(2)

(3)



(4)

02. Which type of vertebrates can be considered as the first vertebrates that entered into terrestrial environment ?

(1) Reptiles (2) Fish (3) Amphibians (4) Aves

03. Two common eye diseases that can be identified are,

(1) Long sight and short sight

(2) Cataract and Glaucoma

(3) Increase the length of the eye ball and decrease the length of the eye ball

(4) Increasing high blood pressure and diabetes

04. Growth of the stem of a tree upward is a

(1) Negative geostrophic movement (2) Positive geostrophic movement

(3) Nastic movement (4) Negative phototrophic movement

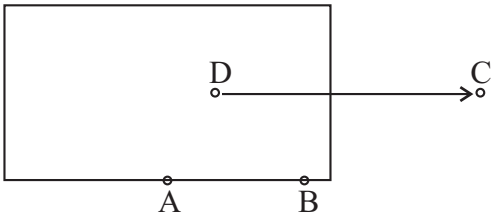
05. Given below is an occasion of exerting a force on a rectangular wood block what is the point of application of the force ?

(1) A

(2) B

(3) C

(4) D



06. Which one of the following is the correct observation obtained by electrolyzing acidulated water ?

(1) Evolving gas bubbles at the two electrodes.

(2) Evolving gas bubbles only at the positive electrode.

(3) Evolving gas bubbles only at the negative electrode.

(4) Deposition of brown colour substance on the positive electrode.

07. What is the artificial growth substance that can be used to get mango fruits in ths off - season ?

(1) Indole acetic acid (2) Cytocell

(3) Indole butric acid (4) Dichlorophenoxg acetic acid

08. The answer which includes only natural eco-system is,

(1) Settlements, Forests, Marine Water, Brackish water.

(2) Fresh water, Agricultural land, Forests, Grasslands.

(3) Forests, Grasslands, Marine Water, Fresh water.

(4) Grasslands, Industrial, Marine water, Forests.

09. For the movement of animals,

(1) Use only bones (2) Use only muscles

(3) Don't use bones or muscles (4) Use both muscles and bones

10. What is the living fossil, that was discovered in the sea near South Africa in 1938 which was believed to the extinct about 70 million years ago.

(1) Blue whale (2) Coelacanth

(3) Ligula (4) Lung fish

11. A concrete cube which weighs of 7000 N is placed on the floor. It touches 14 m^2 area of the floor. What is the pressure exerted by the concrete cube ?

(1) $\frac{7000\ N}{14\ m^2}$ (2) $\frac{14\ m^2 \times 6}{7000\ N}$

(3) $7000\ N \times 14\ m^2$ (4) $7000\ N \times 14\ m^2 \times 6$

12. Which one is not a disease of viral infection ?

(1) Dengue (2) Measles

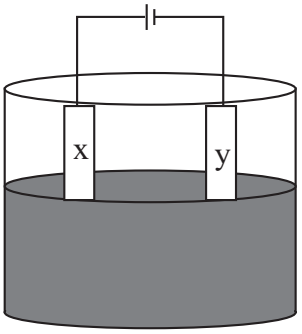
(3) Malaria (4) Influenza

13. Which component of the blood shows a low value or rapid decline more than normal value, when examining a blood report of a Dengue Patient ?

(1) Platelets (2) Red blood cells

(3) White blood cells (4) Blood plasma

14. This diagram shows a setup which can be used to plate copper on a iron ring. What should be used for x electrode,



(1) Iron ring

(2) Copper plate.

(3) Carbon rod

(4) Iron plate

15. Which one of the following is not considered to get a correct reading from a hydrometer,

(1) To measure the amount of water in a milk bottle.

(2) To measure the amount of water in an alcohol bottle.

(3) To measure the amount of heavy metals in a water bottle.

(4) To check the amount of charging of an lead-acid accumulator.

16. The technology used to remove pollutants from the environment is known as 'Bio-remediation"

A - Removing organic pollutants from water

B - Fermentation and producing of alcohol

C - Producing of bio-degrodable plastics

What is the correct answer with Bio-remediation method ?

(1) A only (2) A & B only

(3) B & C only (4) A & C only

17. To get high quality plate by the election plating,

A - Small electric current should be used.

B - Electrolyte should be a very diluted solution

C - Electrolyte should be heated.

(1) A only (2) A & B only

(3) A & C only (4) B & C only

18. Select the most effective method of land management.

(1) Using organic fertilizers (2) Crop rotation

(3) Mixed crop cultivation (4) Plantation

19. Select the most correct statement.

(1) The number of proton is equal to the number of electrons in a neutral atom.

(2) Always the number of protons is equal to the number of neutrons in a neutral atom.

(3) The number of neutrons is equal to the number of proton.

(4) The total number of protons and electrons is equal to the number of neutrons.

20. Which one of the following is incorrect ?

(1) A blood donor with Rhesus $^{-}$ (Rh^{-}) can transfuse his blood to the recipients with Rhesus^{+} and Rhesus^{-} (Rh^{+} and Rh^{-})

(2) Low consumption of healthy blood circulation system.

(3) The right artrium of the heart consists of deoxygenated blood.

(4) Human blood contains blood coupascles than the plasma.

- **Answer five questions including the first question. (First question is compulsory)**
- **Use seperate papers to write answers.**

01. (A) Organisms that cannot be observed through naked eye are considered as the micro-organisms. They show a wider distribution in the environment and even can be lived in extreme environments. They have beneficial and disadvantageous effect on humans and animals (macro-organisms)

(a) (i) Write down the name of a group of micro-organisms that you know. (1 m.)

(ii) What is the group of micro-organsm which shows both living and nonliving characteristics ? (1 m.)

(b) (i) Write an example for extreme environment (1 m.)

(ii) State a situation which shows the usage of micro organisms for the Bio-temediation in environmental conservation. (1 m.)

(vii) Name the pathogenic micro-organism that causes tuberculosis. (1 m.)

(B) Substance transportation is carried out throughout the body through the blood circulatory system. It performs many functions and the faulty eating to various obstacles. The proper functioning of the blood circulatory system must be maintained to sustain a healthy life.

(a) (i) What kind of name is given to the blood vessels that takes blood away from the heart? (1 m.)

(ii) Write down the function of blood. (1 m.)

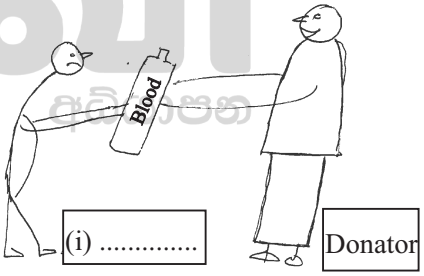
(iii) What is the value between the left atrium and the left ventricle of the heart?(1 m.)

(b) In the case of an emergency giving blood from one individual to another is known as blood transfusion.

(i) Look at the diagram and write down the most correct word for the empty box. (1 m.)

(ii) What is the constituent of the blood cells that causes to decide the blood groups ? (1 m.)

(iii) What makes blood agglutination happen ? (1 m.)



(iv) Write a situation where we can do a blood transfusion. (1 m.)

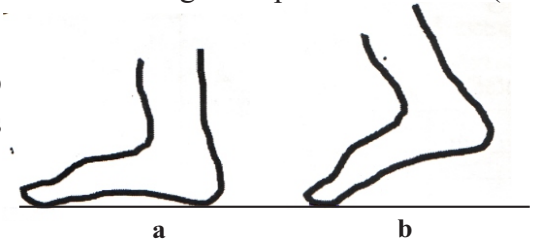
(c) Write down a good habit that helps to keep the proper and healthy blood circulatory system. (1 m.)

(C) An erect plant pot falls down, a few days later, it seems the apex turns upward and the roots turn towards the ground.

(i) What is the chemical that cause the changes in the plant apex and the roots of the plants. (1 m.)

(ii) The growing of plant roots toward the ground is a ..... tropic movement and the growing up of the apex upward is a ..... geostrophic movement. (2 m.)

02. (A) A child is standing on the sea-shore sees a ship at distance. He some times stands on his tips of toes.



01

(i) On which situation the pressure occurs most on the sand ? (1 m.)

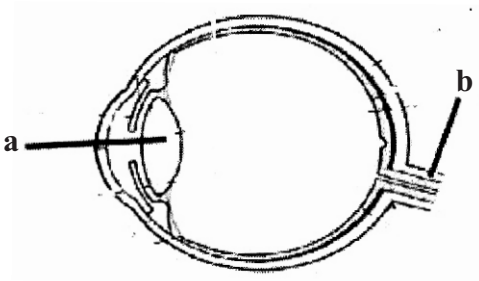
(ii) Which factor affects the pressure in A and B differently ? (1 m.)

(iii) Name another factor that affects the pressure in addition to the factor mentioned above (i). (1 m.)

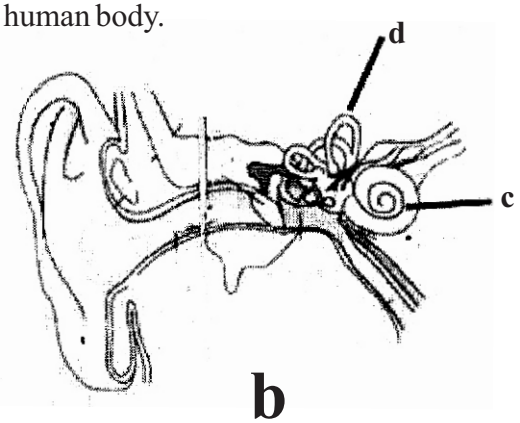
(iv) Write the relationship that is used to calculate the pressure. (2 m.)

(v) State the standard international unit of measuring pressure accurately. (1 m.)

(B) Given below is a rough diagram of two organs of the human body.



a



b

(i) What is the organ represented by B ? (1 m.)

(ii) Name the parts a, b and c (3 m.)

(iii) What is the function of d ? (1 m.)

03. (A) The mass of unit volume in a given substance is called the density of that material.

(i) Write down the relationship that is used to calculate density. (1 m.)

(ii) Given the international standard unit used to measure the density. (1 m.)

(iii) Draw a diagram of a device that can be used to measure the density of liquids. (2 m.)

(B) (i) Name the elements that contain the combination of the formula below (2 m.)

Methane - CH_4

(ii) There are 11 electrons in a Sodium (Na) atom. The number of electrons in the nauclea as is 12.

(a) What is th number of protons in a sodium atom ? (1 m.)

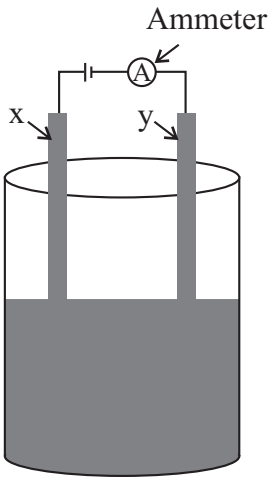
(b) Find out the mass number of sodium. (1 m.)

(iii) Fill in the spaces correctly. (1 m.)

General name	Name of the compound	chemical formula
Water	Water	a. .....
	b.	CO_2
c.	Sodium Chloride	NaCl

(ලෙ. 3)

04. (A) Following is a diagram of the setup that has been arranged by grade 9 students for electrdysis activity.



The solutions given below are put into the beaker at least one solution at a time.

Salt solution, Distilled water, Kerosene oil, Copper sulphate Solution

(i) (a) Name a solution which gives a deflection of the Ammeter. (1 m.)

(b) Indicate a solution that does not course for a deflection of the Ammeter, when put into the beaker. (1 m.)

(ii) When the circuit is connected by putting copper sulphate solution.

(a) Mention an observation near the X electrode. (1 m.)

(b) Give an observation near the Y electrode. (1 m.)

(iii) Name a substance that best suits for X and Y. (1 m.)

(iv) What is the reason not to use iron as a material for X and Y. (2 m.)

(B) Plants and Animals do movements for their own needs.

(i) Give an example for the movements of plants below.

(a) Nastic movements. (1 m.)

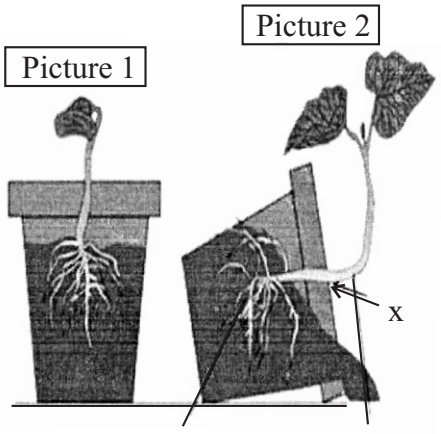
(b) Trophic movements. (1 m.)

(ii) Name the organ used for the locomotion of the animals given below.

(a) Paramecium (1 m.)

(b) Dolphin (1 m.)

05. (A) Picture 1 shows a plant grown in a pot and picture 2 shows it is fallen and grown. The reason for such growth of the plant is one of the growth substances which produces of the place X



(i) (a) What is the growth substance that is produced in X ? (1 m.)

(b) Write down two impacts on plants due to growth substances. (2 m.)

(ii) State the uses of artificial growth substances given below.

(a) 2, 4 Dichloro phenoxy aceticacid (1 m.)

(b) Indoleacetic acid (1 m.)

(B) (i) Fossiles provide important proofs for evolution.

(a) What is meant by living fossils ? (1 m.)

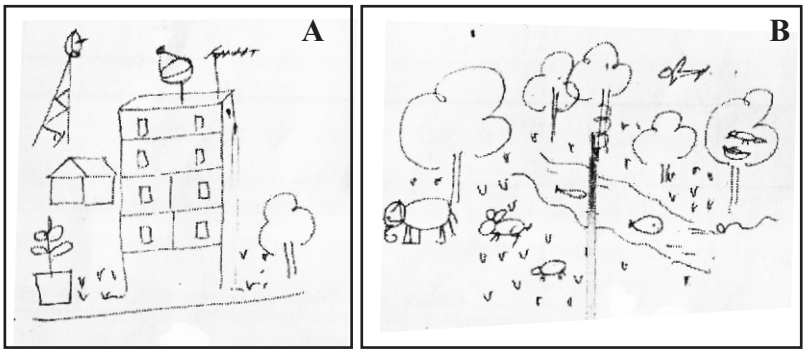
(b) Give an example for a living fossil. (1 m.)

(ii) Explain the following theories on the origin of the earth.

(a) Cosmozoic theory. (2 m.)

(b) Spontaneous generation theory. (2 m.)

06. (A) Shown below is a diagram which is drawn by grade 9 students for the bio diversity lesson.



(a) (i) Write correct answer in front of the character that you can apply for the above pictures A and B according to the environmental types you learnt. (2 m.)

(ii) Name another factor in the environment except the animals, soil, air and water. (1 m.)

(iii) Briefly explain what is bio-diversity? (1 m.)

(b) (i) Write the name of a natural eco-system in our country. (1 m.)

(ii) Mention a threat to the bio-diversity. (1 m.)

(B) With the increased speed of fulfilling human needs, the natural environment become imbalanced and the industrial and agricultural environments were created.

(a) (i) Simply explain the artificial environment. (1 m.)

(ii) Give an unfavorable characteristic of an artificial environment and write down a way to minimize it. (2 m.)

(b) Cultivated land cannot be increased unlimitedly. However the amount of yield obtained through cultivation can be increased using various strategies.

(i) Why is mixed crop cultivation more suitable in plantation management ? (1 m.)

(ii) Give an example for constructing a building to save energy in the world. (1 m.)

Answer Sheet - Part I

01. (1) 02. (2) 03. (3) 04. (1) 05. (4) 06. (2) 07. (3) 08. (3) 09. (4) 10. (2)
11. (1) 12. (3) 13. (1) 14. (2) 15. (3) 16. (3) 17. (2) 18. (3) 19. (1) 20. (4)

Part II

01. A (a) (i) Virus / Fungi / Bacteria / Algae.... for one answer (1 m.)
(ii) Virus (1 m.)
(b) (i) Volcanoes / Glaciers / In animal bodies (1 m.)
(ii) Removing organic substance from polluted water / Removing heavy metals from polluted water / Producing biodeg radabel plastics / Decomposition of oil on the ocean (1 m.)
(iii) Mycobacterium tuberculosis Tuberculosis bacillus (1 m.)
B (a) (i) Arteries (1 m.)
(ii) Transportation of substances throughout the body / Immunity / controlling body temperature destroying pathogens and producing antibodies. (1 m.)
(iii) Bicuspid value / mitral value (1 m.)
(b) (i) Recipient (1 m.)
(ii) Proteins (1 m.)
(iii) Because of the blood groups are incompatible / mismatch of blood groups (1 m.)
(iv) In an operation / An acceding / In a delivery / For Thalassemia patients / For kidney patients. (1 m.)
(c) Mention mentally less stressful lifestyle / Engage in physical activities daily / Reducing salt consumption / Control conditions like high blood pressure and diagetes / Adding more vegetables and fruits to meals / reduce consumption of fatty foods / Refrain from smoking and liqueur / Have more concern if there is a family history of heart attacks, high blood pressure and diabetes / Maintain the correct BMI value. (1 m.)
C (i) Plant growth substances / Plant hormones (1 m.)
(ii) * Positive * Negative (respectively) (2 m.)

(Total = 16 marks)

02. A (i) B (1 m.)
(ii) Area / Surface area (1 m.)
(iii) Perpendicular force/ force (1 m.)
(iv) Pressure = $\frac{\text{Perpendicular force}}{\text{surface area}}$ ($\frac{F}{A}$) (2 m.)
(v) Newton per square water / Pascal / Nm^{-2} P a (1 m.)
B (i) Human eat (1 m.)
(ii) a - eye lens b - optic nerve c - cochlea (3 m.)
(iii) To maintain the body balance (1 m.)

(Total = 11 marks)

03. A (i) Density = $\frac{\text{Mass}}{\text{Volume}}$ (1 m.)
(ii) Kilograms per cubic water / kgm^{-3} (1 m.)
(iii) Correct diagram of the hydrometer (2 m.)
B (i) Carbon, Hydrogen / C, H (2 m.)
(ii) (a) No of protons - 11 (1 m.)
(b) Mass number - 23 (1 m.)
(iii) (a) H_2O (1 m.)
(b) Carbondioxide (1 m.)
(c) Salt (1 m.)

(Total = 11 marks)

04. A (i) (a) Salt solution / Copper sulphate solution (1 m.)
(b) Distilled water / Kerosene oil (1 m.)
(ii) (a) Evolving of gas bubbles (1 m.)
(b) Deposition of red-brown colour substance (1 m.)
(iii) (a) Carbon (graphite) or platinum (1 m.)
(b) Iron metal is reacted chemically (2 m.)
B (i) (a) Blooming of flowers with the sunrise / sleeping or shrinking of plant leaves when dark falls / sleeping or shrinking of plant leaves when the stimulus is touched / sleeping movement during a shock. (1 m.)
(b) Roots growing towards the ground / stem growing away from the ground / stem growing towards the light / roots moving towards the water source / growth of pollen along the tube toward the ovule / clinging of the coiling of tendrils in passion fruit with the support (1 m.)
(ii) (a) cilia (1 m.)
(b) flippers (1 m.)

(Total = 11 marks)

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05. A (i) (a) Auxins (1 m.)
(b) Stimulating the growth / Inhibiting the growth (2 m.)
(ii) (a) To use as a broad leaf weedicide for paddy fields. (1 m.)
(b) To induce root formation of stem cutting / To grow fruits quickly (1 m.)
B (i) (a) The organisms who survive even today retaining their physical properties unchanged though million years have passed are called living fossils. (Non-evolved organisms) (1 m.)
(b) Coelacanth / Lingula / Drogonfly / Cockroach / Lungfish / Tree fern (Ginihota) (1 m.)
(ii) (a) The living materials might have got established on Earth from a fallen meteor with living organisms or by spacecrafts from other planets. (2 m.)
(b) The life was originated from non-living things. (2 m.)

(Total = 11 marks)

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06. A (a) (i) A ⟶ Artificial environment
B ⟶ Natural environment (2 m.)
(ii) Plants (1 m.)
(iii) The variations among organisms (1 m.)
(b) (i) Rivers / Estuaries / Lagoons / Inland water reservoirs / Ocean / Wet lands / Forests / Grass lands / Reverie (1 m.)
(ii) Collapsing meteors / volcanic explosions / tusuhami / earth slides / floods / Rapid deforestation / construction of various buildings / streets / reservoirs / over use of resources / Addition of pollution to the environment / spreading of invasive organisms in ecosystems / Global warming (1 m.)
B (a) (i) Man-made ecosystem (1 m.)
(ii) unfavourable characteristic (1 m.)
How to minize it (1 m.)
(b) (i) To increase the total yield / To protect the quality of soil / The growth of weeds and damage caused by insect pests are minimzed / crops withstand unfavourable climatic conditions / plant diseases are suppressed / Affords maximum benefits out of limited resources. (1 m.)
(ii) German parliamentary building / Beijing national sports complex in china / Wague L. Morse Court complex in USA / K 2 housing project in Australia / Bu dark commons housing complex in USA. (1 m.)

(Total = 11 marks)