

Science I

Grade 10

විද්‍යාව I

Time: 01 Hour

Name/ Index No.

● Answer all the questions.

01 Building unit of Carbohydrate is,

- (1) Glucose (2) Maltose (3) Cellulose (4) Lactose

02 Protein contains in egg white is,

- (1) Gluten (2) Osein (3) Kekatin (4) Albumin

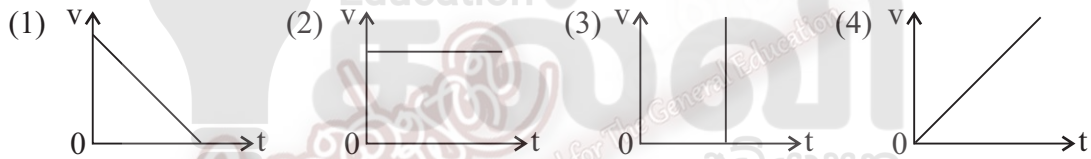
03 Symptoms such as retarded growth of roots / red and purple patches on leaves can be seen in plants because of deficiency in,

- (1) Nitrogen (2) Phosperous (3) Potassium (4) Iron

04 What is the standard unit of acceleration ?

- (1) ms^{-1} (2) Ns^{-2} (3) ms^{-2} (4) $Kgms^{-1}$

05 Velocity time graph which shows the motion of a coconut detached from the stalk and falling to the ground is,



06 Number of protons in a neutral atom whose atomic number 11 is,

- (1) 10 (2) 11 (3) 8 (4) 12

07 What is the answer with the correct order of energy levels of an atom ?

- (1) K, L, M, N (2) L, M, N, K (3) N, M, L, K (4) K, M, L, N

08 Not an instance of using sulphur is,

- (1) Vulcanizing rubber (2) producing vine and beer
(3) producing sulphuric acid (4) welding metals

09 Surface from the following surfaces with the minimum friction is,

- (1) surface of a slice of carrot (2) surface of snow
(3) surface of a concrete (4) surface of a polished granite

10 An organelle can not be seen in an animal cell is,

- (1) mitochondria (2) large vacables
(3) nuclear membrane (4) cell plasm

11 Not an importance of mitosis is,

- (1) growth of body (2) asexual reproduction
(3) repairing tissues by producing new cells. (4) resulting new variations.

12 Answer with correct relative atomic mass of Na is,

$$\left[\begin{array}{l} \text{Mass of Na atom} = 3.819 \times 10^{-23} \text{ g} \\ \text{Mass of C atom} = 1.993 \times 10^{-23} \text{ g} \end{array} \right] \text{ g}$$

- (1) $\frac{3.819 \times 10^{-23}}{1.993 \times 10^{-23}}$ (2) $3.819 \times 10^{-23} \times 1.993 \times 10^{-23}$
 (3) $\frac{1.993 \times 10^{-23}}{3.819 \times 10^{-23}}$ (4) $\frac{3.819 \times 10^{-23}}{\frac{1}{12} \times 1.993 \times 10^{-23}}$

13 Number of basic units in a mole or Avogadro constant is,

- (1) 1.67×10^{-24} (2) 6.022×10^{-23} (3) 6.476×10^{-23} (4) 3.819×10^{-23}

14 Standard unit of molar mass is,

- (1) Kg mol^{-1} (2) g mol^{-1} (3) mol^{-1} (4) mol Kg^{-1}

15 Number of molecules contain in 5 moles of water is,

- (1) $6.022 \times 10^{-23} \times 5$ (2) $\frac{6.022 \times 10^{-23} \times 5}{18}$
 (3) $\frac{6.022 \times 10^{-23} \times 18}{5}$ (4) 6.022×10^{-23}

16 Following is an incomplete reaction written to show the process of photosynthesis,



Select the term suitable for the blank cage,

- (1) 6O_2 (2) H_2O (3) $6\text{H}_2\text{O}$ (4) $\text{C}_2\text{H}_5\text{OH}$

17 Common method of nutrition of bacteria is,

- (1) photo autotrophic (2) chemical autotrophic
 (3) parasitic (4) heterotrophic

18 A CO_2 which released by photosynthesis of plants is an excretory product.

B Urea released by kidneys of animals is an excretory product.

C O_2 released by plants at respiration is an excretory product.

D faeces released by animal from digesting system is an excretory product.

Correct statements from the above are,

- (1) A and B (2) A, B and C (3) B, C and D (4) A, B, and D

19 Following diagram shows two forces act on an object.



Select the correct answer that shows the resultant force and its direction.

- (1) 10N (2) 5N
 (3) 15N (4) 5N

- 29 Not a non-flowering plant without seeds is,
 (1) Salvinia (2) Pynas (3) Pogonatum (4) Selleginella
- 30 Select the incorrect statement about binomial nomenclature.
 (1) When writing scientific name first part to be generic name and second part to be species name.
 (2) First letters of first name and second name to be English capital letters and other letters to be simple letters.
 (3) When writing name two terms to be underlined.
 (4) When printing name italic letters to be used.
- 31 Under ground stem of plantain is type of
 (1) corm (2) rhizome (3) tuber (4) bulb
- 32 Natural vegetative propagation of plants and examples are given below. Correct answer is,
 (1) by roots - 'Akkapana' (Bryophyllum) (2) by suckers - paddy
 (3) by Runners - Curry leaves (4) by Leaves - 'Gotukola'
- 33 Sexual reproductive structure of plants is,
 (1) seed (2) ovary (3) flower (4) gynoecium
- 34 Select the correct answer with adaptation of plants for pollination and the plant which shows that adaptation.
 (1) spring up unisexual flowers - passion fruit.
 (2) having extrose stamens - catharanthus
 (3) Dichogamy - Corn
 (4) Self- sterility
- 35 Methods of dispersal of seeds of coconut, bitter guard, dipterocarpus zeylanicus, ladies fingers respectively are
 (1) by water, by animals, by wind, by explosion mechanism
 (2) by animals, by wind, by water, by explosion mechanism
 (3) by explosion mechanism, by wind, by animals, by water
 (4) by wind, by animals, by water, by explosion mechanism
- 36 Not an external factor needed for germination of seeds is,
 (1) Viability of seed (2) Oxygen
 (3) Water (4) Optimum temperature
- 37 Hormne produced in male's body which affects for secondary sexual characteristics and place where it produces are,
 (1) Testosterone - Testes (2) Projesterone - Vas deferens
 (3) Oestrogen - Testes (4) Testosterone - Ovaries
- 38 The hormone secreted by pituitary which stimulate the development of a primary follicles to a graafian follicles is,
 (1) LH (2) FSH (3) TSH (4) Projesterone.
- 39 *Puntius asoka* is a scientific name. Most appropriate statement related to this is,
 (1) It is a botanical name (2) It is a zoological name
 (3) It is a zoological name of a bird inherent to Sri Lanka
 (4) It is a zoological name of a fish inherent to Sri Lanka
- 40 An animal of order of primates of class mammalia is,
 (1) bat (2) sambur (3) man (4) whale

(1 x 40 = 40)

Mid Year Examination - 2015

Science II

Grade 10

විද්‍යාව II

Time: 02 Hours

Name/ Index No.

• Answer 05 Questions only.

01 A In 1665, Robert Hooke observed a section of a cork using a microscope prepared by him and micro structures were named as cells. After that, cell theory was introduced using various reveals.

- (1) Who are the scientists who presented cell theory? (03 m.)
- (2) Mention 2 facts presented by cell theory. (01 m.)
- (3) Write steps of observing cells of an onion peel by using light microscope in order. (02 m.)
- (4) Name the main two ways of cell division. (01 m.)
- (5) Mention two differences between above two methods of division. (01 m.)

B There are 4 types of basic organic compounds in the living body. Proteins and nucleic acids are two of them.

- (1) Name the other two basic organic compounds in the living body. (01 m.)
- (2) What is the building unit of protein? (01 m.)
- (3) What is the compound formed by polymerisation of nucleotides? (01 m.)
- (4) What is the name of test of identifying proteins? (01 m.)

02 A Atom can be considered as the building as unit of matter.

- (1) Name 3 sub atomic particles of an atom. (03 m.)
- (2) What is known as mass number of atom? (01 m.)
- (3) Number of electrons of a carbon atom is 6 number of neutrons is 7. Write this atom in standard form using mass number and atomic number. (02 m.)

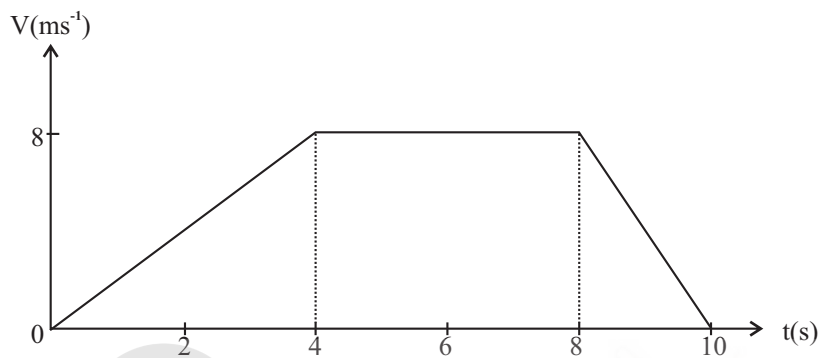
B Following is a part of the periodic table. Symbols given there are not standard symbols.

A			B				C
						D	
	E						

- (1) Write down the electronic configuration of element E. (01 m.)
- (2) What is the valency of element D? (01 m.)

- (3) Write the formula of compound formed by combining elements E and D. (01 m.)
- (4) Draw dot - cross structure of molecule formed by combining 2 atoms of element D. (01 m.)
- (5) Mention the types of compound according to the bonds formed between atoms of molecules in above (3) and (4) (02 m.)

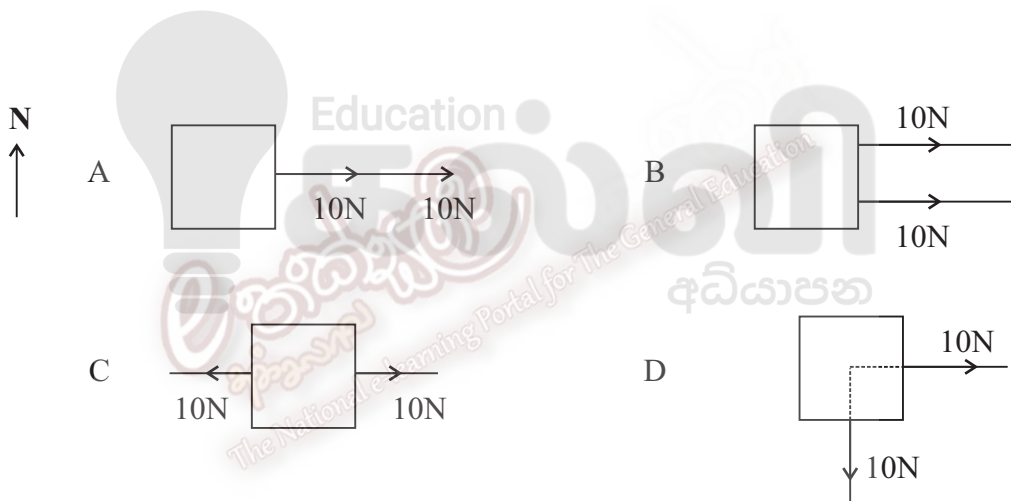
03 A Following graph shows the variation of velocity of an object moved along a rectilinear path with time.



- (1) Calculate acceleration of object within first 4 seconds. (02 m.)
 - (2) Describe the motion of object from 4th second to 8th second (01 m.)
 - (3) What is the deceleration of the object at last 2 seconds? (02 m.)
 - (4) Calculate total displacement of object by using graph. (01 m.)
- B
- (1) Write down the 1st law of Newton. (01 m.)
 - (2) Passengers in a bus fall forward when applying breaks. Describe this by using 1st law of Newton. (01 m.)
 - (3) What is the force to be supplied by engine to give 4ms^{-2} acceleration for a motor vehicle of 1000 kg mass. (02 m.)
 - (4) Calculate the momentum acts on the above motor vehicle when it travels at uniform velocity of 12ms^{-1} (01 m.)
 - (5) (a) Write a 2 factors which affect for the limiting frictional force exert on an object kept on a surface. (01 m.)
 - (b) Write 1 factor does not affect, (01 m.)

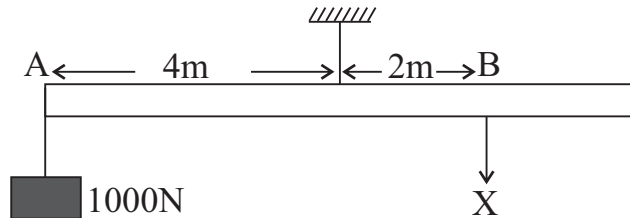
- 04 (1) What is relative atomic mass ? (01 m.)
- (2) Calculate relative atomic mass of Ca, if the mass of a Ca atom is 6.69×10^{-23} g and that of $^{12}_6\text{C}$ is 1.99×10^{-23} g (03 m.)
- (3) Calculate the relative atomic mass of CO_2 (C - 12, O - 16) (01 m.)
- (4) In CaCO_3
- (a) What is the molar mass ? (Ca - 40, C - 12, O - 16) (01 m.)
- (b) Find the number of CaCO_3 moles in 50g (02 m.)
- (5) Molar mass of $(\text{C}_6\text{H}_{12}\text{O}_6)$ glucose is 180mgol^{-1}
- (a) Find the number of moles and (02 m.)
- (b) Find the number of molecules in 90 g of glucose. (02 m.)

05 A



- (1) What is the diagram with co-linear forces act towards a same direction?(01 m.)
- (2) Find the resultant force of in above A, B and C diagrams. (03 m.)
- (3) Write an instance where C can be seen practically. (01 m.)
- (4) (a) What is the instance that the resultant force of which type of two forces is shown by D ? (01 m.)
- (b) Copy down the diagram D in your answer sheet and represent direction of its resultant force using a line. (01 m.)

- B (1) Write down 2 factors which affect for moment of the force. (02 m.)
- (2) Write down an equation by using above two factors for calculating moment of a force. (01 m.)
- (3) Following diagram shows a balanced uniform rod with a weight 1000 N held at one end. (02 m.)

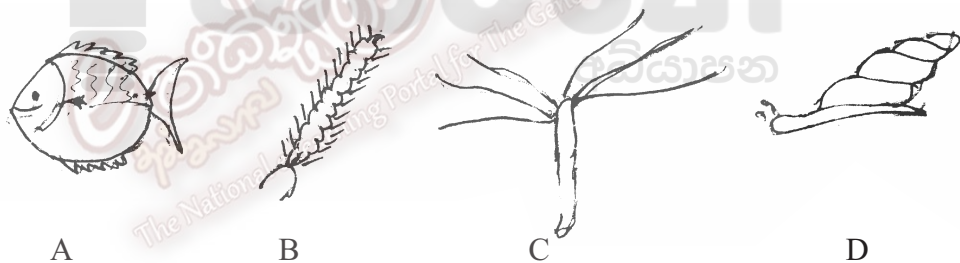


Find the force (x) to be applied on point B to keep the rod in equilibrium more.

(02 m.)

06 A Natural classification is highly accepted as the most suitable method in classifying organisms. Here a hierarchy of classification is built up.

- (1) Name 3 domains presented by Carl woese in 1990. (03 m.)
- (2) To which domain is kingdom Animalia belongs ? (01 m.)
- (3)



- (a) Name the vertebrate given here. (01 m.)
- (b) Write a common feature of that phylum. (01 m.)
- (c) Letter B represents the phylum with high distribution in animal world. Mention 2 common characteristics of that phylum. (01 m.)

- B (1) Mention 4 common characteristics of Mammalians. (03 m.)
- (2) Write the correct scientific name of man or modern man. (01 m.)



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எங்கள் குறிக்கோள்

எண்ணிம உலகத்தில் மாணவர்களிற்கென சிறந்ததொரு கற்றல் கட்டமைப்பை உருவாக்குதல்.

அனைத்தும் டிஜிட்டல் மயப்படுத்தப்பட்ட இந்த காலத்தில் பல்வேறு துறைகளும் கால ஓட்டத்துடன் இணைந்து டிஜிட்டல் தளத்தில் பல்கிப்பெருகி வருகின்றன. அந்த வகையில் கல்வித்துறையும் இதற்கு விதிவிலக்கல்ல. இணையவழி கல்வியின் மூலம் கல்வித்துறை புதியதொரு பரிமாணத்தை எட்டியுள்ளது. குறிப்பாக கொரோனா பேரிடர் காலத்தில் நாடே முடக்கப்பட்டிருந்தது. இதனால் மாணவர்களிற்கும் பாடசாலை, கல்வி நிறுவனங்களிற்கு இடையிலான தொடர்பு துண்டிக்கப்பட்டது. அந்த இக்கட்டான சூழ்நிலையில் இணையவழி வகுப்புகள் மாணவர்களிற்கு வரப்பிரசாதமாக அமைந்தது என்பதே உண்மை.

இன்று தொழில்நுட்பம் மாணவர்களை தவறான பாதைக்கு இட்டு செல்வதாக ஓர் எண்ண ஓட்டம் மக்கள் மத்தியில் உள்ளது. தொழில்நுட்பம் என்பது ஒரு கருவி மட்டுமே அதை எவ்வாறு பயன்படுத்துகிறோம் என்பதில் அதன் ஆக்க மற்றும் அழிவு விளைவுகள் தீர்மானிக்கப்படுகிறது. உளியை கொண்டு சிலையை செதுக்க நினைத்தால் அவன் நிச்சயம் சிற்பி ஆகலாம். இங்கு பிரச்சினையாக காணப்படுவது மாணவர்களை வழிப்படுத்த தொழில்நுட்ப உலகில் ஓர் முறையான கட்டமைப்பு இல்லாமையே. அதை உருவாக்குவதே எங்கள் நோக்கம். அதை நோக்கியே எங்கள் பயணம் அமையும்.

எமது இணையத்தினூடக ஊடக உங்களிற்கு தேவையான பரீட்சை வினாத்தாள்களை இலகுவான முறையில் தரவிறக்கம் செய்து கொள்ளமுடியும்.

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