Neural Network in Brain :-

It refers to the complex system of interconnected neurons that communicate with each other → to process & transmit information

This system is responsible for various cognitive functions :-
i) learning
ii) memory
iii) decision-making

This neural network is made possible by :-

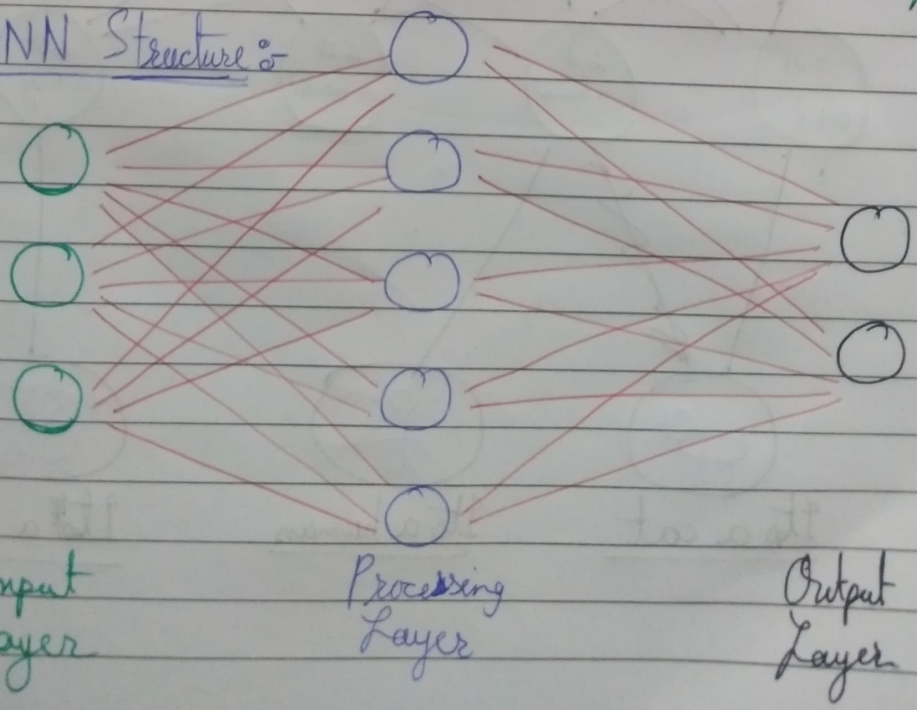
1) Neurons :- They are fundamental units of the brain specialized for transmitting electrical and chemical signals

2) Synapses :- They are connections between neurons where information is passed from one neuron to another through neurotransmitters
Neurotransmitters :- chemicals that help neurons communicate.

In the Context of Artificial Neural Network (ANN) :-

- Neurons → Nodes (information processed here)
- Synapse → Paths (connects nodes and transmit information)

Eg: ANN Structure :-



Let's take an example of how image is processed by our brain :-

- **Input Layer :-** Our eye recieves light signals when we see an object. (Retina)
The photoreptors (rods/cones) trigger the active potential if it surpasses threshold value and convert to electric signals, that are sent to brain through optic nerve for further processing

- **Processing Layer :-** Visual cortex of the brain processes visual information.
The neurons in this area detect basic features of ligh such as edges, lines and orientations.

- **Output Layer :-** The brain corrects the upside down image ~~of the~~ from the retina and also recognises that the object is.