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Neuro physiological base of Learning

P.G.Sem -2

Paper -6

Neuro Psychology

Learning

- ▶ “ Learning refers to more or less permanent change in behaviour which occurs as a result of practice.” – Kimble.
- ▶ “ Learning is a process by which we acquire knowledge about the world.” – Eric Kandle.

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- ▶ “ Learning is either a case of differential strengthening of one from a number of responses evoked by a situation of need or formation of receptor evoked connections.”

Neuroscience & Learning

- ▶ Neuroscience is the study of the nervous system; its structure, how it works, develops, malfunctions and how it can be changed.
- ▶ The nervous system includes the central nervous system and the peripheral nervous system, sending billions of messages back and forth to communicate.

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- ▶ Human Cortex or Cerebrum –
- ▶ Parietal Lobe – movement, motor skills, visual–spatial relationships, connecting sensory information from visual system.
- ▶ Occipital Lobe – visual processing, object recognition.

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- ▶ Frontal Lobe – reasoning, planning, problem solving, language, short-term memory, movement, emotions.
- ▶ Temporal Lobe – auditory stimuli, long-term memory, and speech.

Language Learning

- ▶ Specific brain regions are associated with orthographic, phonological, semantic, and syntactic processing required from reading.
- ▶ There are two key areas in the brain involved in language –
- ▶ Broca's area – plays a major role in the production of grammatically correct speech.
- ▶ Wernicke's area – is critical in proper word choice and elocution.

Language development

- ▶ A critical period in language development seems to be between birth and age 5. During this time children's brains develop most of their language capabilities. There is a rapid increase in vocabulary between the ages of 19 and 31 months.