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**16/SCI03/007**

**CSC 406**

Define visual perception and write on the three factors associated with visual perception.

**Answers**

1. Visual perception is the ability to detect light and interpret the surrounding environment using light in the visible spectrum reflected by the objects in the environment. The resulting perception is also known as eyesight, sight, or vision.

2. **Factors associated with visual perception**;

i) **The Eye**; Vision begins in the eye which recieves the input, in the form of light, and finished in the brain which interprets those inputs and gives us the information we need from the data we recieve. The eye focuses light on to the retina.

Light is usually processed by photoreceptors. Once light is processed, an electrochemical signal is then passed through a network of neurons to the ganglion cells further back to the retina. The neurons are designed to help detect the contracts within an image (such as shadows or edges) and the ganglion cells record this (and other information) and pass an amended electrochemical signal, via the optic nerve, to the brain.

ii) **The Brain**; Visual perception takes place in the cerbral cortex and the electrochemical signal travels through the optic nerve and via the thalamus (another area of the brain) to the cerebral cortex. In addition to the main signal sent to the cerebral cortex, the optic nerve passes additional data to two other areas of the brain.

iii) **The System Demands**; The storage capacity of the human brain is erormous, though the network of neurons is only a trillion or so neurons each neuron is capable of combining with other neurons to store much more information in parallel than they could in series.

There are almost certainly chemical "tricks" that the brain pulls to reduce the amount of data compared the data processed by a camera operating at the same speed (as the eye and the brain). It is estimated that 70% of all the data we process is visual.