How do we classify fabrics as rough, smooth by feeling them with hand ? Explain steps by which this recognition happens.

- Our fingertips consists of various mechanoreceptors that helps in sensing different surface characteristics.
- These sensors are slowly adaptive and are sensitive so that they can distinguish the different skin deformations that are caused by pressure applied by spatial elements of coarse textures, such as Braille-like dot patterns (static touch).
- Information about texture is transmitted from these sensors in the skin through the nerves to the somatosensory cortex.
- Neurons in this part of brain will respond differently to various features of a surface, creating a high-dimensional representation of texture in the brain finally distinguishing the fabric as soft or hard.

What factors determine recognition of a variety of fabrics by feeling with the hand ?

- The skin deformation caused by the pressure applied by the coarse particles in the fabric.
- Receiving of information accordingly by the mechanoreceptors in the skin.
- Depending on the information of deformation, pattern in variation of applied pressure, various neurons are used in the classification of the object.
- The combination of all these factors are mapped in such a way that the neurons are able to distinguish between different fabrics when we try to recognise after(i.e., Our past experience also help in distinguishing the fabric)