



PROVINCIAL DEPARTMENT OF EDUCATION - NORTH WESTERN PROVINCE

FIRST TERM TEST - 2018

Grade 09

SCIENCE

Two Hours

Name / Index No. :

Part I

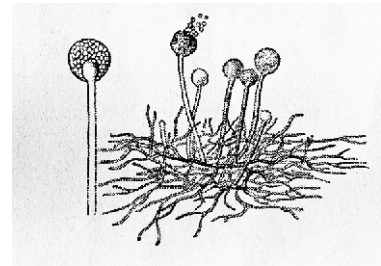
- Answer all questions.
- Underline the correct or most suitable alternative.

01. The group that exist only unicellular micro-organisms is,

- (1) Bacteria and fungi (2) Fungi and protozoa
(3) Protozoa and bacteria (4) Algae and virus

02. What is the group that the micro-organism in the figure belong ?

- (1) Virus
(2) Bacteria
(3) Protozoa
(4) Fungi



03. Followings are some applications of micro-organisms.

- A- Remove heavy metals from impure water.
B- Decompose oil spread on oceans.
C- Use as bio pesticides.

The instances of applying bio-remediation from above are,

- (1) A and B only. (2) B and C only. (3) A and C only. (4) A,B,C all.

04. "It is needed to control the population of mosquito in order to control Dengue" - A news -

The mosquitoes are,

- (1) Vectors (2) Agent (3) Pathogen (4) Host

05. The Rhyzobium bacteria is used,

- (1) To produce antibiotics. (2) To fix nitrogen
(3) As a bio pesticide (4) Related to dairy products.

06. The structure in the human ear non-contributory for the audition is,

- (1) Cochlea (2) Semicircular canals
(3) Ossicles (4) Tympanic membrane.

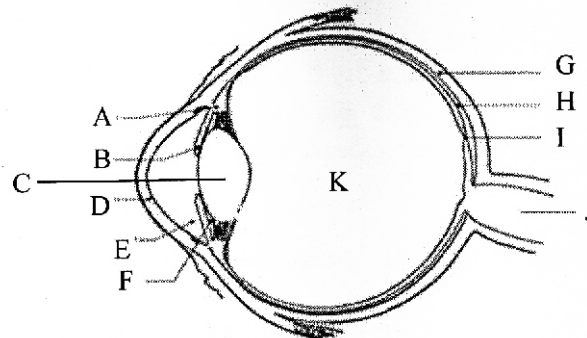
07. The statement that represents the correct path of travelling the sound to the auditory nerve is,

- (1) Tympanic membrane → Cochlea → Ossicles
(2) Ossicles → Cochlea → Tympanic membrane
(3) Cochlea → Tympanic membrane → Ossicles
(4) Tympanic membrane → Ossicles → Cochlea

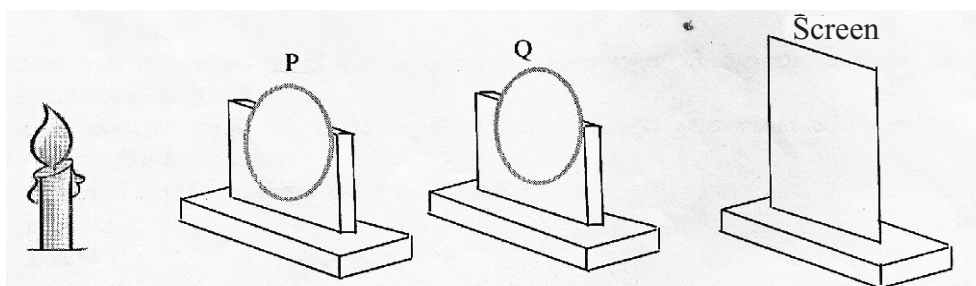
08. The alternative which contain the compounds that composed with only C and H are,
 (1) Methane and Hexane (2) Glucose and sucrose
 (3) Methane and Ethanol (4) Sucrose and Hexane
09. Select the alternative which includes a heteroatomic molecule and a homoatomic molecule respectively.
 (1) Nitrogen and water (2) Glucose and oxygen
 (3) Water and carbondioxide (4) Oxygen and Nitrogen
10. What is the simplest form of the oxygen exist in the nature ?
 (1) Atom (2) Compound (3) Element (4) Mixture
11. The atomic number and the mass number of fluorine respectively are 9 and 19. The number of protons and neutrons of a fluorine atom respectively are,
 (1) 9 and 9 (2) 9 and 10 (3) 9 and 19 (4) 19 and 9
12. • There is a large empty space in an atom.
 • There is a nucleus at the centre. Which is positively charged.
 The person who was invented above first is,
 (1) John Dalton (2) Bercelius
 (3) Ernest Rutherford (4) J. J. Thomson
13. The correct statement regarding the force is,
 (1) Force is a scalar quantity.
 (2) Newton balance is used to measure the force.
 (3) Movement can be observed each and every instance of applying a force.
 (4) It's only the direction of a force can be represent graphically.
14. The standard unit of measuring the pressure is,
 (1) N (2) kg (3) Nm^{-1} (4) Nm^{-2}
15. Following are some instances related to use of pressure in real life.
 A- It's easy to cut something by using a sharp knife blade.
 B- There are large number of tyres are used in a container than in a bus.
 C- It's easy to cut a piece of soap by using a thin thread.
 What are the instances of increasing the pressure ?
 (1) A and B (2) B and C (3) A and C (4) A, B and C all
- **Fill in the blanks by using the suitable word given in the brackets from the question 16 -20.**
 (Back, before, perpendicular, host, vector, physical, chemical, element)
16. The light rays coming from an object which is far away from a man with short sight are focused the retina.
17. The organisms that provide a substratum for the growth of pathogenic micro - organisms are known as
18. The smallest unit called that made up compounds do not show the properties of the compound.
19. The pressure means the force act on a unit area of surface.
20. methods can be used to separate components from a mixture.

- Answer for the first question and only four other questions.
- First question carries 16 marks and each other question carry 11 marks.

01. (A) The diagram given below is a structure of a human eye.



- What is the part labeled as 'C' in the diagram? (1 mark)
 - Name the letters that indicate the parts carried out the following functions. (2 marks)
 - Controls the amount of light enters the eye.
 - Carries impulses about the images formed on the retina to the brain.
 - What is the name of the place that makes more clear image of an eye? (1 mark)
 - Name the letters of two transparent parts of the eye that travel the light through them. (1 m.)
- (B) Hypermetropia and myopia are two eye defects and cartaract in the eye and glucoma are two diseases associate with the eye.
- The diagram given below is to demonstrate a remedy for an dye defect. This activity shows that, though the long distance objects can be seen clearly, short distance can not be seen clearly. But this can be corrected by using lenses.



- Which lens out of P and Q can be considered as the eye lens? (1 mark)
 - State the nature of the image formed on the screen. Is it upright or inverted? (1 mark)
 - What is the eye defect demonstrated by the above activity? (1 mark)
 - State the type of lens used above as the remedy, is it convex lens or a concave lens. (1 mark)
- State the name of eye disease related to the given information. (2 marks)
 - The objects are seen blurred due to reduction of the transparency of the eye lens.
 - Reduce the visual range gradually of the eye and leads for blindness.
 - State a good habit that can be followed to maintain the eye healthy. (1 mark)

- C The ear is the organ that sensitive for perception of sounds.
- (i) State a function of ear except the perception of senses of sound. (1 mark)
 - (ii) State the parts of the ear that perform each function given below.
 - a) Recieve senses relevant to the sound by vibrating correspondent to the sound wave. (1 mark)
 - b) Direct the sound into the external auditory canal. (1 mark)
 - c) Carrying impulses of the senses of sound to the particular area of the brain. (1 mark)

(16 marks)

02. There are useful as well as adverse effects of micro - organisms for the man and to the other organisms.

- (i) Name the group that the two micro-organisms in the picture belong. (1 mark)



- (ii) State whether the organisms belong to above group are unicellular or multicellular?(1 m.)

- (iii) Name two another groups of micro-organisms except above mentioned group. (2 marks)

- (iv) What is the group that cannot be named as living or non-living directly? (1 mark)

- (v) State two substratum that favourable for growth of micro-organisms. (2 marks)

- (vi) State an example for an instance of using the micro- organisms usefully for the agriculture. (1 mark)

- (vii) State the groups of micro - organisms cause for tuberculosis and pityriasis. (2 marks)

- (viii) It is added a cup of pre prepared yoghurt to milk in production of yoghurt in small scale. State the reason for it. (1 mark)

(11 marks)

03. The things with a mass and occupy space are known as matter. Elements, compounds and mixtures are belong to matter.

- (i) Classify the elements, compounds and mixtures under pure and non-pure substances. (2 marks)

- (ii) Write the standard symbol of following elements. (3 marks)

- a) Hydrogen
- b) Carbon
- c) Sodium

- (iii) State the information regarding the subatomic particles given below.

- a. If the relative charge of an electron is negative, state the charge of proton and neutron respectively. (1 mark)
- b. If the relative mass of proton is 1, state the mass of an election and neutron respectively. (1 mark)

- (iv) Write the chemical formula of water. (1 mark)

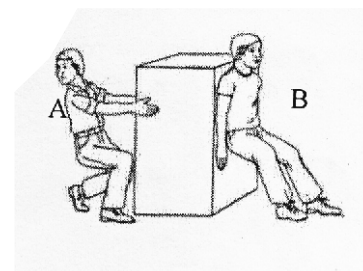
- (v) Write all the elements present in the sodium chloride. (1 mark)
- (vi) The atomic number and mass number of a neutral Nitrogen atom respectively are 7 and 14.
- What is the number of electrons in the Nitrogen atom? (1 mark)
 - Write the symbol of Nitrogen atom and state the atomic number and the mass number according to the standard method. (1 mark)

(11 marks)

04. A pull or a push can be defined as a force.

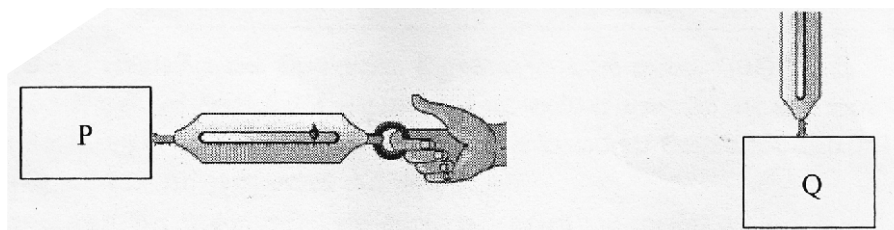
(i) The diagram shows that two instances of applying force.

- State the nature of force indicated by A and B a pull or a push. (2 marks)
- State the direction of movement of the object, is it to the direction of A or B? (1 mark)



(ii) Write the standard unit of measuring force by word and by symbol. (2 marks)

(iii) P and Q are two blocks of wood which have the same size but different mass.

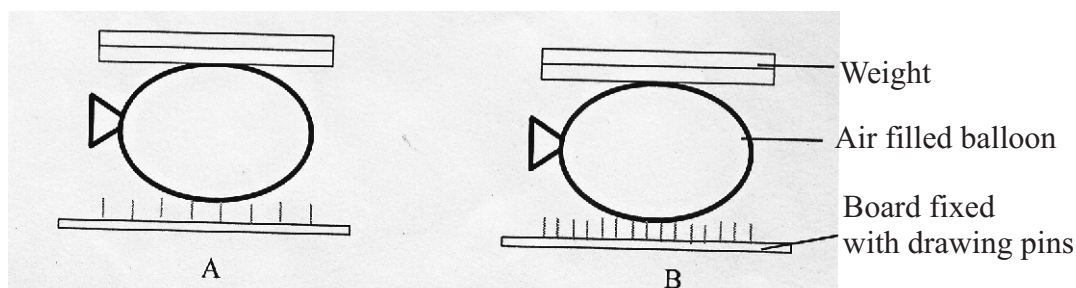


If the wooden block P can be moved by a horizontal force of 12N and wooden block Q can be moved by a 4 N of vertical force. Represent the magnitude of the force, direction of force and the point of action of the force at the two instances. (4 marks)

(iv) State whether the force is vector quantity or a scalar quantity. Briefly explain the reason for your answer. (2 marks)

(11 marks)

05. The weight acts downward due to the mass of the body. A and B are two setup to demonstrate the affection of the weight and the area of the contacting surface to change the pressure.



(i) State the setup from A and B which has the small area of contacting and large area of contacting respectively. (1 mark)

- (ii) If above two setup have used to demonstrate the affection of area of contacting for pressure, which balloon out of A and B burst at first ? (1 mark)
- (iii) Briefly explain the reason for bursting a one balloon above. (2 marks)
- (iv) If it is tested the affection of force to change the pressure, state whether the following factors should be equal or not equal. (2 marks)
- Number of drawing pins fixed on the board.
 - The weight keep on the balloon.
- (v) State the way of increasing the force applied by a hammer to fix a nail and the way of changing the area of contacting. (2 marks)
- (vi) An object with a mass of 500 N was kept on a flat surface. If the area which is contacted the object is 4 m^2 calculate the pressure exerted by the object on the floor. (3 marks)
- (11 marks)**

06. Followings are some examples for mixtures.

Salt solution, tea powder mixed with iron powder, concrete mixture,
petrol mixed with kerosine, rice mixed with husks.

- (i) Classify above as homogeneous and heterogeneous mixtures. (2 marks)
- (ii) State how does a homogeneous mixture change from a heterogeneous mixture. (2 marks)
- (iii) Explain briefly the method of separating components from the following mixtures. (3 marks)
- Separate salt from salt solution.
 - Separate iron powder from the mixture of iron powder and tea powder.
 - Separate rice from the mixture of rice and husks.
- (iv) Name two compounds in salt solution. (2 marks)
- (v) A student said that copper sulphate solution is a homogeneous mixture. State two observations to confirm this statement. (2 marks)
- (11 marks)**

Answer paper Part I

01. (3) 02. (4) 03. (1) 04. (1) 05. (2) 06. (2) 07. (4) 08. (1) 09. (2) 10. (3)
 11. (2) 12. (3) 13. (2) 14. (4) 15. (2) 16. before 17. host
 18. element 19. perpendicular 20. physical (20 x 2 = 40 marks)

Part - II

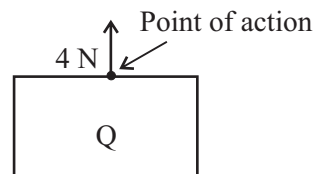
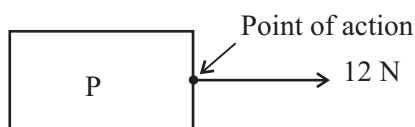
- 01.A(i) Eye lens (1m.)
 (ii) a - B (1m.) b - J (1m.)
 (iii) Yellow spot (1m.)
 (iv) D, K, E (01 mark if only 2 correct letters are mentioned)
 B (i) a - Q (1m.) b - Invert (1m.)
 c - Long sight (1m.) d - Convex lens (1m.)
 (ii) a - Cataract in eye (1m.) b - Glaucoma (1m.)
 (iii) Avoid entering medicinal substances without getting instructions of a doctor.
 C (i) To maintain the body balance. (1m.)
 (ii) a - Tympanic membrane. (1m.)
 b - External ear lob (1m.)
 c - Auditory nerve. (1m.) (16 marks)

02. (i) Protozoa (1m.)
 (ii) Unicellular (1m.)
 (iii) Bacteria, Fungi, algae (2 marks for any two groups. no marks for virus.)
 (iv) Virus (1m.)
 (v) On wet wood, wounded skin, food, inside living bodies, outside the body..... (one mark for any correct answer)
 (vi) As bio fertilizers / As bio pesticides (1 mark for correct answer)
 (vii) Tuberculosis - bacteria (1m.) Pityriasis - fungi. (1m.)
 (viii) To add bacteria that helps for production of yoghurt. (1m.) (11 marks)

03. (i) Pure - Elements, compounds. (1m.) Non pure - Mixtures. (1m.)
 (ii) a - H (⊙.01) b - C (⊙.01) c - Na (1m.)
 (iii) P - positive n - neutral (1 mark if only both are correct)
 b. n - 1 e - 1/1840 (1 mark if only both are correct)
 (iv) H₂O (1m.)
 (v) Na, Cl (1 mark if only both are correct)
 (vi) a) 7 (1m.) b) ${}_{7}^{14}\text{N}$ (1 mark if only both are correct) (11 marks)

Answer paper - continuation

04. (i) a A - Pull (1m.) B - Push (1m.)
 b Towards A (1m.)
 (ii) Newton (1m.) N (1m.)
 (iii) $4\text{ N} = 1\text{ cm}$ (1m.)



(01 mark for indicating the point of action, 01 mark for showing the magnitude, 01 mark for showing the direction.)

- (iv) A - vector quantity

It has a definite direction and a magnitude. (1m.)

(11 marks)

05. (i) A,B (1 mark if only both are correct)
 (ii) A (1m.)
 (iii) The area of contacting surface is little. (1m.) Therefore, though a little force is exerted, it creates a large pressure. (1m.)
 (iv) a - Should be equal (1m.) b - Should be difference (1m.)
 (v) Beat strongly (1m.) Pointed end of the nail tip. (1m.)
 (vi)
- $$\text{Pressure} = \frac{\text{Force}}{\text{Area}} \quad (1\text{m.})$$
- $$\text{Pressure} = \frac{500\text{ N}}{4\text{ m}^2} \quad (1\text{m.})$$
- $$= 125\text{ N m}^{-2} \quad (1\text{m.})$$

(11 marks)

06. (i) Homogeneous - Salt Solution, Petrol and a kerosine mixture (1 mark if both are correct)
 Heterogeneous - Tea powder mixed with iron powder, concrete mixture, rice with husks (1 mark if all three are correct)
 (ii) The colour remains equal everywhere in homogeneous mixtures, colour different in heterogeneous mixture.
 (iii) a - Heat the solution and evaporate (1m.)
 b - Keep a magnet closer to the mixture (1m.)
 c - By winnowing. (1m.)
 (iv) Water (1m.) sodium chloride. (1m.)
 (v) Has an equal colour through out the solution. (1m.)
 Has an equal transparency. (1m.)

(11 marks)

Science - Part I	20 x 2	= 40
Science - Part II - 01 question		= 16
for other 4 questions	11 x 4	= 44
Total		= 100