MATHEMATICS

Sample Assessment Paper for Admission to Grade IX

Q1. Put one pair of brackets into each calculation to make it correct. [\ 2]

a) $6 \times 7 + 1 - 4 = 44$

b) $-2^2 + 24 \div 12 - 4 = 2$

Q2. Ahmed, Batuk and Chand share $800 in the ratio 5 : 4 : 1. [\ 3]

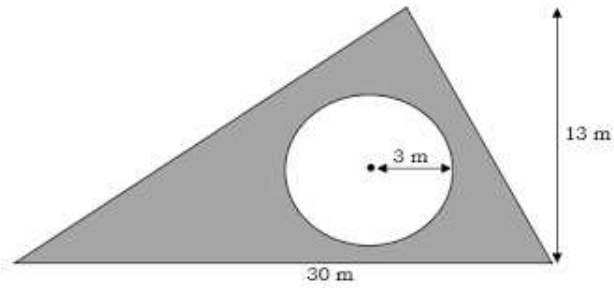
Calculate the amount each receives.

Q3. A cuboid has a length of 10 cm, a width of 4 cm, and a volume of 520 cm².

a) Find the height of the cuboid. [\ 2]

b) Find the surface area of the cuboid. [\ 2]

Q4. Find the Area of the shaded region: [\ 4]



Q5. 6 8 14 64 47 50 125

From the list of numbers, write down one number for each of the following. [\ 4]

a) A cube number

b) A square number

c) A factor of 80

d) A multiple of 25.

Q6. A runner runs at an average speed of 2.5 m/s. How much time does the runner need to cover a distance of 14.5 meters? [\ 3]

SAMPLE PAPER IX

Biology **[15]**

1. Define the process of photosynthesis

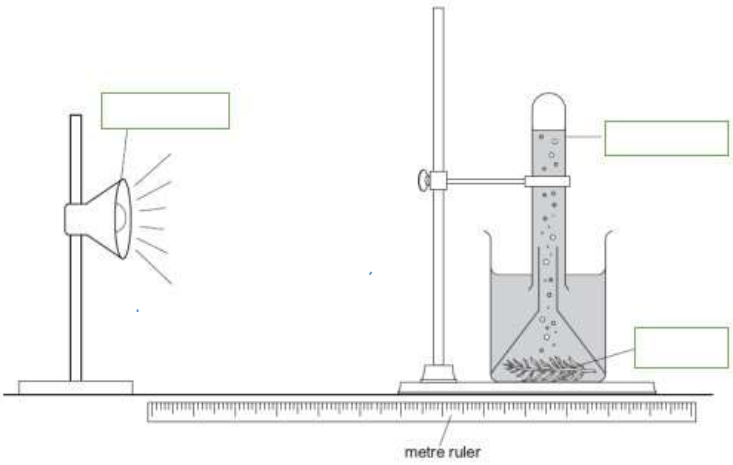
_____

_____

_____

_____[4]

2. Label the given equipment



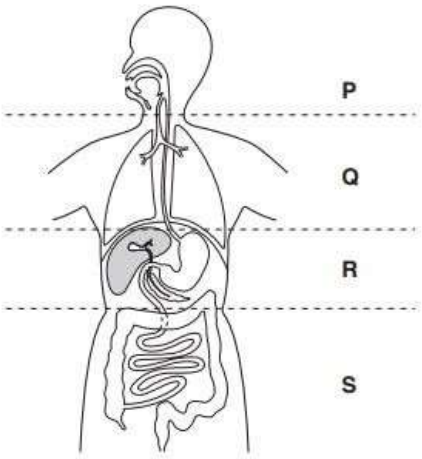
[3]

3. Describe the function of chloroplast and sap vacuole in a plant cell

Chloroplast: _____

Sap vacuole: _____ [2]

4. The diagram shows a section through the human body divided into regions P, Q, R and S



i) Name the region where respiration takes

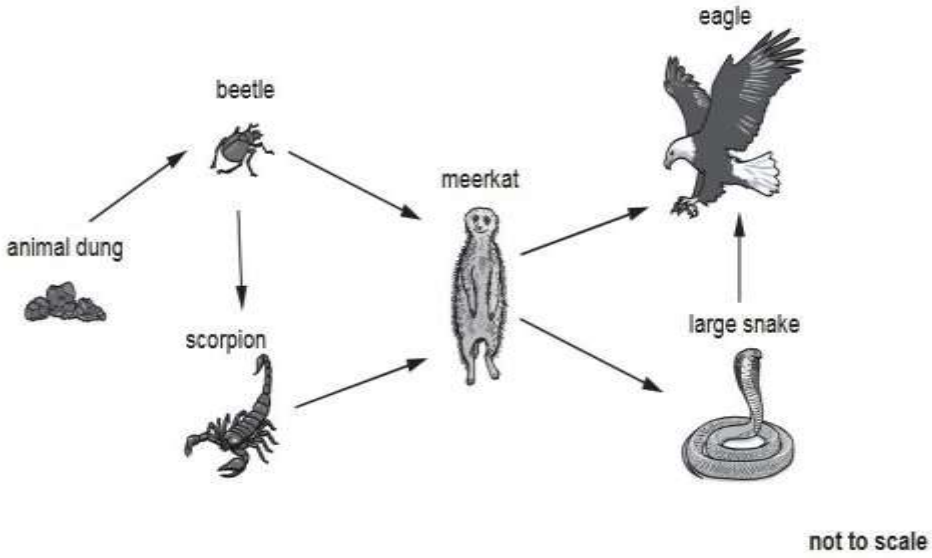
place_____ ii) Name one

organ in region R

_____ [2]

5. Meerkats are small mammals that live in deserts which are dry and open habitats. Deserts are very hot during the day but cold at night. Meerkats are carnivores which search for food during the daytime.

(a) Fig. below shows part of a food web from a desert.



complete the table to classify organisms as primary, secondary or tertiary consumers.

Consumer	Organism
Primary	
Secondary	
Tertiary	

[4]

PHYSICS **[15]**

1. Fig. 1.1 shows three forces acting on an object of mass 0.5 kg. All three forces act through the centre of mass of the object.

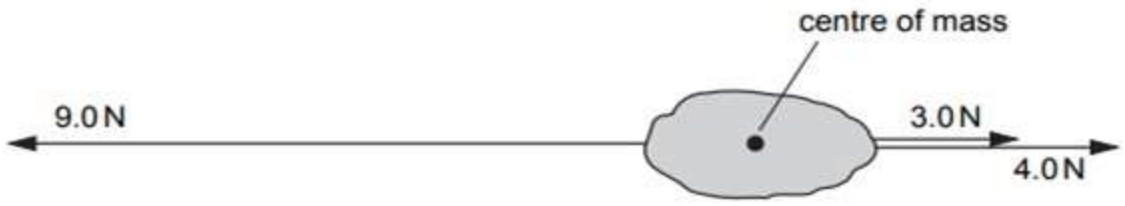


Fig. 1.1

Calculate

(i) the magnitude and direction of the resultant force on the object,

magnitude = ... direction ..... [2]

2. (a) A water tank has a rectangular base of dimensions 1.5 m by 1.2 m and contains 1440 kg of water.

Calculate

(i) the weight of the water,

weight = ... [1]

(ii) the pressure exerted by the water on the base of the tank.

pressure = ... [2]

3. Figure 3.1 shows a measuring cylinder.
[1]

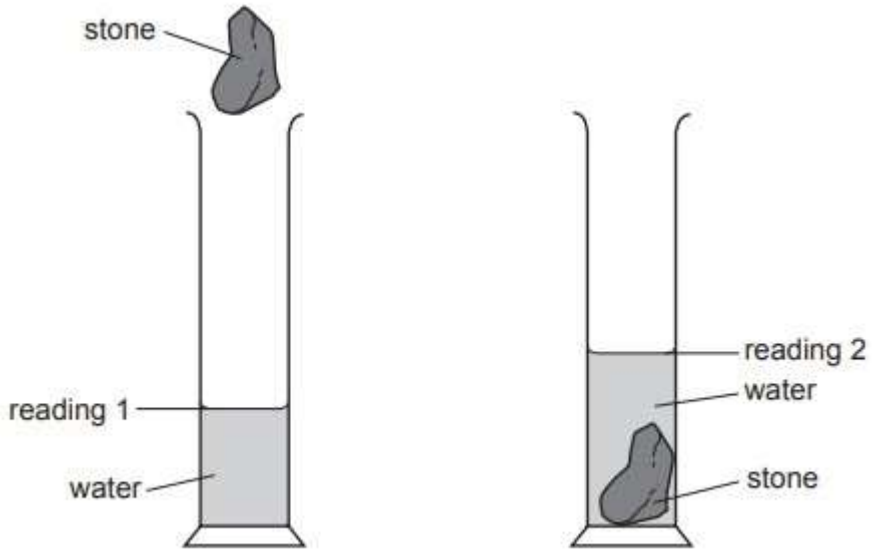


Figure 3.1

How should the student calculate the density of the stone?

A mass of stone × reading 2

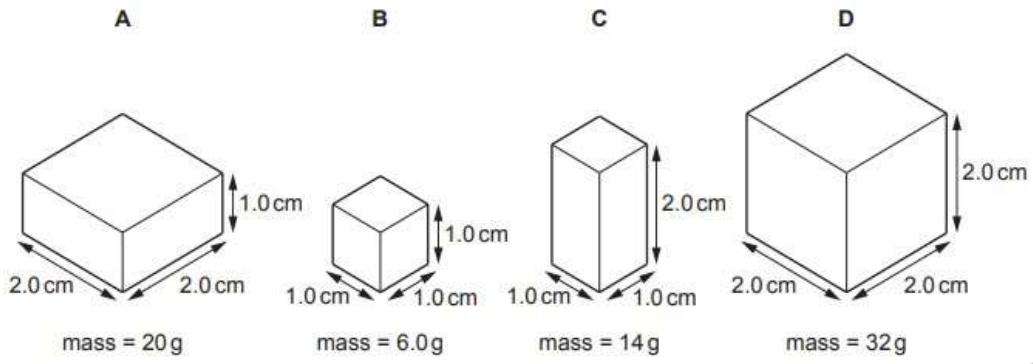
B mass of stone × (reading 2 – reading 1)

C mass of stone ÷ reading 2

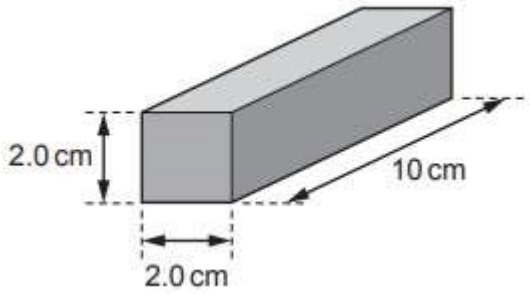
D mass of stone ÷ (reading 2 – reading 1)

4. The diagrams show the dimensions and masses of four regular solid objects. The objects are made from different metals.

Which metal has the greatest density? [1]



5. The diagram shows a cuboid block made from a metal of density 2.5g/ cm^3
[1]



What is the mass of the block?

A 8.0 g **B** 16 g **C** 50 g **D** 100 g

6. Diagram 1 shows a piece of foam rubber that contains many pockets of air. Diagram 2 shows the same piece of foam rubber after it has been compressed so that its volume decreases
[1]

diagram 1
(before compression)

diagram 2
(after compression)

What happens to the mass and to the weight of the foam rubber when it is compressed?

	mass	weight
A	increases	increases
B	increases	no change
C	no change	increases
D	no change	no change

7. A surveyor measures the dimensions of a room of constant height. Fig. 2.1 is a top view of the room and shows the measurements taken.

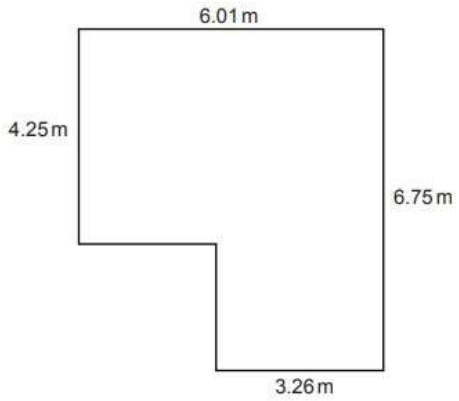


Fig. 2.1

(a) State an instrument that would be suitable to take these measurements.

_____[1]

(b) The volume of air in the room is 76.4 m^3. The density of the air is 1.2 kg / m^3

Calculate the mass of air in the room.

Mass = _____ [2]

8 **(a)** Complete the table below to identify the physical quantities as scalars or vectors.

physical quantity	scalar or vector
speed	
velocity	
distance	
force	
kinetic energy	

[3]

CHEMISTRY **/15**

1. Which subatomic particle has a relative mass of approximately 1 and a positive charge? [1]

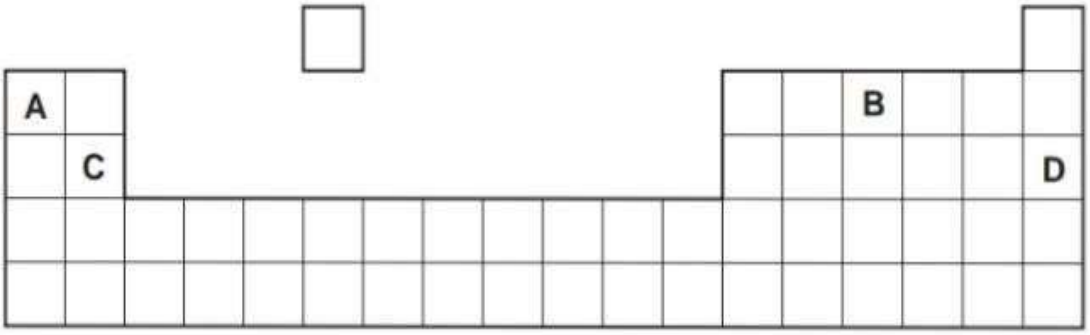
A. Neutron

B. Proton

C. Electron

D. Positron

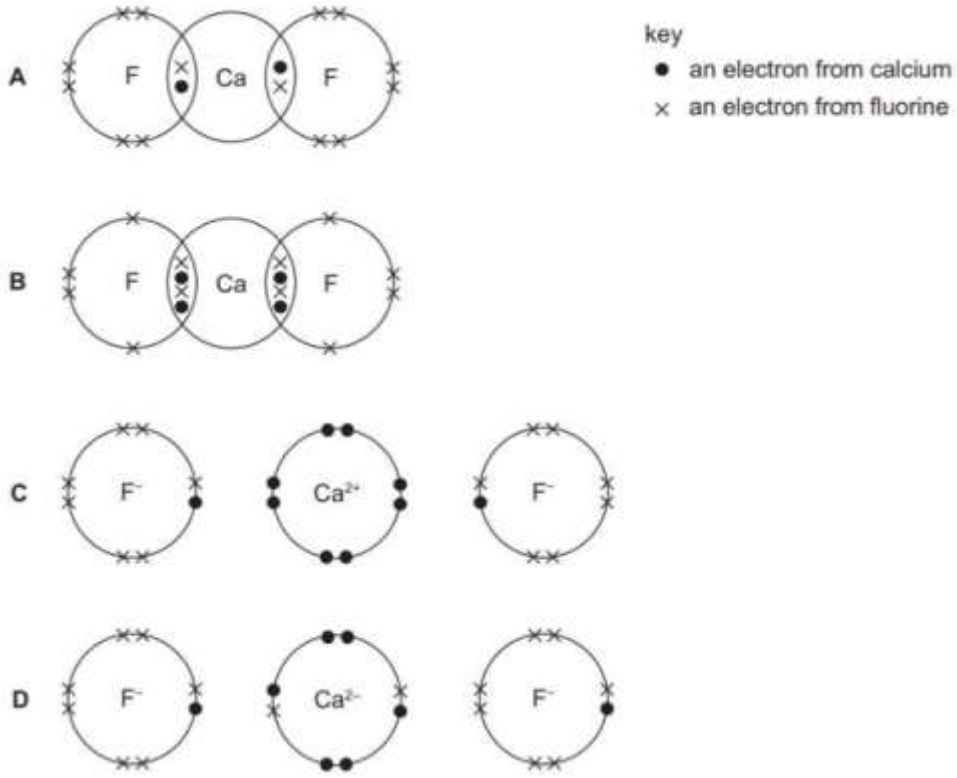
2. The diagram shows part of the Periodic Table. **[1]**



Which element is correctly matched with its electronic structure?

	electronic structure
A	2,8,1
B	2,4
C	2,8,2
D	2,8

3. Which diagram shows the outer electron arrangement in calcium fluoride? [1]



4. Which of the following solutions is alkaline? **[1]**

A. HCl

B. NaOH

C. CH_3COOH

D. H_2SO_4

5. Which observation indicates the presence of carbon dioxide? **[1]**

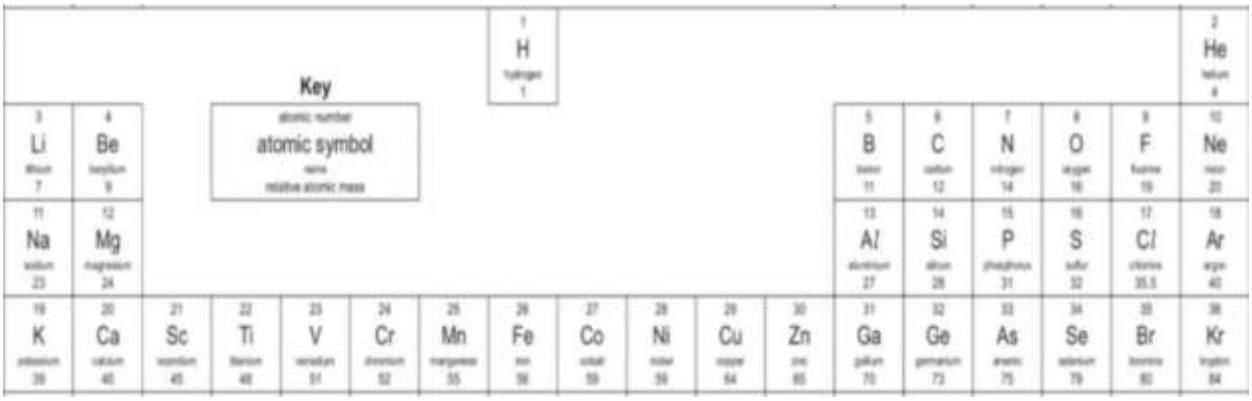
A. Gas burns with a squeaky pop

B. Gas relights a glowing splint

C. Limewater turns milky

D. Damp red litmus turns blue

6. The diagram below shows part of the periodic table.



(a) Identify element X with proton number 17.
[1]

_____

(b) State the number of protons, neutrons, and electrons in a MAGNESIUM atom with mass
number 24. [3]

e=_____p=_____n=_____

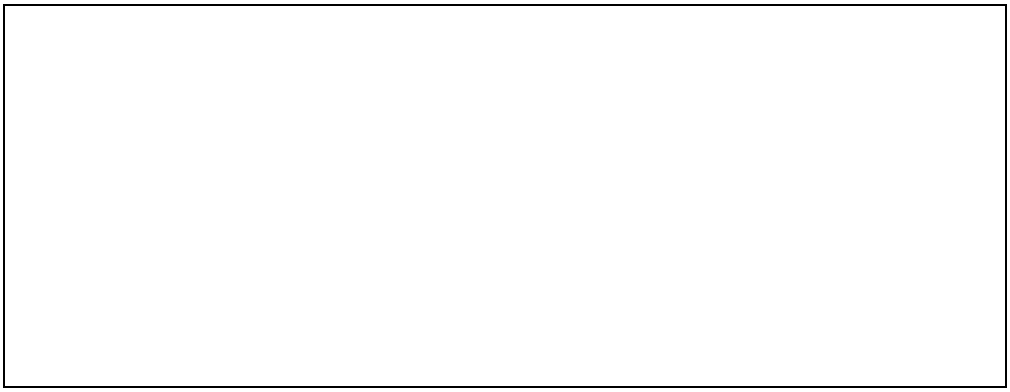
(c) Explain why elements in Group 1 are stored under oil.
[1]

_____

_____

7. Ammonia (NH_3) is a covalent compound.

Draw a dot-and-cross diagram to show the bonding in NH_3.
[2]



8. Write the chemical equation for the neutralisation reaction between hydrochloric acid and sodium hydroxide. [1]

_____

9. A student carried out tests on hydrogen gas.

Describe the test for hydrogen and it's observation. [2]
Test:

_____

_____

OBSERVATION:

_____

جانچ پرچہ برائے داخلہ

جماعت: نہم

کل نمبر: /

س : درج ذیل اقتباس بغور پڑھیے اور دیے گئے سوالات کا جہاں تک ممکن ہو اپنے الفاظ میں جواب تحریر کیجیے۔

ایک محتاط اندازے کے مطابق دن بھر میں ایک آدمی کے پاؤں تقریباً پانچ ہزار مرتبہ زمین پر لگتے ہیں گویا ہماری اوسط زندگی میں ہمارے پاؤں ایک لاکھ پچاس ہزار میل کا سفر طے کر لیتے ہیں جو زمین کے گرد ایک چکر لگانے کے برابر ہے۔ دیگر اہم جسمانی اعضاء کی طرح ہمارے پاؤں بھی ہمارے جسم کا اہم ترین حصہ ہیں۔ جس طرح ایک گاڑی اپنے پہیوں کے سہارے چلتی ہے، بالکل اسی طرح ہم انسان بلکہ تمام جاندار اپنے پیروں کی بدولت ہی چلتے پھرتے اور بھاگتے دوڑتے نظر آتے ہیں۔

پیروں کی اکثر تکالیف ہماری اپنی بداحتیاطی کا نتیجہ ہوتی ہیں۔ خواتین اکثر خوبصورت جوتوں کو آرام دہ جوتوں پر ترجیح دیتی ہیں اور اپنے پیروں کے لیے ایک مصیبت مول لیتی ہیں ہم اکثر تنگ پنجے والے جوتے خرید لیتے ہیں، جن میں انگلیاں دبی رہتی ہیں۔ ساٹھ فیصد خواتین اپنے حجم اور صحت کو نظر انداز کرتے ہوئے اونچی ایڑھی والے جوتوں کا انتخاب کر لیتی ہیں اور یوں جسم کا تمام وزن پنجے پر پڑتا ہے۔ نتیجہ یہ نکلتا ہے کہ پیروں کی انگلیاں، ہڈیاں، جوڑ اور عضلات تنگ جگہ پر سکڑے رہتے ہیں خون کی گردش درست نہیں رہتی اور درد رہنے لگتا ہے۔ اس کے علاوہ پیروں کی اکثر تکالیف بڑھاپے، ذیابیطس، جوڑوں کے ورم اور گردشِ خون کے بگاڑ سے پیدا ہوتی ہیں۔ پیروں کی حفاظت کے معاملے میں اکثر لوگ لاپروائی کرتے ہیں۔ دن بھر کام کرنے کے بعد انگلیوں کو دائیں بائیں حرکت دیں، تیل سے مالش کریں اور

پیدل چلیں، یہ پیروں کے لیے بہترین ورزش ہے۔ پیروں کو طاقت پہنچانے کے لیے نیم گرم پانی میں نمک ملالیں اور پندرہ سے بیس منٹ تک پاؤں اس میں ڈبوئے رکھیں۔ بچوں کے موزے اتارنے کے بعد صابن سے پاؤں دھونے چاہییں، موزے جلد بدلتے رہیں، گندی جرابیں اور گیلے جوتے استعمال نہ کیے جائیں

س :انسان کے پیدل چلنے سے متعلق مصنف نے کیا معلومات فراہم کی ہیں؟ /

ج:----------

س :جوتوں کے انتخاب میں کس بات کو مد نظر رکھنا چاہیے؟ /

ج:----------

س :پیروں کی تکالیف کی کیا وجوہات ہیں؟ /

ج:----------

س :پیروں کی صفائی اور حفاظت کے لیے ہمیں کون سی حفاظتی تدابیر اختیار کرنے کی ضرورت ہے؟ /

ج:----------

س :درج ذیل عنوان کے تحت الفاظ پر مشتمل مضمون تحریر کیجیے۔ /

کراچی میں بڑھتے ہوئے ٹریفک مسائل کا حل

Admission Assessment (Sample)

Grade IX

Aveleen's Journey

Aveleen managed to abandon the path she had been stuck on for two days. But it was not too long before she became thoroughly frustrated. The slope was slippery, and the summit was still so far off. Would she be able to make it the whole way? She was not even sure how many days the journey was meant to last. "It will take as much time as is necessary," Celegorn had assured her. How could he say such a thing when the smallest delay might prevent her from bidding him farewell?

Aveleen hitched herself onto a small ledge as one of the suns was setting. Carved into the cliff face was a bronze door, so high that it would have loomed over the heads of the Giants from her own land.

Aveleen ran her hands over the bronze before recoiling sharply. The door was opening in the middle.

"Welcome."

A slender woman with big, shimmering eyes beckoned her inside. Aveleen let her bag slide to the ground and started forward, unable to offer any resistance.

Her first few paces left her stunned. She marvelled at the space, the light, the sky – how could all this exist inside a mountain? There was so much to admire that she found it hard to breathe. Trees, flowers, animals, buildings and people… wherever she laid her eyes, she was struck by the exquisite perfection around her. The feeling overwhelmed her, as though her five senses had finally realised their true purpose.

The woman gave her garments whose colours did not exist in her land. She then presented her with all manner of unfamiliar dishes, like desserts that were somehow both piping-hot and icy-cold, or biscuits whose texture and flavour shifted with every bite, one second as dense as a storm cloud, the next as light as sea foam.

Aveleen felt she could spend an entire lifetime exploring the wonders of this place and still not skim the surface. Time seemed to stand still. She stayed there for several days, maybe months, until the woman with the crystalline eyes returned to her side.

"Tomorrow, you are to become one of us. If you live with us for ever more, you will not know pain or suffering, you…"

Aveleen let herself be cradled by the woman's words. Her face was so reassuring, the tone of her voice so enchanting. Again there was a certain familiarity. Her face evoked a vague memory of Celegorn, which stirred Aveleen. How could she have forgotten her mission? They were relying on her.She decided to leave the City.

Question A: **/5**

1. Why was Aveleen frustrated at the beginning of the passage? [1]

_____

_____

2. Describe what Aveleen first noticed inside the bronze door. [1]

_____

_____

3. What unusual features did the dishes she was offered have? [1]

_____

_____

4. Why do you think Aveleen felt overwhelmed by the city and its wonders? [1]

_____

_____

5. What does Aveleen's decision to leave the city suggest about her character and mission? [1]

_____

_____

Question B: **/5**

Choose the correct contextual meaning.

a) Recoil	Glittering
b) Shimmering	Magical
c) Exquisite	Clear
d) Crystalline	Perfect
e) Enchanting	Shrink

Describe your favourite place at home or in your neighbourhood. What makes it special to you? /10

Points to focus on:

- Use of vivid sensory details (sight, sound, smell, touch)
- Coherence and logical flow of ideas
- Correct grammar, punctuation, and spelling