What do you know about memory

- **Memory** is incredible mental process and a mental system which receives information from (external or internal) stimuli, retains it and makes it available on a future occasion.
- Individuals would loose their identity or the sense of what they are and will always remain a new learner because of forgetting past learning experiences.

Introduction

Reintegration memory

Recall memory

Recognition Remembering

❖ Human Memory

➢**Human memory** comprises of three interrelated subsystems (sensory register, short-term memory (STM), and long-term memory (LTM).

➢**The sensory register** makes the environmental input or information available for a very short period consisting of milliseconds.

➢**The STM and LTM** in charge of retention information and use these information in future.

❖ Understand the Three Major Systems of Memory

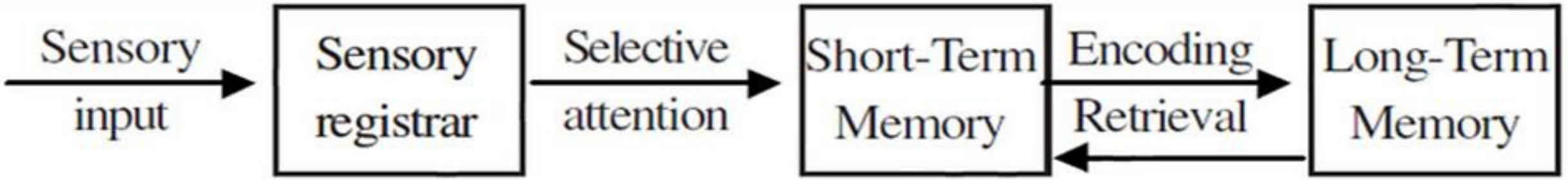
➢**Sensory Memory**: Hold a picture in front of you and look at it steadily for a while. Now close your eyes and notice for how long does a clear image of that picture last. A clear visual image of any object will last in our sensory memory for about ½ a second. Sensory memory occurs within the sensory system while it is being transmitted to the brain.

➢What we are able to memorize depends to a large extent on what happens to the information once it reaches the sensory memory. We are continually bombarded by sensory stimulations of various kinds. As we cannot respond to all of them, it is important that we must selectively focus on those things which are significant.

➢This kind of selectivity is possible on the basis of attention. The process of attention limits the input of information which we receive from the environment. Thus through selective attention information enters short-term memory (STM). STM holds information for a few seconds and transmits it to the long-term memory (LTM) which has a very large capacity to retain information.

❖ **Components of Memory**

- **Encoding**: Translation of incoming stimulus into a unique neural code that a person's brain can process.
- **Storage**: The retention of the material encoded over a period of time.
- **Retrieval**: The recovery of the stored or retained information at a later time or occasion.



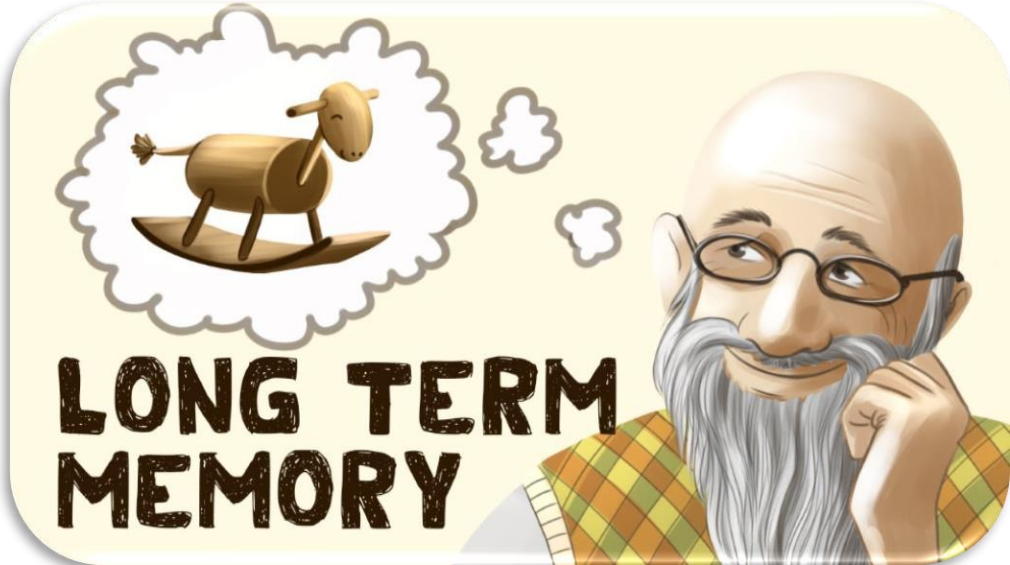
A General Model of Human Memory System

❖ Short-term & Long-term memory

➢**Short-term memory (working memory)**: A storage mechanism involves remembering events just recently experienced.

➢**Example**: You look for a telephone number from the diary and after your finish looking, keep the diary back and use the telephone number. You forget it again after dialing.

- **Long-term memory**: The recall of information that has received repeated attention.
- Information in LTM can last as long as we live
- **Example**: Your telephone number is stored in LTM, along with other memories like your name and address.



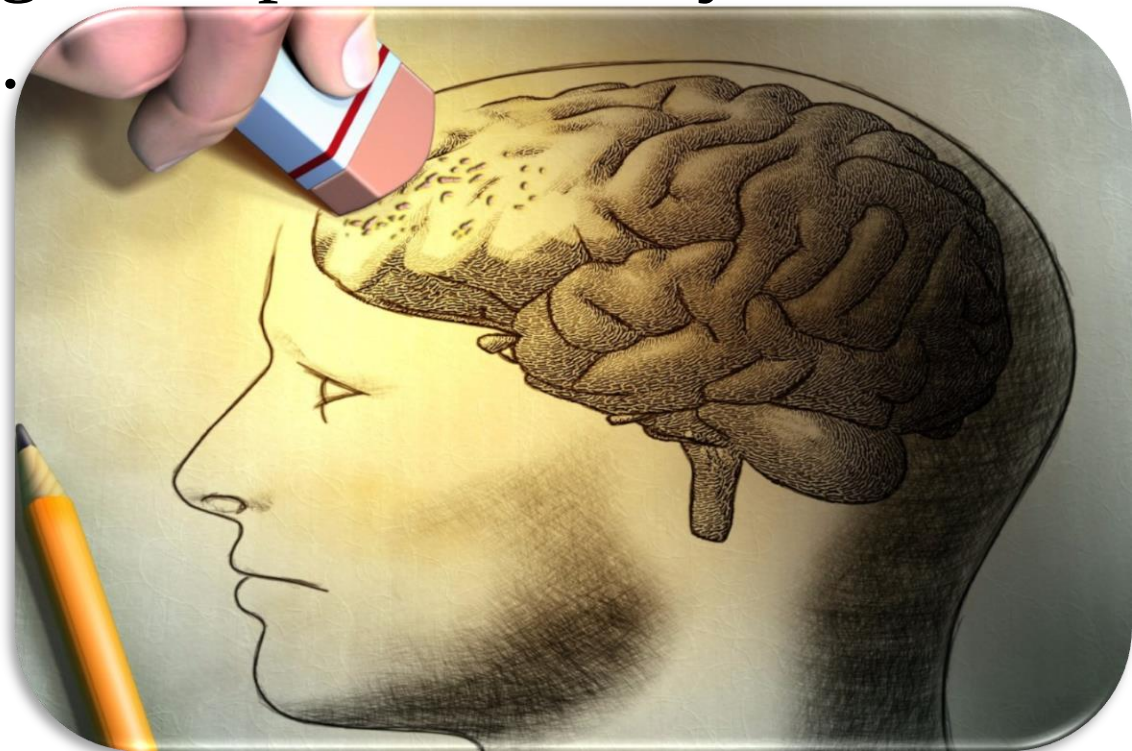
Comparison between STM & LTM memory

Features	Short-term Memory	Long-term Memory
Capacity	Limited up to 7 items or chunks	Unlimited
Duration	Usually up to 30 seconds but varies under different situations	May range from days to a life time
Type of information	Visual images, sounds, words, sentences	Meaningful verbal material, life events.
Causes of forgetting	Displacement of old information by new one, inadequate	Interference, organization of material

❖ Forgetting

➢Forgetting is a natural process subject to a number of factors that operate in everybody’s life.

➢Understanding the factors of forgetting is helpful to clarify the nature of memory and making it more effective.



❖ Important factors Causing Forgetting

1.Decay of memory traces or decay through disuse: Events and experiences become “dim” over time.

2.Interference effects: What we do in the interval between learning and recall.

a) New material may interfere with material previously learned .

b) When new learning interferes with the old learning is known as **retroactive interference (backward)**.

c) When earlier learning negatively influences present learning, it is called **proactive interference (forward).**

3. Motivation:

- According to Freud, we forget because we do not want to remember something, especially unpleasant events.
- People may exclude memories or push them to unconscious if we do not like them (repression).

4. Retrieval Failure:

- Forgetting in long-term memory is due to absence or non-availability of retrieval cues at the time of recall.
- Often forgetting results in poor retention scores. We often "blank out" during examinations.
- **Example:** The student who understands the material very well but couldn't recall it for the exam.

Ways of Enhancing Memory

1.Organization: A learner needs to organize the material in some form. If the material lacks natural organization, an artificial organization may be created by the learner.

2.Concentration: Focusing attention on the material while processing we can increase the probability of storage and recall.

3. Method of Loci (position): This technique uses associations with place or task. The visualization of the same provides cues for recalling the task.

For instance: One may have a clear visual image of a building, its rooms, furniture and other details. These may be linked to different ideas and using these linkages, memory of those ideas can be enhanced.

4. Recoding: While dealing with non-meaningful material one may recode the items to be remembered in a more meaningful way. Recoding may take many forms.

ExampleNo.1. People may use the first letter of all the items and make a sentence to work as a cue.

ExampleNo.2. Chunking is a good example of recoding. If a large serial of numbers is presented it becomes difficult to remember, it can be divided in two or three chunks in some meaningful way.