2. Windows of Knowledge

Let us assess

1. Question

When we view nearby objects,

A. ciliary muscles relax

B. curvature of lens decreases

C. ciliary muscles contract

D. focal length increases

Answer

	Definition	Function	Object is near	Object is far
Ciliary muscles	Circular muscles are present around the lens. Change the shape of Lens through contraction/relaxation	When Ciliary muscles contract/tighten/press down, the biconvex lens extends sideways. The shape becomes round, like a sphere. When Ciliary muscles relax/ stretch back, the biconvex lens extends along length. It becomes elongated and the shape is like a cylinder	Ciliary Muscles contract The shape of the lens becomes spherical.	Ciliary muscles relax. The shape of lens is cylindrical.
Curvature of lens	It is the degree/level/extent of curve of the lens.	The sole function of lens is to form and focus the image on retina	When the object is nearby, the light rays are comparatively concentrated. The curvature of lens increases to form a more spherical shape The sphere provides more area to the concentrated light rays	When the object is far, the light rays are comparatively scattered. The curvature decreases and the length increases. The lens acquires a cylindrical shape. The cylindrical shape has more area on upwards and downwards side to receive he scattered rays.

Focal length	Focus/Focal point is where all light rays meet, and an image is formed. The focus of light rays and image formation occurs on the retina Distance between the lens and focus/focal point, is called focal length	Nearer the object, concentrated are the light rays. Hence better focus and clear image formation. Farther the object, scattered the light rays. Hence less rays are focused and less clear image formation.	When the object is nearby, the concentrated light rays and increased curvature of lens decrease the focal length	When the object is far, the scattered light rays and decreased curvature of lens, increase the focal length

2. Question

Identify the odd one and write down the common feature of others.

Malleus, Eustachian tube, Stapes, Incus

Answer

Odd one- Eustachian Tube

Eustachian Tube is a Canal, It connects pharynx and the middle ear.

Malleus, Stapes and Incus are tiny bones/Ossicles.

Common Features- all are located in the middle ear.

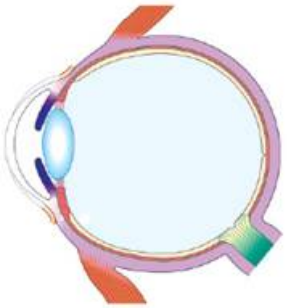
3. Question

Copy the figure. Identify the parts according to the hints and label them.

a. The part where the muscles that regulate the size of the pupil are seen.

b. The chamber which is filled with vitreous humor.

c. The layer of eye where photoreceptors are seen.



Answer

a. Iris- the blue part in front of the light blue coloured lens.

b. Posterior Cavity- the major part of the eye, behind the light blue coloured lens is all vitreous humor.

c. Retina- the yellow coloured inner layer, just surrounding the vitreous humor.