

Q Write down the definitions, causes, symptoms and treatments of short-sightedness, long-sightedness, night-blindness and colorblindness.

Ans:-

Add diagrams

### Short-Sightedness:-

It is also known as myopia or near-sightedness. It occurs when light coming from distant objects is "overfocused" so that the point of focus is in front of the retina. People with short-sightedness are not able to see distant objects, clearly. It makes difficult to see the objects that are at short (near) distance. Close objects (for example, reading a book) can often be seen well.

### Causes of Short-Sightedness:-

- The causes of short-sightedness are usually hereditary (genetic).
- Lifestyle (such as spending long periods of time doing close-up work or indoors).
- Temporary short-sightedness can also occur with certain illness - like diabetes.

## Symptoms of Short-sightedness:-

- o- The main symptoms is a difficulty with seeing the things that are far away.
- o- Children are having difficulties reading the board in class.
- o- The earlier short-sightedness starts, the more severe it is likely to become.

## Treatment for short-sightedness:-

- o- Glasses  
Short-sightedness can be corrected with glasses. Concave prescription lenses (called minus lenses) are used to bend light rays outwards to counteract the over-focusing tendency.
- o- Contact lenses  
These do the same job as glasses but they sit right on the surface of the eye.
- o- Laser Eye Surgery  
Laser eye surgery is an option for some people with short-sightedness.



## LONG-SIGHTEDNESS:-

The scientific name for long-sightedness is hypermetropia, sometimes called hyperopia. Hypermetropia occurs when light from near objects is not quite brought to focus in time to hit the retina. People with more severe hypermetropia are not able to see objects close to them clearly in focus.

Long-sighted means exactly what the term suggests: you can see objects which are a long distance from you quite clearly.

## Causes of Long-sightedness:-

The causes of long-sightedness is also usually hereditary (genetic). In rare cases, long-sightedness is caused by other conditions such as diabetes, small eye syndrome, cancers around the eye and problems with the blood vessels in the retina.

## Symptoms of Long-sightedness:-

- o- The main symptoms is a difficulty with near vision.
- o- Tiring of the eye (asthenopia) is common.
- o- Long-sighted people may have headache and uncomfortable vision.
- o- Lazy eye (amblyopia) or squint can also occur in long-sightedness.
- o- Difficulty with depth perception (3-dimensional vision), as this needs eyes to work together, more or less equally.

## Treatment of Long-sightedness:-

- o- Glasses
  - The simplest, cheapest and safest way to correct long-sightedness with glasses. Convex lenses are used to bend light rays slightly inwards to give a little bit of additional focusing power to the eye.
- o- Contact Lenses
  - These do the same job as the glasses but they sit right on the surface of the eye.

## o- Laser Eye Surgery

Laser eye surgery is an option for some people with long-sightedness.



## Night - Blindness:-

Night-blindness, 'nyctalopia', is where the eye is unable to adapt to low-light conditions, such as at nighttime. Night-blindness itself is not a condition but the result of an existing eye disorder.

### Symptoms of Night-blindness:-

- o- Vision impairment while in dim lighting.
- o- Other symptoms may also occur with night blindness:-
  - o- Headache.
  - o- Eye pain.
  - o- Nausea.
  - o- Vomiting.
  - o- Blurry, or cloudy vision.
  - o- Sensitivity to light.
  - o- Difficulty seeing into the distance.

## Causes of Night-Blindness:-

Night blindness is the result of one of several conditions, many of which are treatable. Conditions can include:

### (1) Glaucoma

It refers to a group of eye conditions where damage to the optic nerve, which connects the eye to the brain, causes pressure in the eye.

### (2) Cataracts

Cataracts occur when the lens of the eye becomes cloudy. This often happens when proteins in the lens break down usually due to aging.

### (3) Nearsightedness

People with short-sightedness are unable to see objects in the distance accurately.

### (4) Vitamin A deficiency

Vitamin A or retinol is an essential nutrient for vision. Vitamin A deficiency can have a serious impact on vision.

## Treatment of Night-Blindness:-

Treatment may include:

- o- Wearing specific types of glasses or contact lenses, which can help to support correct vision.
- o- Wearing sunglasses can also protect the eye from ~~the~~ ultraviolet rays.
- o- Adding more vitamin A to the diet. Good sources of vitamin A include: eggs, fortified cereals, fortified milk, orange and yellow vegetables and fruits, cod liver oil, dark leafy green vegetables etc.
- o- Eye surgery may be necessary in more severe cases.

## COLOR - BLINDNESS :-

Color blindness (color vision deficiency) is a condition in which one does not see colors in traditional way. This happens when cones are not working correctly.

## Causes of Color-blindness:-

Color-blindness can be either inherited or acquired.

Genetic color blindness which usually develops red-green color blindness

Acquired color-blindness develops usually as blue-yellow color deficiency.

Eye conditions, medical conditions, medication and long term exposure to welding light are the other causing factors of color-blindness.

## Symptoms of Color-blindness:-

Trouble in telling the difference between certain colors or shades.

Trouble in seeing the brightness of certain colors.

## Treatment of Color-blindness:-

Currently, there's no medical treatment or cure for people with inherited color-blindness; your healthcare

For the treatment of acquired color-blindness; color-blindness glasses are used, <sup>and also</sup> medication prescribed by doctor.

