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Provincial Department of Education - NWP

දෙවන වාර පරීක්ෂණය - 2025
Second Term Test - 2025

Grade 10 | **Science – I** | **Time : 01 hour**

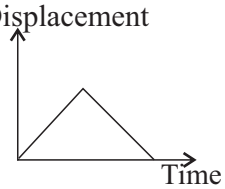
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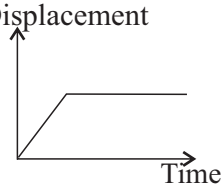
Instructions :-

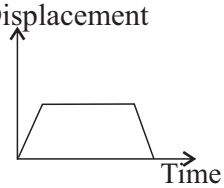
- Write answers to all the questions.
- In questions number 1 to 40, four options are given as (1), (2), (3), (4) for answers. Choose the correct or most appropriate option for each question or answer.
- Mark (X) in the circle provided for the number of the option you have chosen for each question on the answer sheet provided to you.

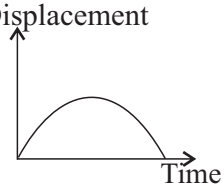
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01. Not a basic organic compound in living matter,
    (1) Protein (2) Vitamin (3) Carbohydrate (4) Lipids
02. The type of sub-atomic particle that contributes in chemical reaction is,
    (1) Electron (2) Proton
    (3) Neutron (4) All above particles
03. The three domain system of classification was introduced by,
    (1) Carl Woese (2) Carolus Linnoeus
    (3) Robert Whittaker (4) Aristotle
04. The length of the path between two points travelled by a moving object is called,
    (1) Displacement (2) Speed (3) Velocity (4) Distance
05. The organelle that cannot be observed by a light microscope is,
    (1) Mitochondrion (2) Nucleus (3) Vacuole (4) Cell wall
06. The highest mass when comparing with the atomic mass unit is,
    (1) Hydrogen atom (2) Nitrogen atom (3) Chlorine atom (4) Magnesium atom
07. The vitamin that affects for the anaemia condition and wounds at mouth is,
    (1) Vitamin A (2) Vitamin B (3) Vitamin C (4) Vitamin D
08. Which graph does not represent 0 displacement?

(1) 

(2) 

(3) 

(4) 

09. The electronic configuration of the element A is 2, 8, 2. The most stable ion of that element is,
    (1) A^{+2} (2) A^{+1} (3) A^{-1} (4) A^{-2}
10. Select the incorrect statement regarding domain bacteria,
    (1) All are pro-karyotes (2) Widely spread on earth
    (3) Cannot be destroyed by antibiotics (4) Some bacteria act as pathogens
11. Select the game which need increase of friction for the victory,
    (1) Snow skating (2) Rawing
    (3) Climbing the slippery tree (4) Pillow fight

12. What is the device that change the direction of applied force to make the work easy?
    (1) Using a wheel barrow to carry a weight.
    (2) Using an inclined plane to lift a weight.
    (3) Using a nut cracker to cut an arecanut.
    (4) Using a pulley to draw water from a well.
13. An advantage of using the auxanometer to measure the growth of a plant is,
    (1) Magnifying a small growth of the plant.
    (2) Easy to attach the plant to the auxanometer.
    (3) Ability to get readings by a short time.
    (4) Increasing the speed of growth of the plant.

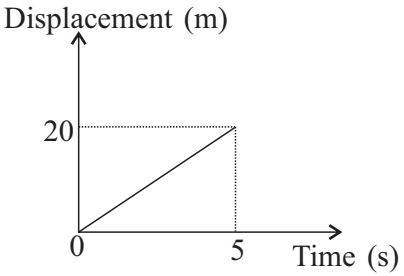
Use following table to answer the questions 14 and 15.

The table gives some information about several elements P, Q, R and S. (They are not true symbols)

Element	Atomic No.	Mass No.
P	6	14
Q	6	12
R	2	4
S	7	14

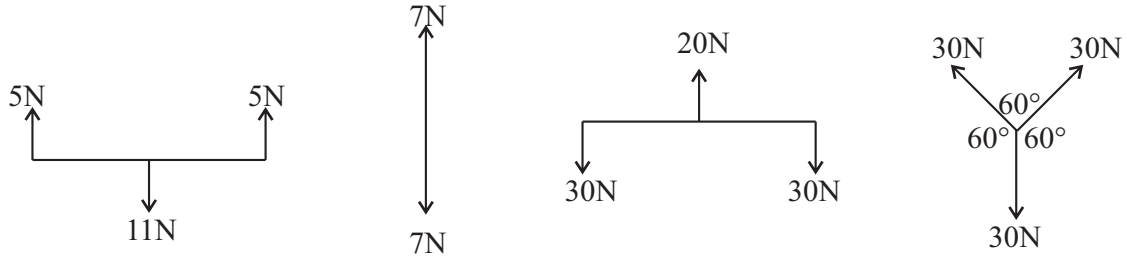
14. Which element can be considered as a noble gas from the above elements,
    (1) P (2) Q
    (3) R (4) S
15. Which can be the isotopes?
    (1) P and Q (2) Q and R
    (3) R and S
    (4) No isotope is mentioned

16. Calculate the velocity using the graph.
    Select the correct or the most appropriate answer.
    (1) $100\ ms^{-1}$
    (2) $50\ ms^{-1}$
    (3) $0.25\ ms^{-1}$
    (4) $4\ ms^{-1}$



17. Select the correct statement regarding he characteristics of living organisms.
    (1) Living characteristics always can be seen in every living units.
    (2) Plants have no ability to respond to stimuli.
    (3) The respiration process of plants can be easily observed externally.
    (4) Virus is a group that cannot be distinguished as living or non living.
18. The correct statement regarding classification of organisms,
    (1) Natural classification depicts the evolutionary relationships among living organisms.
    (2) In artificial classification, cytological and molecular biological features are considered.
    (3) In classification, the relationship between different groups of organisms are not revealed.
    (4) In artificial classification, organisms are classified according to a hierarchy.
19. Select the easiest way to obtain resultant force to push a lorry which was at rest,
    (1) All forces should be collinear exerted to same direction.
    (2) All forces should be collinear and exerted to opposite directions.
    (3) All forces should be parallel and exerted to same directions.
    (4) All forces should be parallel and exerted to opposite directions.
20. The scientific name of mango plant was printed as Mangifera indica. The defect here according to the rules of binomial nomenclature is,
    (1) Not printed in Italics.
    (2) Not underlining two epithets.
    (3) The first letter of second epithet not become capital.
    (4) All letters of the name not become capital.

21. Relative atomic masses of several elements are given below. H = 1, C = 12, O = 16, Mg = 24. Which relationship is not correct according to above values?
    (1) Total number of atoms in 24 g of magnesium = Total number of atoms in 12 g of Carbon.
    (2) Total number of atoms in 24 g of magnesium = Total number of atoms in 18 g of Water.
    (3) Total number of atoms in 24 g of magnesium = Total number of molecular moles in 18 g of Water.
    (4) Total number of atoms in 12 g of Carbon = Total number of atomic moles in 24 g of Magnesium.
22. Which diagram shows the equilibrium of 3 forces,



(1) (2) (3) (4)

23. A sexually transmitted disease caused by a virus,
    (1) Covid - 19 (2) Syphilis (3) Herpes (4) Common cold
24. What is the formula of the compound formed between a triavalence metal M with bivalence non-meal X?
    (1) M_3X_2 (2) M_2X_3 (3) MX_3 (4) M_2X
25. Consider following statements,
    (a) All organisms are formed by several cells.
    (b) The main structural and functional unit of life is the cell.
    (c) New cells are formed from pre-existing cells.
    Correct statements from the above are,
    (1) only a (2) only b (3) a and c only (4) b and c only
26. What is the most suitable statement to introduce an atom?
    (1) The smallest particle of matter is the atom.
    (2) Compounds are formed by combination of atoms.
    (3) Atoms cannot be divided further.
    (4) The smallest unit that participate in chemical reaction is the atoms.
27. The correct statement regarding sexual reproduction,
    (1) New species can be formed. (2) No formation of gametes.
    (3) No meiosis takes place. (4) Contribute only a single organism.
28. Which statement is correct about the unit of molar mass of an element?
    (1) It is atomic mass unit (a. m. u.) (2) It is same units of relative atomic mass.
    (3) The unit is gram per mole ($gmol^{-1}$) (4) No units.
29. Correct statement regarding sexually transmitted diseases,
    a. Always caused by fungi.
    b. Can be infected through the blood of infected person.
    c. The diseases can be controlled by correct food habits.
    (1) a only (2) b only (3) a and b only (4) c only
30. Select the instance which represents a force,
    (1) Moving a bus on a straight road with uniform velocity.
    (2) Pushing a vehicle at rest,
    (3) Equilibrium of a body under 3 ropes in air.
    (4) An object is resting on a table.

31. The formula of the sulphate of the element W is W_2SO_4 . The formula of Calcium Chlorate is, $Ca(ClO_3)_2$. The formular of the Chlorate of the element W is,

(1) W_2ClO_3 (2) W_3ClO_3 (3) $W_2(ClO_3)_2$ (4) $WClO_3$

32. If an unbalanced force is not acting on an object,

a. remains at rest

b. accelerated by 10 ms^{-1}

c. moved at a uniform velocity

The most accurate statements are,

(1) a and b (2) b and c (3) a and c (4) a, b and c

33. Which statements explain more clearly about dissolving many covalent compounds in water?

(1) By high electro negativity values between oxygen and hydrogen atoms in water.

(2) By water becoming a high polar molecule.

(3) By relative molecular mass of water become small.

(4) Can be explained by above 3 statements.

34. Consider following 3 statements,

a. Minerals are needed to maintain life activities of organisms.

b. 27 % of human body weight is from minerals.

c. For the growth of teeth and bones, calcium and phosphorus are needed.

The correct statements are,

(1) a only (2) b only (3) a and b only (4) a and c only

35. The figure shows a type of a nut. Which of the following is exerted here?



(1) Turning effect of force.

(2) Moment of a couple of a force.

(3) Moment of force.

(4) Work done.

36. Select the instrument and the reason to unscrew a nail of a shape ⊗ more easily,



(1) Screw - Exerts a moment of force.

(2) Spanner - Exerts a moment of force.

(3) Rinch - Exerts a moment of a couple force.

(4) T screw - Exerts a moment of a couple force.

37. Select the appropriate answer.

	Instance	Explanation
(1)	Object is at rest	Newton's Second Law
(2)	Acceleration of an object	Newton's First Law
(3)	Swimming of a fish	Newton's Third Law
(4)	Revolution of planets	Newton's Third Law

38. The number of moles of iron fillings in pure iron fillings of 0.112 g is, (Fe = 56)

(1) 0.002 (2) 0.004 (3) 0.2 (4) 0.4

39. What is the instance that make the work done casy by moment of force?

(1) Using an inclined plane to load barrels to a lorry.

(2) Increasing the length of the arm of the spanner to unscrew a nut.

(3) Opening the door pushing it clase to the hinge.

(4) Using bearings for rotating wheels.

40. The element which shows the highest first ionization energy from the elements in the third period is.

(1) Na (2) Al (3) Cl (4) Ar

Past Papers Wiki

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Provincial Department of Education - NWP

දෙවන වාර පරීක්ෂණය - 2025
Second Term Test - 2025

Grade 10 | Science – II | Time : 02 hours

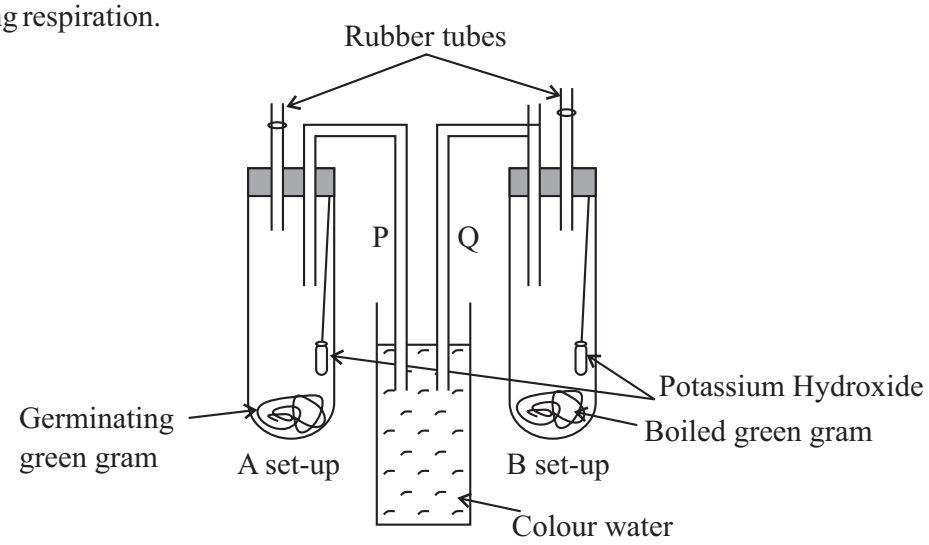
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Instruction :

- **Answer the four questions in Part A in the space provided.**
- **Answer only three questions in part B.**
- **Attach both A and B answer scripts together after answering and handover.**

PART - A

(01) (A) The following figure shows an activity to demonstrate that living organisms absorb oxygen during respiration.



(i) Name the experimental setup and control setup from A and B above.

(a) Experimental set-up :- .....

(b) Control set-up :- ..... (02m.)

(ii) What is the purpose of using potassium hydroxide in two set-ups. (01m.)

.....

(iii) What is the reason for using boiled green gram seeds for the set-up B ? (01m.)

.....

(iv) State the observation that can be seen in P and Q tubes after 5 hours. (02m.)

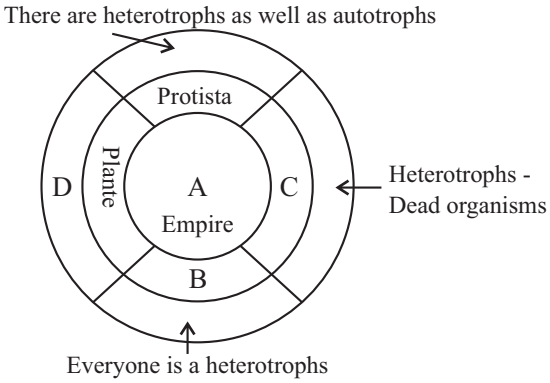
(a) Tube P : .....

(b) Tube Q : .....

(v) What is the advantage of using germinating green gram seeds rather than using water soaked new green gram seeds. (01m.)

.....

(B) A rough sketch of 4 kingdoms of a certain domain in classification and methods of nutrition of organisms of them are given below. Write suitable words for A, B, C and D. (04m.)



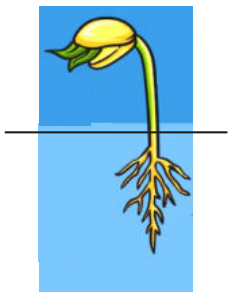
(i) A - .....
(ii) B - .....
(iii) C - .....
(iv) D - .....

(C) (i) Give one example for each group of non-flowering plants given below. (02m.)

(a) Non flowering plants with seeds. Eg.:- .....

(b) Non flowering seedless plants Eg.:- .....

(ii) The way of germinating a seed of a flowering plant is given below.



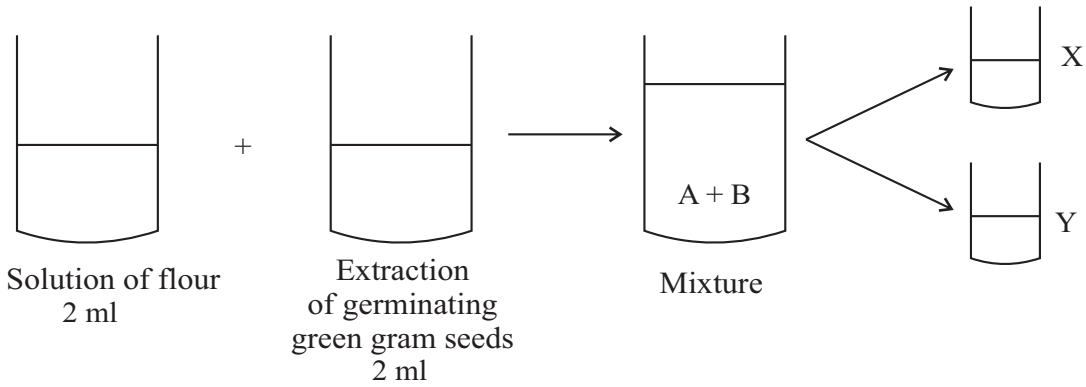
(a) Name the group of flowering plant into which the above seed belong. (01m.)

.....

(b) Which type of root system possessed by above plant group.

..... (01m.)

(02) (A)



The iodine solution is added to X and Y as given below.

I instance : Add a drop of iodine to X as soon as separated.

II instance : Add a drop of iodine to Y after 20 minutes.

(i) Write the colours in following instances.

(a) Instance I : ..... (01m.)

(b) Instance II : ..... (01m.)

(ii) State the compound which cause the above colour change in instance II. (01m.)

.....

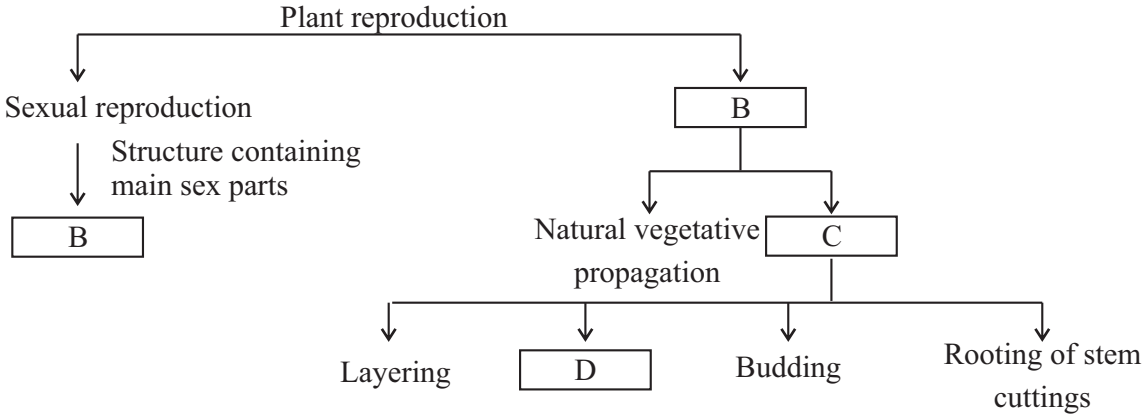
(iii) What is the enzyme present in the extraction of germinating green gram seeds. (01m.)

.....

(B) Fill in the blanks using the special characteristics of water. (04m.)

Due to (i) ..... property of water, animals can remove their waste materials easily. The high (ii) ..... of water, helps animals to regulate body temperature. To transport water through tall plant stems high (iii) ..... forces are important. For the survival of aquatic organisms in winter season, the (iv)..... is important.

(C) Write suitable words for the blanks A, B, C and D. (04m.)



(i) A .....

(ii) B .....

(iii) C .....

(iv) D .....

(D) Cashew fruits and seeds were under a cashew tree.

(i) What is the dispersal agent in above incident. (01m.)

.....

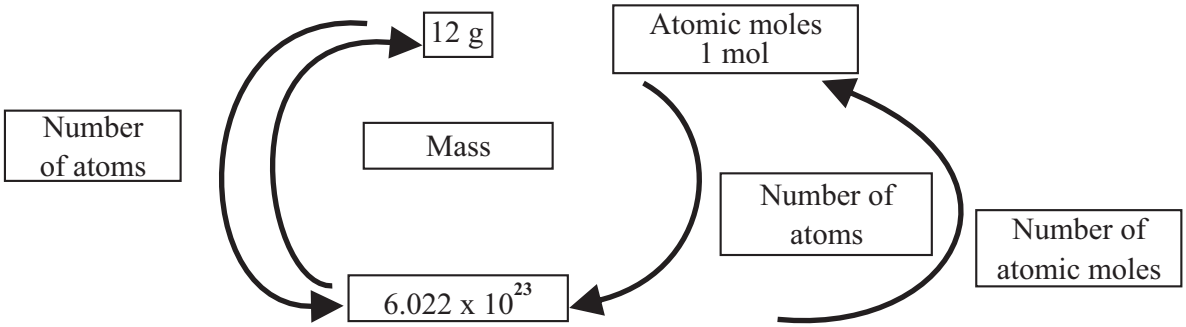
(ii) What is the adaptation in cashew fruits to disperse seeds like in (i). (01m.)

.....

(iii) State one advantage of dispersal of seeds. (01m.)

.....

(03) (A) A brief sketch about Carbon-12 isotope prepared by a student is given below.



(i) What is the relative atomic mass of carbon? (01m.)

.....

(ii) Fill in the blanks using above sketch. (04m.)

Mass of Carbon	Number of moles of Carbon	Number of atoms
4g	(a)	$\frac{6.022 \times 10^{23}}{12} \times 4$
(b)	2 mol	1.2044 x 10
1g	0.083 mol	(c) .....
(d)	1 mol	6.022 x 10

(B) (i) What is "First ionization energy"? (02m.)

.....

.....

(ii) What is the unit used to measure the first ionization energy? (01m.)

.....

(iii) (a) Name the element with highest electro negativity among third period elements. (01m.)

.....

(b) How many electrons are there in the auter-most energy shell of that element? (01m.)

.....

(C) (i) Write the electronic configurations of Sodium (Na) and Oxygen (O). (Atomic number of Na = 11 and O = 8) (02m.)

Na .....

O .....

(ii) Write the formula of the compound formed between Na and O. (01m.)

.....

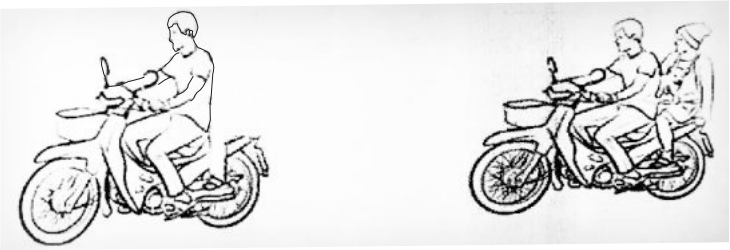
(iii) (a) What is the colour change shown by an aqueous solution of the above compound (ii) with litmus? (01m.)

.....

(b) What is the response of the oxide of sulphur with blue litmus? (01m.)

.....

(04) (A) There is a relationship among the force, acceleration and mass of a moving object.



Increase the acceleration of the bike. Two passengers on the bike.

One passenger.

(i) What is the standard symbol of measuring force? (01m.)

.....

(ii) State the two factors affecting directly and indirectly on acceleration in above two instances.

(a) Directly .....

(b) Indirectly ..... (02m.)

(iii) State the relationship among force, acceleration and mass using symbols. (02m.)

.....

(B (i) State the Newton's Laws to explain following instances. (02m.)

(a) Motion of a rocket. .....

(b) Motion of planets in space .....

(ii) What is the weight of 750 g? (02m.)

.....

(C) Two instance of equilibrium of forces are given below.

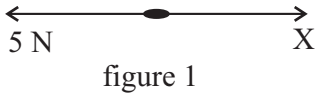


figure 1

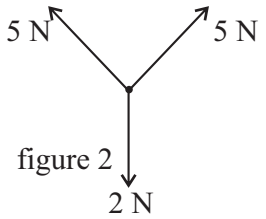


figure 2

(i) What is the value of X? (01m.)

.....

(ii) What is the resultant of 5 N forces in figure 2? (01m.)

.....

(iii) What are the requirements for the equilibrium of a force in figure 1? (03m.)

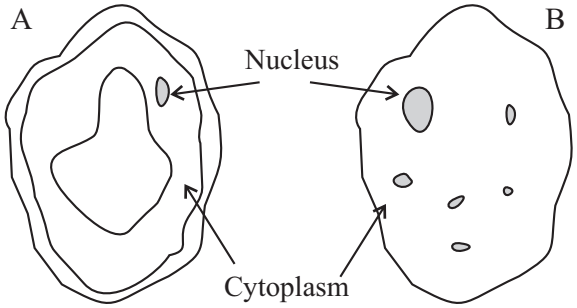
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.....

.....

(iv) Draw the direction of motion of the object in figure 2, if 1 N force in substituted to 2N force? (01m.)

(05) (A) Answer 03 questions from 5, 6, 7, 8 and 9.



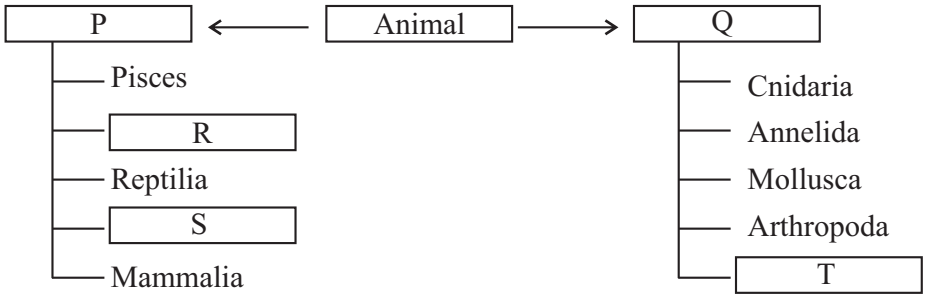
(i) Which one is the plant cell from above A and B? (01m.)

(ii) State one feature used to identify it. (01m.)

(iii) Introduce "a typical cell" (01m.)

(iv) State the main function of the nucleus of a cell. (01m.)

(B)



Answer following questions using above concept map.

(i) (a) Name P, Q, R, S, T in order. (05m.)

(b) Which group from the above shows penta radial symmetry? (01m.)

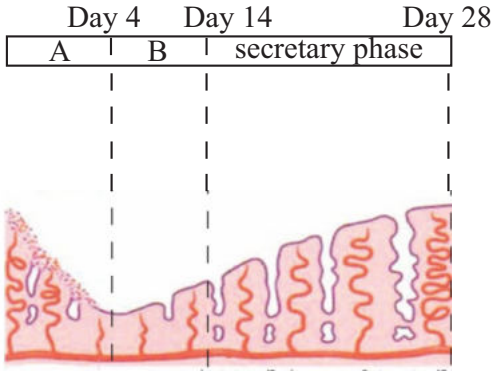
(ii) Name the animal groups which possess following features. (03m.)

(a) Cold blooded animals with 2 chambered heart.

(b) Cold blooded animals with 3 chambered heart.

(c) Cold blooded animals with 2 atrial and partially divided ventricle.

(C) The following figure shows the changes in the uterus in menstrual cycle. Answer following questions using it.

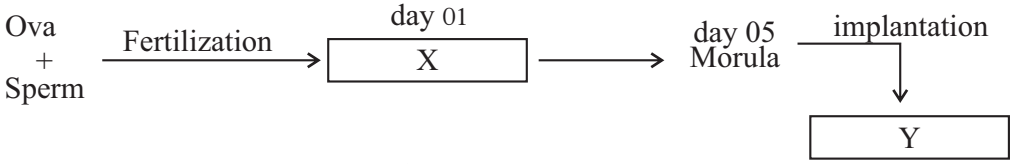


(i) Name the 2 phases A and B. (02m.)

(ii) At the end of which phase of uterus, does the release of Ova from ovary occur? (01m.)

(iii) Due to increase of which hormones does thickening of uterine wall and secreting occur during secretary phase? (01m.)

(iv)



(a) Name *x* and *y*. (02m.)

(b) What is the place in which fertilization occurs? (01m.)

(06) (A) The building unit of matter is the atom and in the atom there are sub-atomic particles neutron, proton, electrons and some other particles.

(i) What is the accepted atomic model at present. (01m.)

(ii) Who was the scientist that put forward above model? (01m.)

(iii) Fill in the blanks considering the features of sub-atomic particles. (04m.)

Sub-atomic particles	Mass	Charge	Position
Proton	(a)	+	In the nucleus
Electron	1/1840	(b)	(c) .....
Neutron	1	(d)	In the nucleus

(iv) (a) Which part of the atom, contributes more for the atomic mass? (01m.)

(b) What is the term used to introduce atoms of different mass numbers in same element? (01m.)

(B) A portion of the periodic table with the first 20 elements is given below. Answer the questions using it

H							He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar
K	Ca						

(i) (a) What is the common feature to include elements Na, Mg, Al, Si, P, S, Cl, Ar into third period? (01m.)

(b) What is the common feature to include elements H, Li, Na into group 1? (01m.)

(ii) Name an element with stable electronic configuration. (01m.)

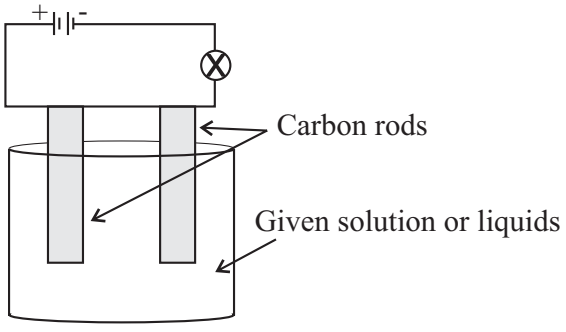
(iii) Select and write the element suitable for following statements.

(a) Burns with a bright flame evolving a white smoke. A white colour powder remains. (01m.)

(b) Exist in allotropic forms and one form conducts electricity well. (01m.)

(c) Light metal. The oxide shows amphoteric properties. (01m.)

(C) Following activity was done to find out the nature of bonds using distilled water, sugar solution, ethyl alcohol solution, salt solution, copper sulphate solution and kerosene.



(i) Name a solution which lights the bulb when it put into the vessel? (01m.)

(ii) What is the type of bond present in (i) ? (01m.)

(iii) State another property of chemical substances of that bond type apart from lighting up the bulb. (01m.)

(D) (i) Define "Relative molecular mass" (01m.)

(ii) Calculate the relative molecular mass of water (H_2O) when the r.a.m. H = 1 and O = 16 (01m.)

(iii) Write an expression for the total number of atoms in 1 mole of water using Avogadro constant. (01m.)

(07) (A) An object starts from rest traverse on a straight line path acquires a velocity of 9 ms^{-1} within 6 seconds. Then it travels with same velocity for 12 seconds and comes to rest again within 6 seconds.

(i) Draw a rough graph to represent above motion. (03m.)

(ii) (a) What is mean velocity relevant to the motion. (02 m)

(b) Calculate the displacement due to this motion. (02m.)

(c) What is the acceleration of this motion? (02m.)

(iii) Mention another quantity that can be obtained by the above graph you drew. (01m.)

(iv) Draw a rough sketch of displacement - time graph for the instance of moving the object with uniform velocity. (values are not necessary) (02m.)

(B) Turning is an effect due to force.

(i) Give 2 examples for the instance of rotating / turning an object due to force. (02m.)

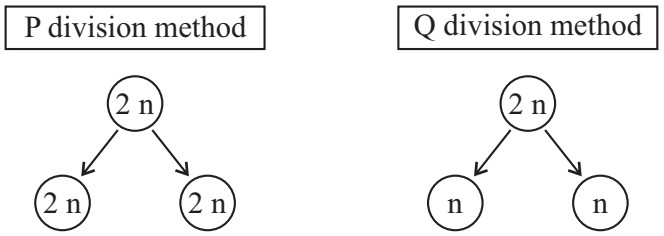
(ii) (a) State the factors affecting moment of force. (02m.)

(b) State the units of moment of force. (01m.)

(iii) What is the couple of force? (01m.)

(iv) State 2 examples for a couple of force. (02m.)

(08) (A)



(i) What is meant by "growth"? (01m.)

(ii) (a) Name the above division methods P and Q separately. (02m.)

(b) What is the special occasion where Q division method takes place in organisms? (01m.)

(iii) (a) What is the most abundant element in cell in mass basis? (01m.)

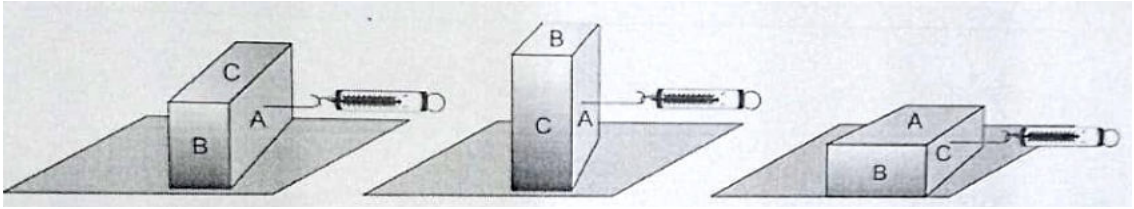
(b) Name the element present essentially in proteins but not present in carbohydrates? (01m.)

(iv) (a) Give a single term for all carbohydrates, lipids proteins and nucleic acids. (01m.)

(b) What is the term used to introduce special proteins which regulate bio-chemical reactions? (01m.)

(c) State 2 functions of proteins in living body? (02m.)

(B) An activity done by a group of students about friction is given below. Nature of all surfaces are same.



(1) (2) (3)

(i) (a) Which factor affecting friction is tested by this activity? (01m.)

(b) What can you say about the readings of the spring balance in instance 1, 2 and 3? (01m.)

(c) What can you concluded by the above readings? (01m.)

(ii) (a) What is the term used to introduce friction in the moment an object just begin to move? (01m.)

(b) State one disadvantage of friction. (01m.)

(iii) State the 2 factors affecting momentum? (02m.)

(iv) A satellite of mass 1000 kg is installed in the space.

(Gravitational acceleration is 10 ms^{-2})

(a) What is the weight of this satellite in the space? (01m.)

(b) What is the weight of this satellite on earth? (02m.)

(09) (A) The elements in group (viii) of the periodic table possess stable electronic configuration. The other elements come to the stable electronic configuration by exchanging electrons between two elements or among several elements.

(i) (a) Draw and show the way of acquiring stable electronic configuration by Sodium (Na) atom. (02m.)

(b) Name the type of bonds formed by exchanging electrons and sharing electrons separately. (02m.)

(ii) (a) What is the reason for polarization of some bonds formed by two different atoms. (01m.)

(b) What is the term used to introduce the bonds formed between water molecules due to polarization of water. (01m.)

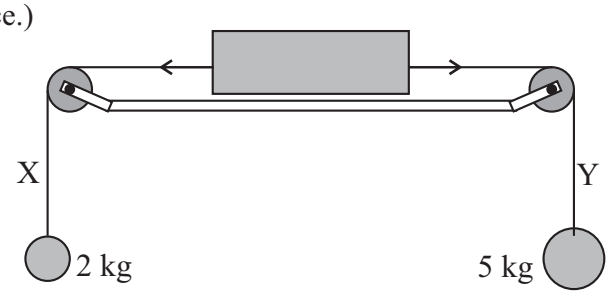
(c) State 2 special properties received by water due to above type of bonds? (02m.)

(iii) Draw the Lewis structure of CO_2. (02m.)

(iv) (a) State the relationship between the group number of an element and its valency. (02m.)

(b) The element X is in the third group of the periodic table and the element Y is in the sixth group. Write the formula of the compound formed between X and Y. (02m.)

(B) The figure shows a wood block kept on a smooth surface. Two threads are connected to the two ends of the wood block and weight are hung as shown in the figure. (No friction exerted by pulley on smooth surface.)



(i) What is the observation of this activity? (01m.)

(ii) (a) What is the resultant force exerted on the wood block? (01m.)

(b) What is the term used to introduce forces exerted like above? (01m.)

(iii) (a) What is the resultant force that should be exerted on wood block to keep it in equilibrium? (01m.)

(b) What is the change that should be done to the weight hung on the thread X. (01m.)

(iv) State a day-to-day activity done by exerting forces as shown in the figure? (01m.)

Paper - I

1 -(2)	2 -(1)	3 -(3)	4 -(4)	5 -(1)	6 -(3)	7 -(2)	8 -(2)	9 -(1)	10 -(3)
11 -(3)	12 -(4)	13 -(1)	14 -(3)	15 -(1)	16 -(4)	17 -(4)	18 -(1)	19 -(3)	20 -(1)
21 -(2)	22 -(4)	23 -(3)	24 -(2)	25 -(4)	26 -(4)	27 -(1)	28 -(3)	29 -(2)	30 -(2)
31 -(4)	32 -(3)	33 -(1)	34 -(4)	35 -(2)	36 -(4)	37 -(3)	38 -(1)	39 -(2)	40 -(4)

(2 x 40 = 80)

Paper - II (Part A)

(01) (A) (i) A (01m.) (ii) B (01m.)
(iii) To absorb CO_2 released in respiration / To make green gram seeds non - living (01m.)
(iv) (a) Rising coloured water up (01m.)
(b) Coloured water does not rise up / Level of coloured water does not change (01m.)
(v) Observations can be taken quickly as rate of respiration is high (01m.)
(B) (i) A - Eukarya (01m.) (ii) B - Animalia (01m.)
(iii) C Fungi (01m.) (iv) D Autotrophic (01m.)
(C) (i) (a) Cycas / Pinus (01 m) (b) Pogonatum / Ferns (01 m)
(ii) (a) Dicoty ledonous (01m.) (b) Tap root system (01m.)
(02) (A) (i) (a) Black / Blue (01m.) (b) Brown (01m.)
(ii) Maltose (01m.) (iii) Amylase (01m.)
(B) (i) Solvent property (01m.) (ii) Specific heat capacity (01m.)
(iii) Adhersive - Cohersive forces (01m.) (iv) Differential expansion (01 m)
(C) (i) A : Asexual reproduction (01m.) (ii) B : Flower (01m.)
(iii) C : Artificial vegetative propagation (01m.) (iv) D : Tissue culture (01m.)
(D) (i) Animals (01m.)
(ii) Having attractive colours / Having fleshy parts (01m.)
(iii) Reducing competition for essential factors (01m.)
(03) (A) (i) 12 (01m.)
(ii) (a) 1/3 (01m.)
(b) 24g (01m.)
(c) $\frac{6.022 \times 10^{23}}{2}$ (d) 12g (01 m)
(B) (i) Minimum energy that should be supplied to an atom in the gaseous state to remove an electron to form unipositive gaseous ion. (02 m)
(ii) $kJmol^{-1}$ (01 m)
(iii) (a) Chlorine (b) Seven (01m.)
(C) (i) Na - 2, 8, 1 O - 2, 6 (02m.) (ii) NaO_2 (01m.)
(iii) (a) turn red litmus into blue (01m.) (b) turn blue litmus into red (01m.)
(04) (A) (i) N (01m.)
(ii) (a) Force (b) Mass (02m.)
(iii) F = ma (02m.)
(B) (i) (a) Third law (01 m) (b) First law (01 m)
(ii) $F = ma = 0.75\ kg \times 10\ ms^{-2} = 7.5\ N$ (02m.)
(C) (i) 5N (01m.) (ii) 2N (01m.)
(iii) Same line of action / Two forces must have equal magnitudes / Two forces must act along two Opposite directions (03m.)
(iv) ↑ (01m.)

PAST PAPERS WIKI

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Past Papers Wiki

(05) (A) (i) A (01m.)
(ii) Cell wall / Large central vacuole (01m.)
(iii) A cell containing all cell organelles (01m.)
(iv) Controlling life activities of the cell (01m.)

(B) (i) (a) P - Vertebrates Q - Invertebrates R - Amphibia / Aves S - Aves / Amphibia T - Echinodermata (05m.)
(b) T / Echinodermata (01m.)
(ii) (a) Pisces (b) Amphibia
(c) Reptilia

(C) (i) A - Menstrual phase B - Proliferation phase (02m.)
(ii) B / Proliferation phase (01m.)
(iii) Progesterone (01m.)
(iv) (a) X - Xygote Y - Blastual (02m.)
(b) Upper part of the fallopian tube (01m.)

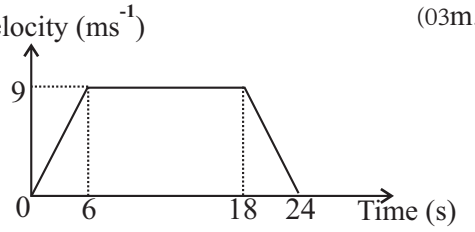
(06) (A) (i) Planetary model (01m.) (ii) Earnest Rutherford (01m.)
(iii) (a) 1 (01m.) (b) -1 (01m.)
(c) Energy shells (01m.) (d) Zero (01m.)
(iv) (a) In he nucleus (01m.) (b) Isotopes (01m.)

(B) (i) (a) Presence of electrons in three energy shells. (01m.)
(b) Presence of one electron in the last energy shell. (01m.)
(ii) He / Ne / Ar (01m.)
(iii) (a) Mg (01m.) (b) C (01m.)
(c) Al (01m.)

(C) (i) $CuSO_4$ / d. H_2SO_4 (01m.) (ii) Ionic bonds (01m.)
(iii) Well soluble in water (01m.)

(D) (i) How many times a given molecule of an element or compound weighs as much as 1/12 the mass of C = 12 isotope. (01m.)
(ii) 1 x 12 + 16 (01m.) (iii) $3 \times 6.022 \times 10^{23}$ (01m.)

(07) (A) (i) (03m.)

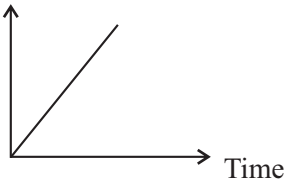


(ii) (a) $4\ ms^{-1}$ (02m.) (iii) ඔන්දනය (01m.)
(b) (02m.) (iv)

$$\text{Acceleration} = \frac{\text{Change of velocity}}{\text{Time}}$$

$$= \frac{9 - 0\ ms^{-1}}{6 - 0\ s}$$

$$= 1.5\ ms^{-1}$$



(c) Area of the graph $= \frac{(12 + 24)}{2} \times 9$ (02m.) (02m.)

$= 18 \times 9$

$= 162\ m$

(B) (i) For any two correct examples. (02m.)

(ii) (a) Force, Perpendicular distance from the rotational axis to the line of force of action. (02m.)

(b) Nm (01m.)

(iii) Two coplanar forces of equal magnitude acting in opposite directions, along two lines of action that are spaced apart. (01m.)

(iv) For 02 suitable examples. (02m.)

(08) (A) (i) Irreversible increase of size of cell / Forming new cell by division / Cell diffentiation (one mark for one factor) (01m.)

(ii) (a) P - Mitosis Q - Meiosis (02m.)

(b) Gamete formation (01m.)

(iii) (a) Oxygen (01m.)

(b) Nitrogen (01m.)

(iv) (a) Biological molecules / bio molecules (01m.)

(b) Enzymes

(c) As an energy source, to form structural components, as enzymes, as hormones, as antibodies (02 marks for two factors) (02m.)

(B) (i) (a) Area of the surface (01m.) (b) Reading are equal (01m.)

(c) Area of the surface does not affect friction. (01m.)

(ii) (a) Limiting frictional force (01m.)

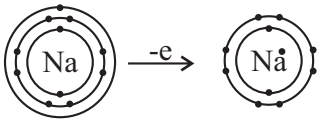
(b) Wearing off contact surfaces / Heating / Wasting energy (one mark for 1 fact) (01m.)

(iii) Mass, Velocity (02m.)

(iv) (a) Weight in space is 0. (01m.)

(b) On earth, f = mg, = 1000 x 10 = 10000 N

(Final answer is enough 02 marks for the answer with units 01 marks for the answer without units.) (02m.)

(09) (A) (i) (a) 

(02m.)

(b) Exchanging electrons - ionic bonds / Sharing electrons - Covalent bonds (02m.)

(ii) (a) Difference of electro negativity in atoms. (01m.)

(b) Inter - molecular forces (01m.)

(c) For two special properties of water. (02m.)

(iii) $\dot{\underset{\cdot\cdot}{O}} = C = \dot{\underset{\cdot\cdot}{O}}$ (01m.)

(iv) (a) The valency of elements from group I to group IV equals to the group number. / The valency of elements from group V to VIII equals to 8- group number. (02m.)

(b) X_2Y_3 (02m.)

(B) (i) Trolley goes towards Y (01m.)

(ii) (a) 5 N - 2 N = 3 N, Towards Y (give marks if direction ors not mentioned. (01m.)

(b) Collinear forces (01m.)

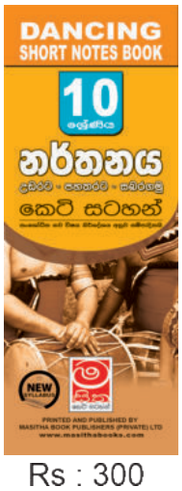
(iii) (a) Resultant force - 0 (01m.)

(b) Should add 3N force (01m.)

(iv) An activity like tug of war. (01m.)

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10 ශ්‍රේණිය කෙටි සටහන් පොත් සංශෝධිත නව විෂය නිර්දේශයේ පාඩමෙන් පාඩමට



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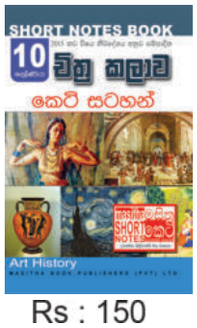
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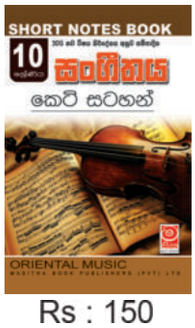
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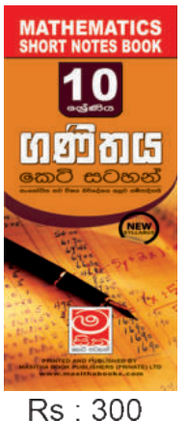
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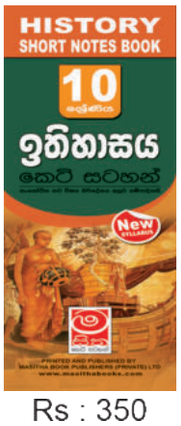
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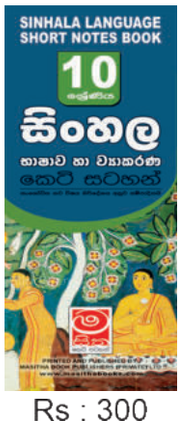
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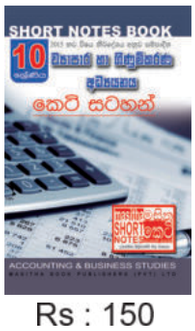
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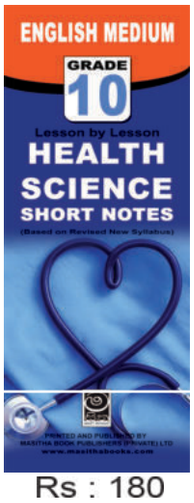


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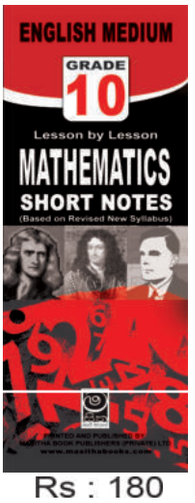


Rs : 300

මෙම කෙටි සටහන් පොත් සකස් කොට ඇත්තේ ජාතික අධ්‍යාපන ආයතනය මගින් සම්පාදනය කොට ඇති නව විෂය නිර්දේශය අනුව, විෂය ප්‍රවීණත්වයෙන් යුත් සම්පාදක මණ්ඩලයක් විසිනි, එහෙයින් මෙහි අන්තර්ගත සියලු සටහන් එම විෂය නිර්දේශයේ සෑම මාතෘකාවක්ම ආවරණයකොට තිබේ. මෙම ග්‍රන්ථ සම්පාදනය කිරීමේ දී පූර්ණ අවධානය යොමුකොට ඇත්තේ සිසුන්ට මෙන්ම ගුරුවරුන්ට ද අවශ්‍යයෙන්ම මතකයේ තබා ගත යුතු සියලු කරුණු අන්තර්ගත කරමින් වන හෙයින් වෙනත් අතිරේක ග්‍රන්ථ පරිහරණයකින් තොරව වුවද අදාල විෂය නිර්දේශයේ වැදගත් කරුණු සියල්ල ඉතා පහසුවෙන් හැදෑරීමේ මෙන්ම මතකයේ රඳවා ගැනීමේ හැකියාව ද ලැබෙනු ඇත.



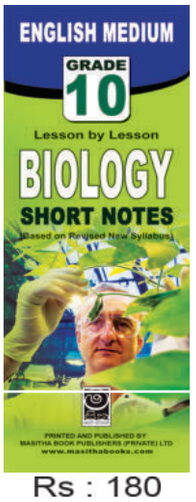
Rs : 180



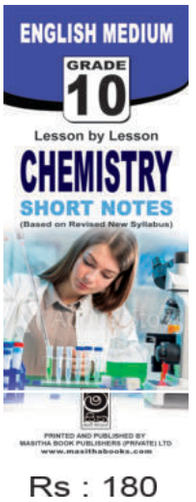
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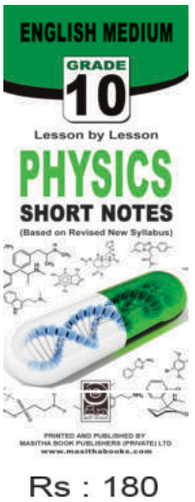
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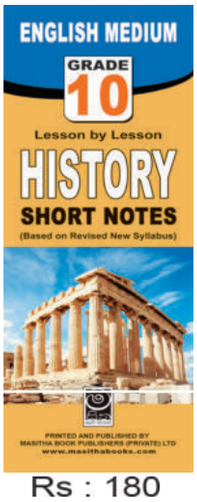
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Rs : 180



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