

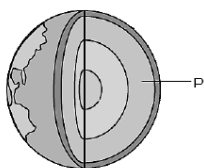
(07) Select the answer with invertebrates only.

- | | |
|--------------------------|----------------------------|
| 1. Spider, shrimp, sprat | 2. Crab, fly, snail |
| 3. Frog, beetle, turtle | 4. Butterfly, lizard, crow |

(08) Which of the following work is performed using kinetic energy?

- | | |
|--|---|
| 1. Generation of electricity using wind power. | 2. Removal of chaff from rice using the wind. |
| 3. Grinding grains using wind power. | 4. All of the above. |

(09)



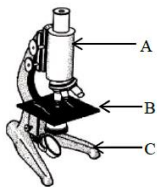
What is correct about the zone P shown in the section of the earth given here?

1. The thickness of this zone is about 5 km.
2. This part contains soil and rocks.
3. This contains molten Iron and Nickel.
4. The upper part of this contains solid rocks and molten rocks in the lower part.

(10) In which of the followings could an image which is always up right and smaller than the object be seen in,

- | | |
|--|---------------------------------|
| 1. Driver's mirror inside the vehicle. | 2. Mirror used for shaving. |
| 3. Side mirrors of vehicles | 4. All the mirrors given above. |

(11) Choose the answer which shows the names of A,B and C in the microscope shown in the figure.

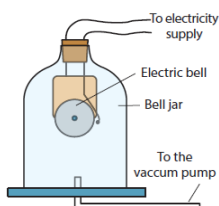


1. Body tube, stage, base
2. Coarse adjustment knob, arm, base
3. Arm, diaphragm, stage
4. Body tube, high power objective lens, arm

(12) What is the longest part of the human digestive system?

- | | | | |
|--------------|--------------------|---------|--------------------|
| 1. Esophagus | 2. Small intestine | 3. Anus | 4. Large intestine |
|--------------|--------------------|---------|--------------------|

(13)



To demonstrate which of the following, could the apparatus shown in the figure be used?

1. To demonstrate how sound propagates through air
2. To demonstrate how an electric bell works
3. To demonstrate that a medium is required for propagation of sound
4. To demonstrate that propagation of sound is prevented by glass

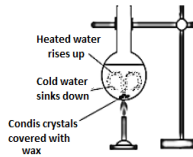
(14) Consider the information given below related to the atmosphere.

- a) 75% of the atmosphere is contained in the troposphere.
- b) The coldest layer of the atmosphere is the mesosphere.
- c) Stratosphere is abundant of clouds.

The correct statements of the above are

1. a and b only 2. b and c only 3. a and c only 4. a,b,c all

(15)



The activity shown in the figure represents,

- 1. The way that heat conducts through water.
- 2. The way that radiation heat travels through water.
- 3. The way that convection happens through water.
- 4. The way that substances dissolve in water.

(16) Which of the following can be used to demonstrate the presence of soil water in the soil?

- 1. By adding a lump of soil to water.
- 2. By crushing a lump of soil.
- 3. By heating a lump of soil.
- 4. By dissolving a lump of soil.

(17) In which of the situations given below is the speed of a body in motion changes on applying a force?

- 1. When shooting an arrow from a bow.
- 2. When opening a drawer of a table.
- 3. When pushing the accelerator of a moving vehicle.
- 4. When stretching a rubber band.

(18) Consider the statements written by a student related to Biurette Test.

- a) This is a test used to identify proteins.
- b) A brick red precipitate is formed as the observation.
- c) Sodium hydroxide is added as the only reagent in this test.

02

The correct statements of the above are,

1. a only 2. b only 3. c only 4. a,b,c all

(19) Which of the following answers is **not** a mineral?

1. Dolomite 2. Graphite 3. Marble 4. Granite

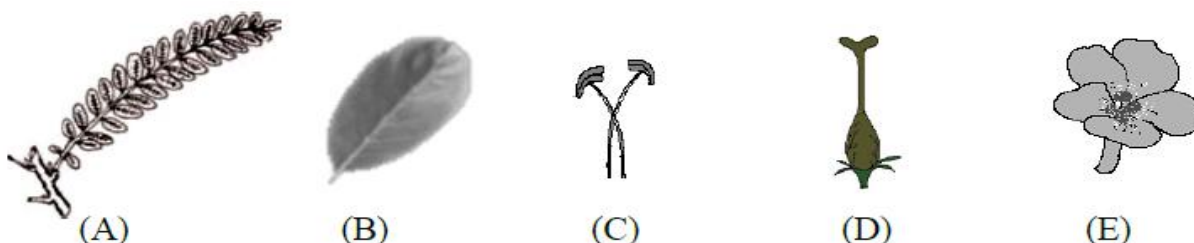
(20) There is a need to focus more on the sustainable use of energy sources at present. Which of the following is a suitable suggestion for this need?

- 1. Travel by private vehicles whenever possible
- 2. Use electricity as sparingly as possible in daily activities
- 3. Use traffic jams while travelling
- 4. Increase the use of electricity and gas for cooking

Part II

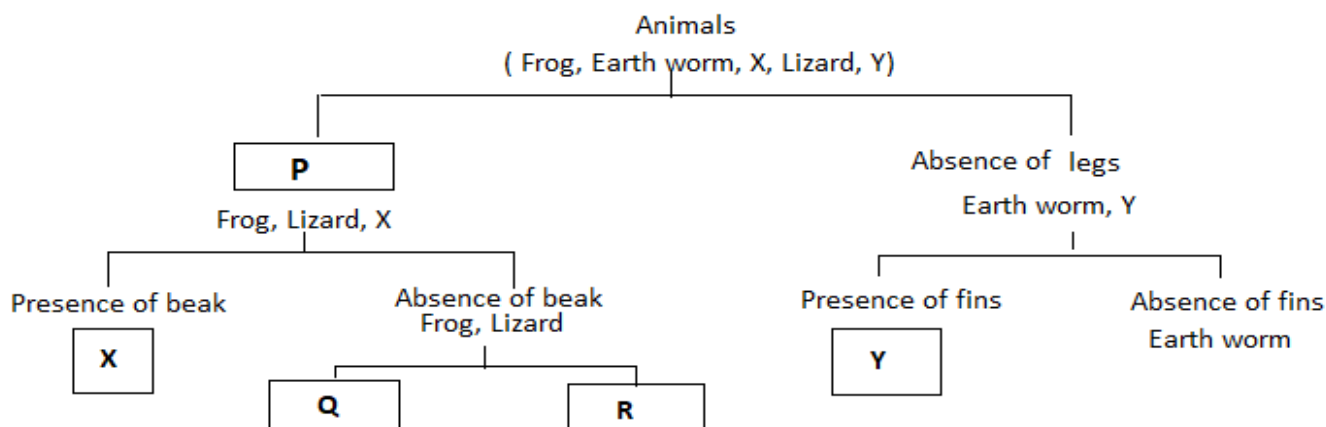
- The first question in this section is compulsory and answer four other questions of your choice.

(01) (A) The diagrams of several plant specimens contained in a field book maintained by a grade 7 student are shown below. Answer the questions given below related to them.



- A and B are two types of leaves that can be classified under the diversity of leaves.
 - Name the two types of leaves shown in A and B. (02 M)
 - What is the factor (criteria) used to divide plant leaves as A and B? (01 M)
 - Write an example of plants that bear A and B leaves respectively. (2 M)
- Three main parts of a flower are shown by C, D and E above. Write the relevant letter of the part from them that performs each of the functions given below.
 - Attracts insects for pollination-----
 - Production of pollen-----
 - Contributes to the production of seeds-----
 - Protects the internal parts of the flower----- (02 M)

(B) An incomplete dichotomous key is shown below.

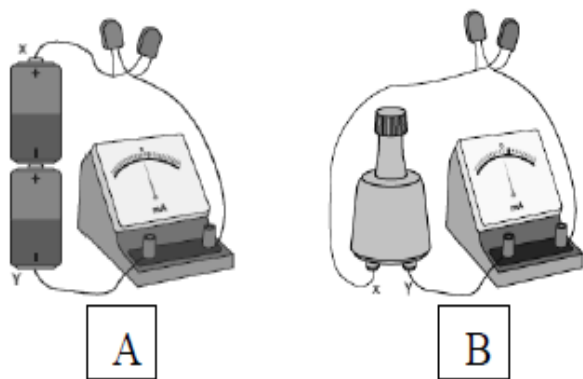


- Write one characteristic for each of P, Q and R in the above dichotomous key respectively. (03 M)
- Write two examples for the animals shown as X and Y. (02 M)

(C) The role of health service in the face of current epidemic is immense. Among them, Ambulance drivers have an important place.

- i. Ambulances have the word AMBULANCE written inverted. What property of mirror images is the reason for this way of writing the word? (01M)
- ii. What should be done in order to get more than one image using plane mirrors? (01M)
- iii. Write how the object and the source of light should be placed to see both umbra and penumbra formed by an object most clearly? (01 M)
- iv. Which type of mirrors must be used to make a solar cooker? (01 M) (Total Marks= 16)

(02) (A)



The figure A shows how two LEDs are connected with their terminals opposite to each other and also to a center-zero ammeter and two dry cells.

Similarly, figure B shows how two LEDs are connected in the same way as A to a center-zero Ammeter and a dynamo. The turning wheel of the dynamo is rotated here.

- i. Write one observation that you would see in each of the apparatus A and B. (02 M)
- ii. Write the reasons for each of the observations given above. (02 M)
- iii. What name is given to the process that generates electricity in a dynamo? (01 M)

(B) Electrical energy takes the priority among the various types of energies used in day to day activities. Electrical energy is transformed and used by various appliances.

- i. What is meant by the term “energy transformation” in this context? (01 M)
- ii. Write the energy transformation that happens in an electric iron. (01 M)
- iii. Write the types of energies stored in each of the following situations. (02 M)

- | | |
|-----------------------------|------------------|
| a) A stretched rubber strip | b) A dry cell |
| b) A hot wire | c) Flowing water |

iv. Transformation of electricity into sound happens by a Radio set.

- a) How is sound energy generated by an object? (01M)
- b) A medium is necessary for the propagation of sound. The speed of sound is different in different media. Arrange the media given below in order of decreasing speed of propagation of sound through them.

Water, glass, air (01M)

(Total for question 02 = 11 marks)

(03) (A) The surface of the earth is the crust. It is composed of rocks and soil with plains, mountains and oceans.

- i. Name two most commonly found elements of the earth crust. (01M)
- ii. There are many materials obtained from the earth crust by us for various needs. Write one materials obtained as such for each of the following needs.
 - a) For shelter
 - b) For transportation (01 M)
- iii. The soil is the outer most layer of the earth crust. There are three types of soil according to the abundance of particles.
 - (a) Name those three types of soil. (02 M)
 - (b) Which of them is the most suitable for agriculture? (01 M)
 - (c) Write one reason for why the type of soil that you have named in (b) is the most suited one for agriculture. (01 M)

(B)



P



Q

The pictures above show symptoms of two deficiencies.

- i. State the name of the disease shown in P and the deficiency that causes it. (01M)
- ii. Write one legal action taken in Sri Lanka to avoid the deficiency shown by Q. (01M)
- iii. “When it is about nutrition, doctors say, take a balanced diet whenever possible”
 - (a) What is meant by a balanced diet in this context? (01 M)
 - (b) Write one unfavorable condition other than the deficiency diseases that can be caused by **not** taking a balanced diet. (01 M)

(04) (A)



X



Y

X and Y in the figure are two common unicellular organisms that you have heard.

- i. State two specimens that you would use to observe each of the two organisms above. (02 M)
- ii. Cell is thea..... andb..... unit of life. What are the two words suitable for a and b in these blanks.(02 M)

- iii. Write two factors to be considered in the use of microscope to observe the two specimens above. (02 M)
- iv. The magnification of eye piece was x15 and the magnification of the objective lens was x40 in the microscope prepared to use in a particular microscopic observation as this. What is the total magnification of it? (01 M)

(B) The body temperature of everyone who enters an institution is measured due to the current epidemic situation. You may have seen the use of a digital thermometer for this.

- i. Why is the digital thermometer more suitable than a clinical thermometer for this? (01 M)
- ii. What is the most specific feature that can be seen in a clinical thermometer other than being smaller in size?
(01M)

iii. In a tropical country such as Sri Lanka, light colours are the most suitable to paint the outer walls of buildings. Explain the reason for this. (02 M)

(Total for paper – 11 marks)

(05) (A) Lots of different substances dissolve in water. It shows the solvent property of water very well.

- i. Write two instances where the solvent property of water is used in daily activities. (02 M)
- ii. Name two water soluble substances that you find at home and two substances that do not dissolve in water respectively. (02 M)
- iii. Rain is one way that we receive water. Many substances also dissolve in rain water. Also, acid rains are formed as consequences of this.
 - (a) What is the main reason for the formation of acid rain? (01M)
 - (b) Write one factor that affects the reason you have given in (i). (01 M)

(B)



The figure shows a rock cracked due to a tree grown on it.

- i. What is the scientific name used for the cracking of a rock in this way? (01 M)
- ii. Name two ways in which this process could happen other than by a tree. (02 M)

iii. The top soil layer of the earth crust is removed due to various reasons. This is called soil erosion.

(a) Name one place in a land that is mostly subjected to erosion. (01 M)

(b) Write one action that can be taken to minimize soil erosion. (01 M)

(Total for question 05 = 11 marks)

(06) (A) A polished shining plane surface is known as a mirror. Curved mirrors are created by these plane surface when curved inwards or outwards.

i. Draw using symbols, the returning of a light ray after striking a surface of a plane mirror. (02 M)

ii. What name is used for the returning of a light ray after striking a surface? (01 M)

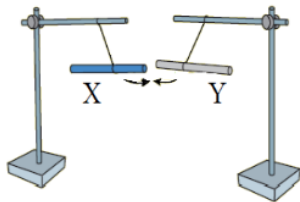
iii. Name one appliance that performs each of the following energy transformations. (02M)

a) Light energy \longrightarrow Electrical Energy

b) Electrical energy \longrightarrow Light energy

iv. Name one source of light used by the ancients to travel at night and a source of light used at present for the same. (02 M)

(B)



The figure shows how two charged rods, X and Y are attracted to each other.

i. What can you say about the charges on the two rods, X and Y? (01 M).

ii. If you are provided with glass and ebonite rods, woolen and silk cloths, how would you prepare two rods as in the above instance? (02 M)?

iii. Name one instance where static electricity can be experienced in day to day life. (01 M)

(Total for question 06 = 11 marks)

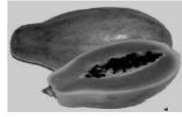
(07) (A)



A



B



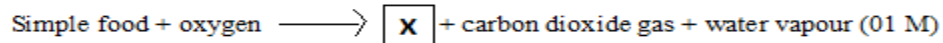
C



D

The fruits and seeds shown above are dispersed by various ways.

- i. Write one way of dispersal for each of the above fruits and seeds, A,B,C and D. (02 M)
- ii. Plants can be divided to two groups as monocotyledonous and dicotyledonous. From them, write one feature of each of the following parts of a dicotyledonous plants.
 - a) Roots
 - b) Stem
- iii. A plant consists of a root system and a shoot system. The human body also consists of several systems this way. Among them, respiratory system is very important.
 - (a) What is the function of the respiratory system? (01 M)
 - (b) The process of respiration can be shown in the following way. What is shown by X in this?



(B) Place (\checkmark) for the correct statements and (X) for the incorrect statements, in the brackets given below. (05 M)

- i. The constant temperature at which a solid substance changes to liquid is the boiling point of that substance. ()
- ii. Fuels such as diesel and petrol belong to the type of non-renewable sources of energy. ()
- iii. Granite is an example for an igneous rock.
- iv. The most abundant gas in the earth's atmosphere is carbon dioxide. ()
- v. Sri Lanka is situated in the Indo-Australian tectonic plate. ()

(Total for part II = 16+(11x4) = 60)

බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව
 තුන්වන වාර පරීක්ෂණය - 2021
 7 ශ්‍රේණිය- විද්‍යාව
පිළිතුරු පත්‍රය

I කොටස:-

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

මුළු ලකුණු:- $2 \times 20 = 40$

II කොටස:-

- (01) (A) i. a) A- සංයුක්ත පත්‍ර
 B- සරල පත්‍ර (ල: 02)
 b) පත්‍ර තලය බෙදී ඇති ස්වභාවය සම්පූර්ණ ද අසම්පූර්ණ ද යන වග. (ල: 01)
 c) සංයුක්ත පත්‍ර හා සරල පත්‍ර සහිත ශාකවලට සුදුසු උදාහරණ සඳහා (ල: 02)
- ii. a) - E
 b) - C
 c) - D
 d) - E (ල: $1/2 \times 4 = 02$)
- (B) i. P - පාද ඇත. (ල: 01)
 Q හා R සඳහා ගම්බා සහ කටුස්සා වෙන්කළ හැකි සුදුසු ලක්ෂණ යුගලක් සඳහා (ල: 02)
 ii. X සඳහා පක්ෂියෙකුගේ නමක් ද, Y සඳහා මතස්‍යයෙකුගේ නමක් ද ලියා ඇත්නම් (ල: 02)
- (C) i. පාර්ශ්වික අපවර්තනය (ල: 01)
 ii. එම වස්තුව එකිනෙකට ආනත තල දර්පණ දෙකක් ඉදිරියේ තැබීම. (ල: 01)
 iii. ආලෝක ප්‍රභවයක් වස්තුවක් එකිනෙකට ආසන්නව තිබීම. (ල: 01)
 iv. අවතල දර්පණයක් (ල: 01) (මුළු ලකුණු:- 16)
- (02) (A) i. A- එක LED යක් පමණක් දැල්වේ/ ඇමීටරයේ කටුව එක පැත්තකට පමණක් ගමන් කිරීම
 B- LED දෙක මාරුවෙන් මාරුවට දැල්වේ/ ඇමීටරයේ කටුව දෙපසට දෝලනය වේ.
 ලෙස නිරීක්ෂණ 1 බැගින් ලියා ඇත්නම් (ල: 02)
- ii. A- කෝෂවලින් සරල ධාරාවක් ද,
 B- ඩයිනමෝවෙන් ප්‍රත්‍යාවර්ත ධාරාවක් ද උපදින නිසා. (ල: 02)
- iii. විද්‍යුත් චුම්බක ප්‍රේරණය (ල: 01)
- (B) i. එක් ශක්ති ප්‍රභේදයක් තවත් ශක්ති ප්‍රභේදයක් බවට පත්වීම. (ල: 01)
 ii. විද්‍යුත් ශක්තිය \longrightarrow තාප ශක්තිය (ල: 01)
 iii. a) විභව ශක්තිය
 b) රසායනික ශක්තිය
 c) තාප ශක්තිය
 d) වාලක ශක්තිය (ල: $1/2 \times 4 = 02$)
- iv. a) වස්තුවක් කම්පනය වීමෙන් (ල: 01)
 b) වීදුරු > ජලය > වාතය (ල: 01) (මුළු ලකුණු:- 11)
- (03) (A) i. ඔක්සිජන්, ඇලුමිනියම්, සිලිකන් අතරින් දෙකකට (ල: 01)
 ii. a) ගොඩනැගිලි ද්‍රව්‍ය
 b) ෆොසිල ඉන්ධන (ල: 02)
- iii. a) වැලි පස, ලෝම පස, මැටි පස (3ම ලියා ඇත්නම් (ල: 02)/ 2කට (ල: 01)
 b) ලෝම පස (ල: 01)
 c) පාංශු ජලය, පාංශු වාතය ප්‍රමාණවත්ව රඳවා ගත හැකි වීම/ පෝෂක බහුල වීම වැනි පිළිතුරකට (ල: 01)
- (B) i. රිකට්සියාව. විටමින් D උපත වීමෙන් වැළඳේ. (ල: 01)
 ii. ආහාරයට ගන්නා ලුණුවලට අයඩින් එකතුකිරීම. (ල: 01)
 iii. a) පෝෂණ සංඝටක හා තන්තු අවශ්‍ය ප්‍රමාණයට අඩංගු ආහාරයක් තුළින් ආහාරයකි. (ල: 01)
 b) සිරුර දුර්වල වීම/ අලස වීම/ දේහ වර්ධනය අවම වීම හෝ අධිවර්ධනය/බෝවන-බෝනොවන රෝග වලට පහසුවෙන් ලක්වීම වැනි පිළිතුරකට (ල: 01) (මුළු ලකුණු:- 11)

- (04) (A) i. X- නිරීක්ෂණයට පිදුරු පල්කළ ජලය
 Y- නිරීක්ෂණයට පොකුණු ජලය (ල: 02)
 ii. ව්‍යුහමය හා කෘත්‍යමය (ල: 02)
 iii. අන්වීක්ෂය දෘඩ මතුපිටක් මත තැබීම, අවබලය යටතේ දර්පණය සිරුමාරුකර අන්වීක්ෂයේ ආලෝකය සැකසීම. (ල: 02)
 iv. $15 \times 40 = 600$ (ල: 01)

(B) i. ඩිපිටල් උෂ්ණත්වමානයක් මගින් දේහය ස්පර්ශ නොකර උෂ්ණත්වය මැනිය හැකි වීම වැනි පිළිතුරකට (ල: 01)

- ii. රසදිය සහිත කේශික නළයේ නැම්මක් තිබීම. (ල: 01)
 iii. ලා පැහැති වර්ණ විකිරණ තාපය අඩුවෙන් අවශෝෂණය කරන නිසා ගොඩනැගිලි ඇතුළත උණුසුම්වීම අවම වීම. (ල: 02)

(මුළු ලකුණු:- 11)

- (05) (A) i. 7 විද්‍යාව I කොටසේ 56 පිටුවේ ඇති පිළිතුරු අතරින් දෙකකට. (ල: 02)
 ii. ජලයේ දියවන ද්‍රව්‍ය 2 කට හා දිය නොවන ද්‍රව්‍ය 2 කට සුදුසු පිළිතුරු සඳහා (ල: $1/2 \times 4 = 02$)
 iii. a) වායු දූෂණය (ල: 01)

b) කුණු කසල පිළිස්සීම, රථ වාහනවල ඉන්ධන දහනය, කර්මාන්ත ශාලාවලින් පිටවන විෂ දූෂි, ගිනි කඳු පිපිරීම්, වන විනාශය..... වැනි පිළිතුරකට (ල: 01)

(B) i. ජෛව සාධක මගින් සිදුවන පාෂාණ ජීරණය. (ල: 01)

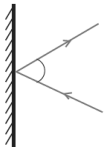
ii. භෞතික ජීරණය හා රසායනික ජීරණය (ල: 02)

iii. a) ශාක වැස්මක් නැති විවෘත ස්ථාන/ බැවුම් සහිත ස්ථාන (ල: 01)

b) 7 විද්‍යාව II කොටසේ 72 පිටුවේ ඇති පිළිතුරු අතරින් එකකට. (ල: 01)

(මුළු ලකුණු:- 11)

(06) (A) i. (ල: 02)



ii. ආලෝක පරාවර්තනය (ල: 01)

iii. a) සූර්යකෝෂ

b) විදුලි බල්බ (ල: 02)

iv. පැරැන්තන් භාවිත කළ ආලෝක ප්‍රභව:- හුළු අතු, පන්දම්
 වර්තමානයේ භාවිත වන ආලෝක ප්‍රභව:- විදුලි පන්දම් (ල: 02)

(B) i. X හා Y දඬුවල ප්‍රතිවිරුද්ධ ආරෝපණ ඇත. (ල: 01)

ii. එබැවින් දඬුවම් ලෝම රෙද්දකින් ද, විදුරු දඬුවම් සිල්ක් රෙද්දකින් ද පිරිමැදීමෙන්. (ල: 02)

iii. 7 විද්‍යාව I කොටසේ 30 පිටුවේ ඇති පිළිතුරු අතරින් එකකට. (ල: 01)

(මුළු ලකුණු:- 11)

- (07) (A) i. A- සතුන් මගින්
 B - සුළඟ මගින්
 C - සතුන් මගින්
 D - ජලය මගින් (ල: $1/2 \times 4 = 02$)

ii. a) මුදුන් මූල පද්ධතියක් තිබීම/ ප්‍රධාන මූලෙන් ශාඛා මුල් බෙදී තිබීම. (ල: 01)

b) කඳ අතු බෙදී තිබීම/ කඳ මහනින් වැඩිවීම. (ල: 01)

iii. a) සිරුර තුළට ඔක්සිජන් සහිත වාතය ගැනීම සහ අප වායු සිරුරින් පිටකිරීම/ වායු හුවමාරුව. (ල: 01)

b) ශක්තිය (ල: 01)

(B) i. x

ii. $\sqrt{\quad}$

iii. $\sqrt{\quad}$

iv. x

v. $\sqrt{\quad}$ (ල: 05)

(මුළු ලකුණු:- 11)

(II කොටස සඳහා මුළු ලකුණු:- $16+(11 \times 4) = 60$)