Answer Key 10.1

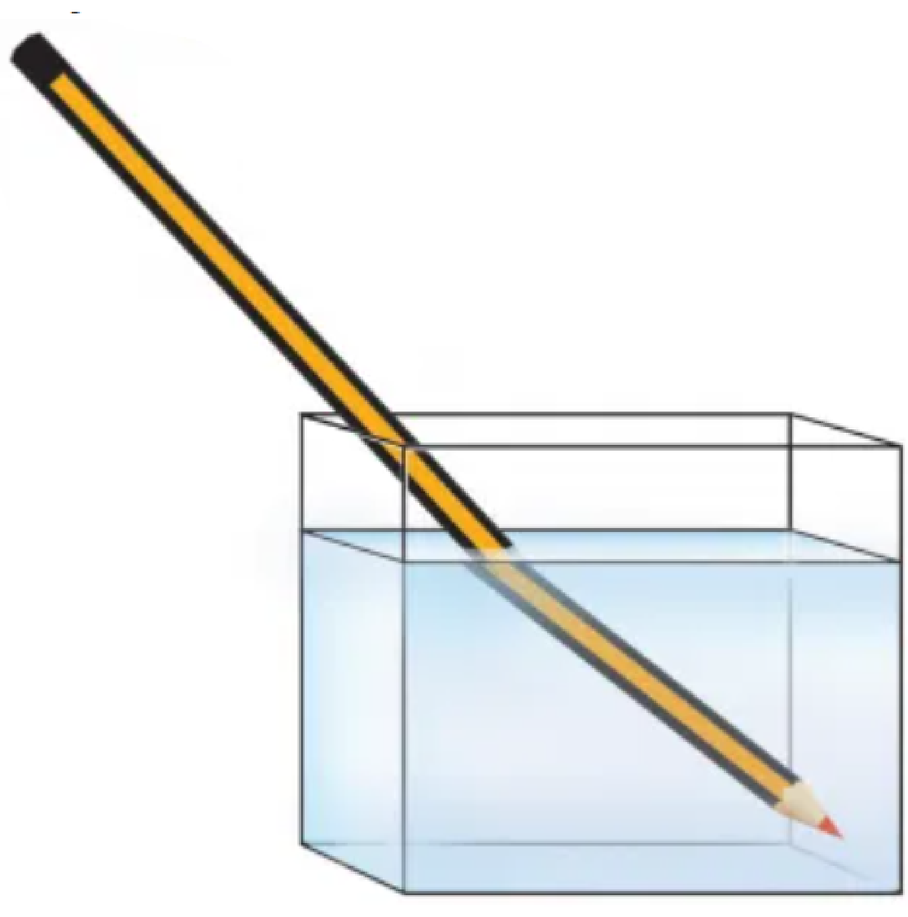
Marks - 25

Case study based questions

10th Science

Light - Reflection and Refraction

Passage - 1 **5 Marks**



The bending of light as it passed from one transparent medium into another is called refraction. Place a pencil in an inclined position in a glass trough and fill three fourth of the trough with water.

Q1. (1) TRUE

Q2. (2) Due to refraction

Q3. (1) YES

Q4. (2) When light travels from water to air it deviates.

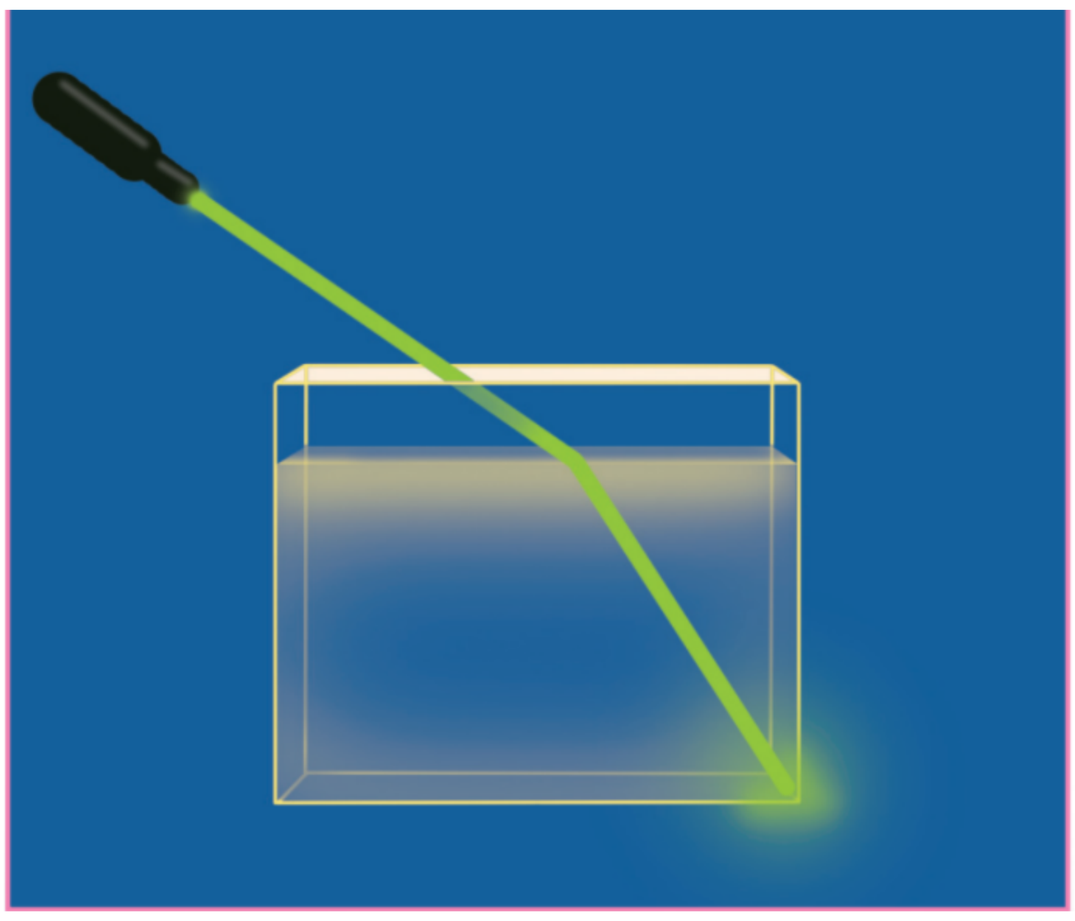
Q5. (3) Pencil appears to be bent more.

Answer Key 10.1

Marks - 25

Passage - 2

5 Marks



Fill three fourth of a transparent vessel with water as shown in the above figure. Add one or two drops of milk into it. Fill the portion of the vessel above water with smoke. Close the vessel using an OHP glass sheet. Allow the light from a laser torch to pass through water as shown above.

Q1. (1) TRUE

Q2. (2) Path of light undergoes deviation.

Q3. (2) At the point on the surface where the media get separated.

Q4. (1) The difference in speed of light rays in different media.

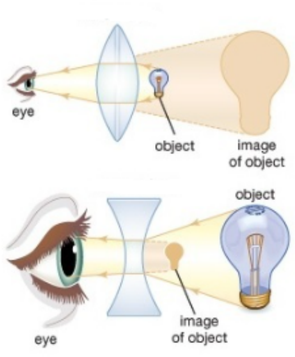
Q5. (2) NO

Passage - 3

5 Marks

Answer Key 10.1

Marks - 25



Your eyes need to bend light rays so the image can be focused sharply on your retina. The better your retina records the image, the more likely that your brain will interpret the image, and the more likely you will see the image clearly. If a person has vision trouble, glasses or contact lenses are use. They bend the light rays in a way that lets you see more clearly.

Q1. (1) TRUE

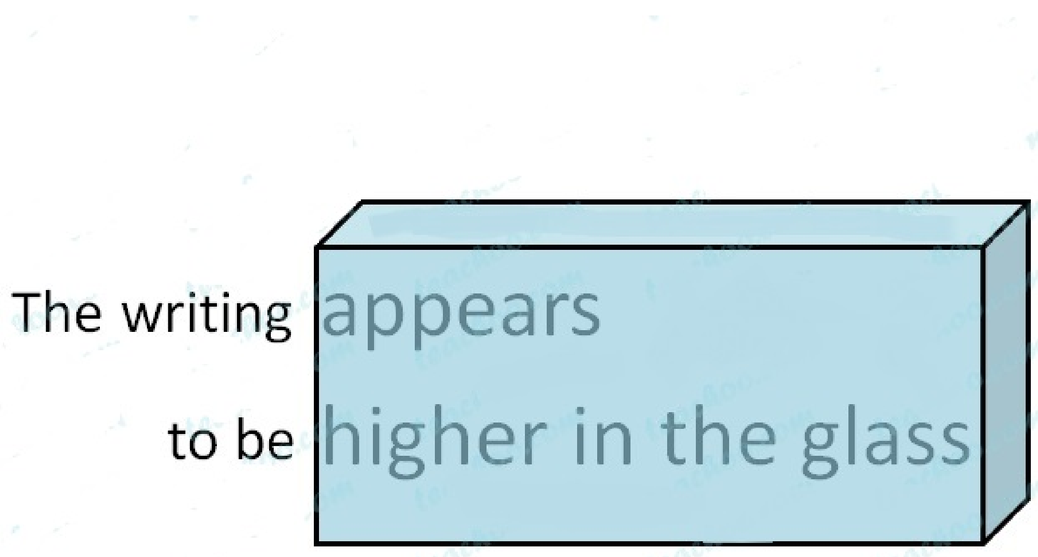
Q2. (2) Due to refraction

Q3. (2) Focus

Q4. (2) Positive, negative

Q5. (1) Virtual and magnified

Passage - 4 **5 Marks**



Answer Key 10.1

Marks - 25

Looking through a glass jar will make an object look smaller and slightly lifted.
If a slab of glass is placed over a document or piece of paper, then the words will look closer to the surface.

Q1. (1) Because of the different angle the light is bending.

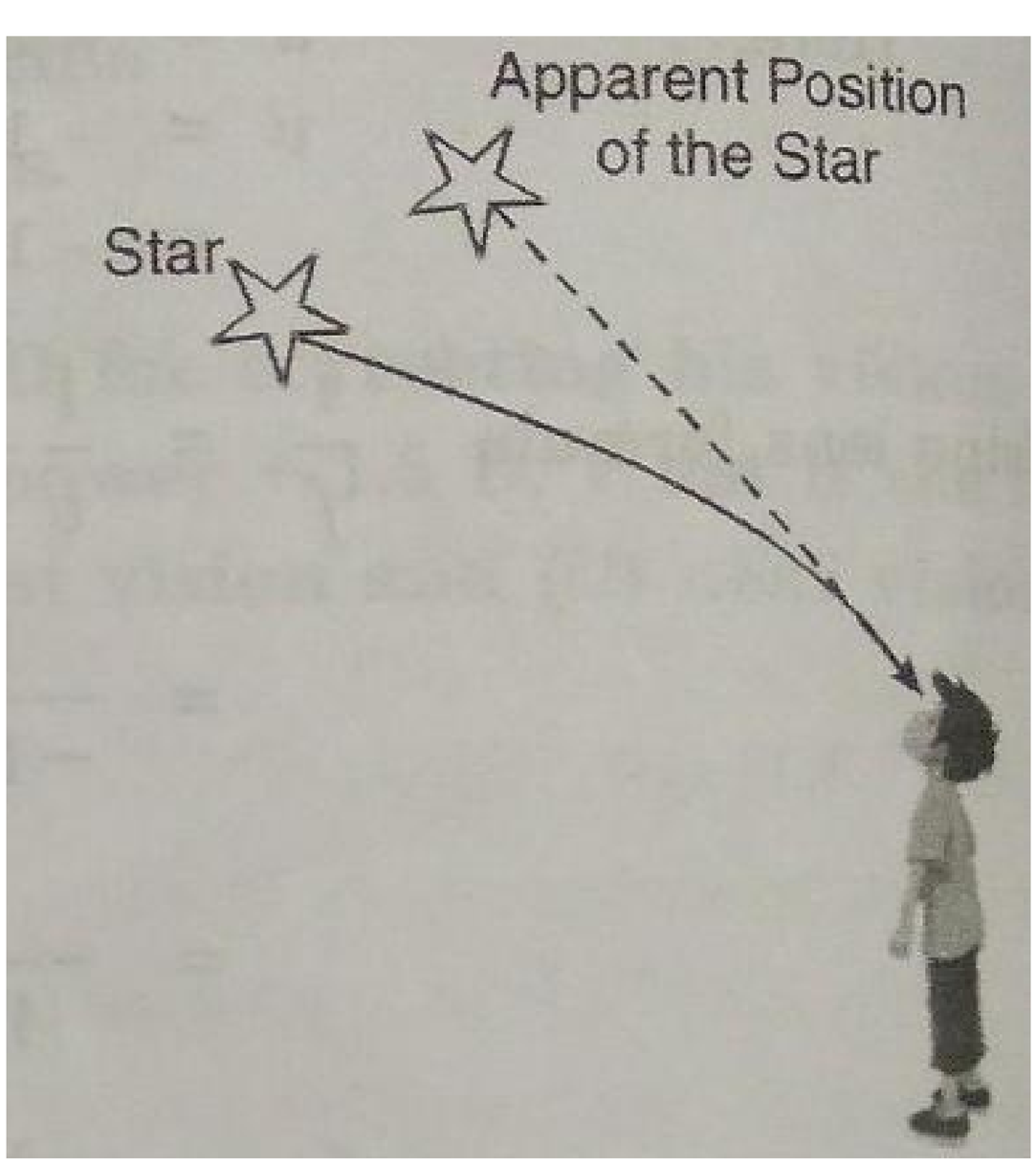
Q2. (2) Due to refraction

Q3. (2) Glass

Q4. (2) Towards the normal

Q5. (3) 1.5

Passage - 5 **5 Marks**



Answer Key 10.1

Marks - 25

The air in the atmosphere isn't all the same. Some areas are thicker, and some areas are thinner. Therefore when you go out at night and look at the stars, they appear to twinkle.

Q1. (3) Atmospheric refraction

Q2. (2) Towards the normal

Q3. (2) Law of refraction

Q4. (1) TRUE

Q5. (2) Refraction

Answer Key 10.2

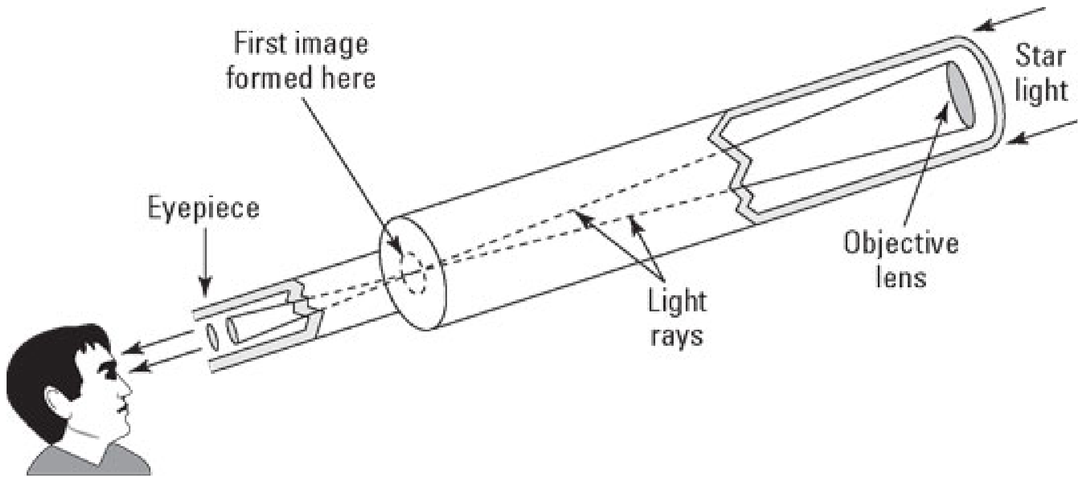
Marks - 25

Case study based questions

10th Science

Light - Reflection and Refraction

Passage - 1 **5 Marks**



Abin wanted to see the stars of the night sky. He knows that he needs a telescope to see those distant stars. There are two types of telescopes, reflecting telescopes which are made of mirrors and refracting telescope which are made of lenses. So he decided to take a refracting telescope. There are two lenses, the larger lense gathers and bends the light, while the smaller lens magnifies the image.

Q1. (2) Convex lens

Q2. (3) Diopter

Q3. (1) Real

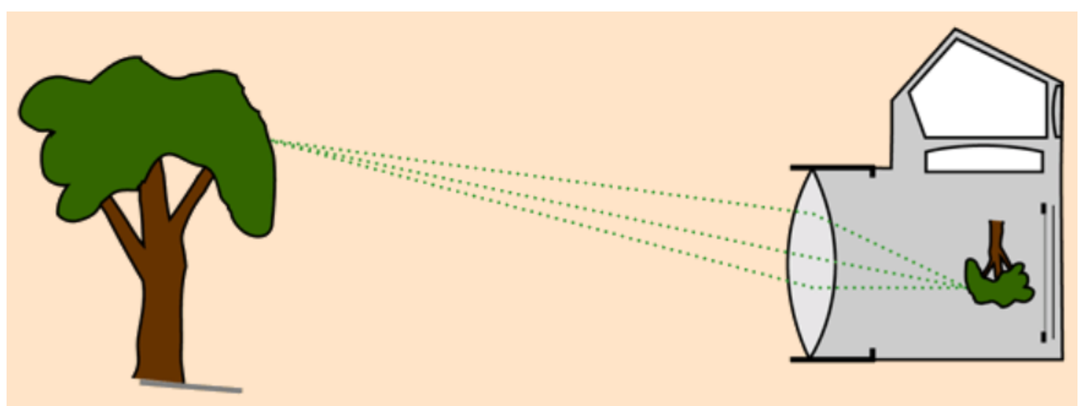
Q4. (2) Magnifies

Q5. (2) Refraction of light

Passage - 2 **5 Marks**

Answer Key 10.2

Marks - 25



Ever wondered how camera capture a moment? When you click the shutter, an image is refracted on to a light sensitive surface, giving a snapshot of your birthday property.

Q1. (1) Convex lens

Q2. (3) Real and inverted

Q3. (1) Positive

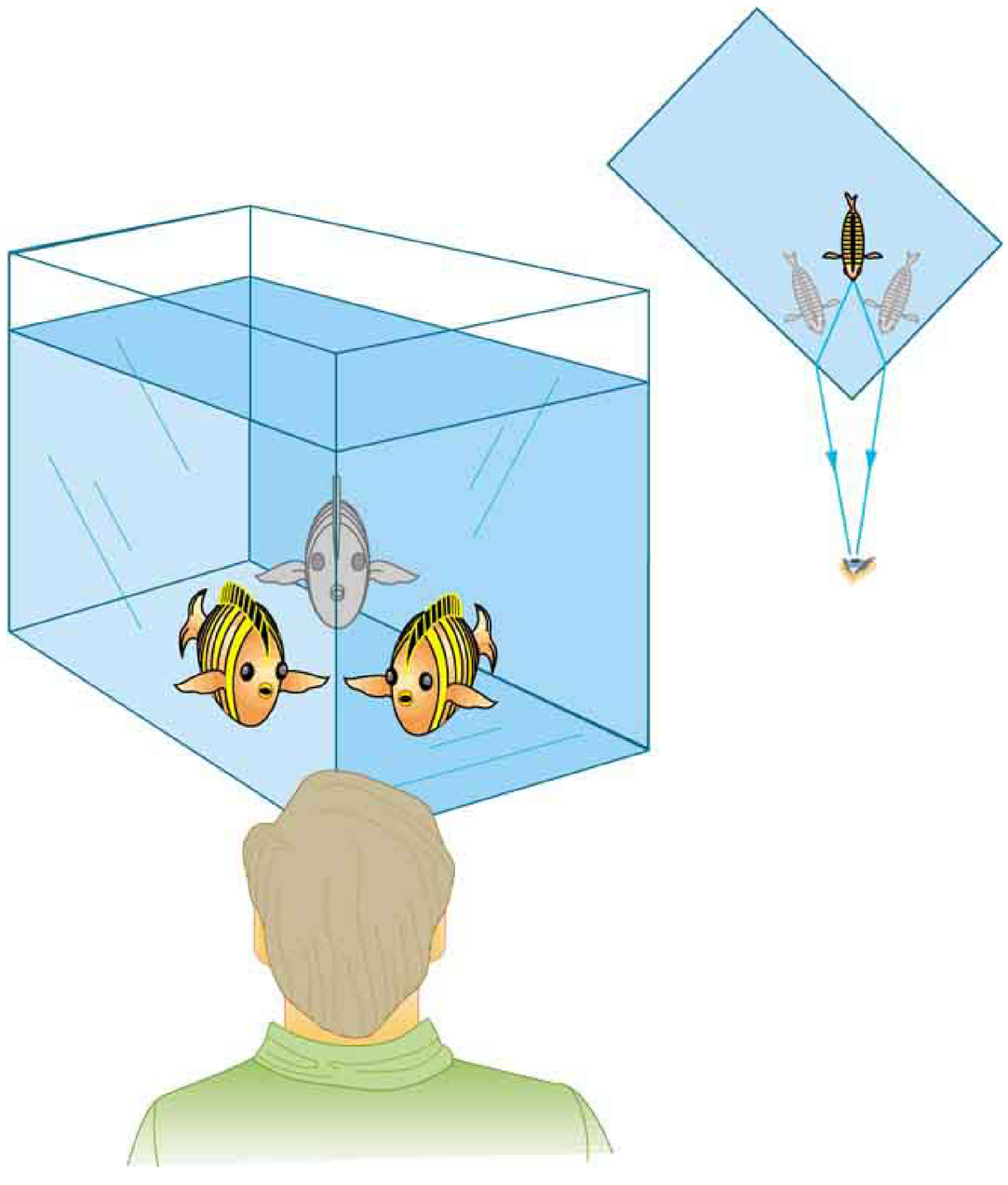
Q4. (4) Focus

Q5. (2) 20 cm

Passage - 3 **5 Marks**

Answer Key 10.2

Marks - 25



If you have an aquarium or fish bowl at home, you might notice the fish look bigger when you look through the side. However, if you put your hand on the opposite side of the bowl, it also looks bigger.

Q1. (2) Due to refraction

Q2. (1) TRUE

Q3. (2) Greater than 1

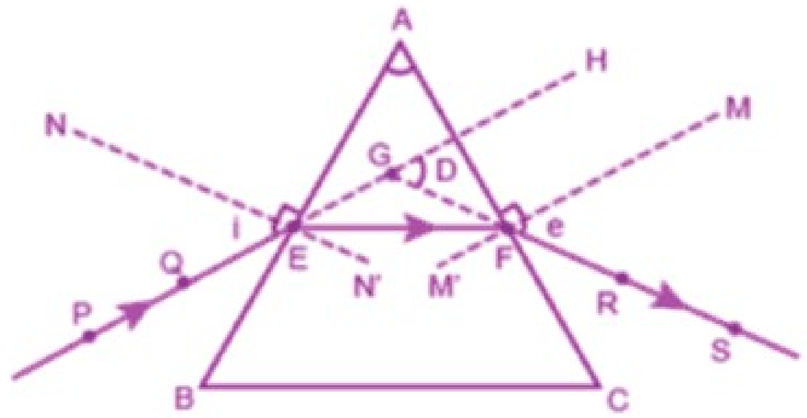
Q4. (3) n = $\frac{c}{v}$

Q5. (2) Greater

Passage - 4 **5 Marks**

Answer Key 10.2

Marks - 25



Prism is a transparent optical object with flat, polished surfaces that refract light. At least two of the flat surfaces must have an angle between them.

Q1. (1) Towards the normal

Q2. (3) Bends at both the surfaces of prism towards its base.

Q3. (1) Prism

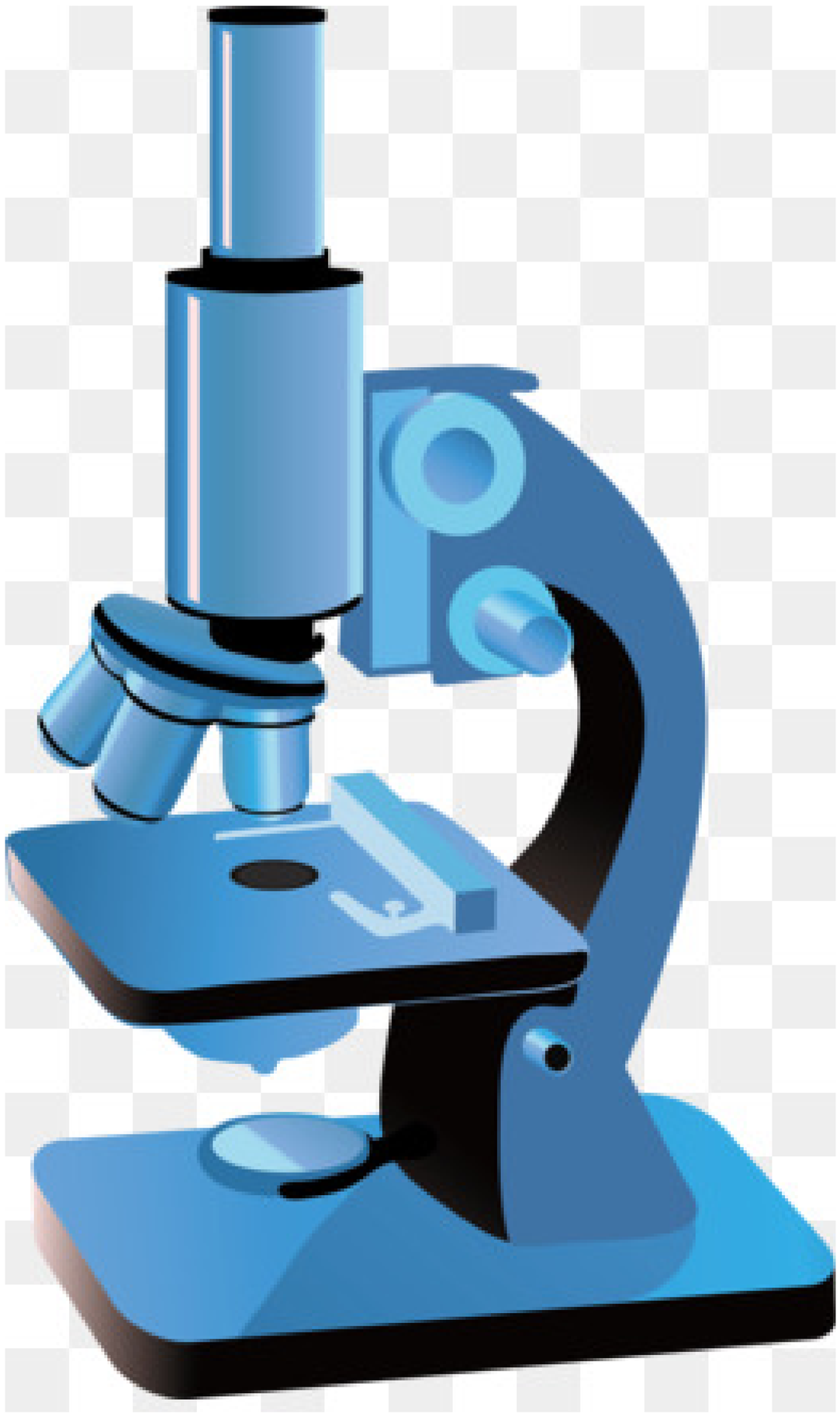
Q4. (1) $\angle i$

Q5. (2) $\angle r$

Passage - 5 **5 Marks**

Answer Key 10.2

Marks - 25



Sunil wants to see the micro organisms present in soil. He knows that he needs a microscope to see those tiny things. A microscope is an instrument used to see a small object to look bigger which helps us in a study of many tiny little species. Well, refraction also plays a huge role in the microscope.

Q1. (2) Convex lens

Q2. (1) Vrtual and magnified

Q3. (2) Greater than 1

Answer Key 10.2

Marks - 25

Q4. (1) Positive

Q5. (2) Law of refraction
