14.1 What are Sense Organs?

Like any other organism, you constantly interact with your external environment. Your body can detect changes in your surroundings and react to these changes. How is this possible?

Receptors called sense organs receive stimuli from the environment and inform your body of any changes in the environment. Like most mammals, you have many different types of sense organs. They range from simple structures like the dendrites of receptor neurones, to highly specialised structures like the eye and the ear. The eye is the sense organ responsible for sight. Let us take a closer look at the eye.

The human eye

In humans, each eyeball lies in a hollow in the skull called the orbit. Each eyeball is attached to the skull by rectus muscles. The rectus muscles control eye movement.

The front part of the eyeball is covered by eyelids. Only a part of the eyeball can be seen. Figure 14.2 shows the structures that are found at the front part of the eye.

**Iris**

A circular sheet of muscles. It contains a pigment which gives the eye its colour. The amount of light entering the eye is controlled by the two sets of involuntary muscles in the iris, the circular muscles and the radial muscles.

**Take Note**

The action of the iris is similar to that of the diaphragm in a camera which controls the aperture.

**Conjunctiva**

A thin transparent membrane covering the sclera (‘white of the eye’) in front. It is a mucous membrane, that is, it secretes mucus, thus helping to keep the front of the eyeball moist. It is continuous with the skin of the eyelids.

**Sclera or sclerotic coat**

A tough, white outer covering of the eyeball (the ‘white of the eye’). It is continuous with the cornea. It protects the eyeball from mechanical damage.

**Pupil**

A hole in the centre of the iris. The pupil allows light to enter the eye.