Biyani's Think Tank

Concept based notes

Under Graduation Program (B.A.)

with

Psychology

(Paper I - Basic Psychological Process)

Ms. Gunjan Agarwal
Ms. Vijaylaxmi Kanwar
Assistant Professor (Psychology)
Dept. of Social Science
Biyani Girls College, Jaipur

BIYANI
Where you can trust

Published by:

Think Tanks
Biyani Group of Colleges

ISBN: 978-93-83462-57-5

First Edition: 2020

Revised Edition: 2023

Leaser Type Setted by:

Biyani College Printing Department

.

SYLLABUS OF PSYCHOLOGY FOR B.A FIRST YEAR

PAPER-1 BASIC PSYCHOLOGICAL PROCESSES

SEC-A

INTRODUCTION:

NATURE OF PSYCHOLOGY; Schools of Psychology: Structuralism, Functionalism, Psychoanalysis, Behaviorism and Gestalt psychology; Methods: Introspection, Experimental and Observation.

BIOLOGICAL BASIS OF BEHAVIORS.: The nervous system: Function and nature, central nervous system, peripheral nervous system.

ATTENTION: Nature, Types and Determinants;

PERCEPTION: Laws of Perceptual

organization, Perceptual Constancy, Depth Perception.

SEC-B

LEARNING: Nature. Theories: Classical and Operant Conditioning; Observational Learning;

Insightful learning;

MEMORY: Stages of Memory, Techniques for improving memory.

MOTIVATION & EMOTION: Nature and Components, Approaches to Motivation:Need theory, Drive-reduction, Incentive and Arousal Approach

;**Emotion**: Nature and Components, Theories: James-Lange theory, Cannon-Bard theory and Schacter-Singer theory.

SEC- C

COGNITION : thinking mental imagery& concept, problem solving Algorithm, Heuristics insight barrier of problem solving.

INTELLIGENCE: Nature and theories: Sternberg's, spearman, cattell, and Gardener's theory of Intelligence. Meaning of I.Q intelligence test.

PERSONALITY: Nature, Theories:Allport's and Cattell's theory of Personality and Assessment of Personality: Subjective, Objective and Projective Approaches.

Suggested Readings:

Baron, R.A. (2003).Psychology(5th ed.). Delhi: Pearson Education. Carson,R.C., Butcher,J.N.,Mineka,S.&Hooley,J.M. (2008). Abnormal Psychology.New Delhi: Pearson. Cicarelli, S.K., & Meyer, G.E. (2007).Psychology. New Delhi: Pearson Publishers.

CHAPTER-1

INTRODUCTION OF PSYCHOLOGY.

Q.1 What Is Psychology?

Ans.Psychology is the study of mind and behavior. It encompasses the biological influences, social pressures, and environmental factors that affect how people think, act, and feel.

Gaining a richer and deeper understanding of psychology can help people achieve insights into their own actions as well as a better understanding of other people.

Types of Psychology

Psychology is a broad and diverse field that encompasses the study of human thought, behavior, development, personality, emotion, motivation, and more. As a result, some different subfields and specialty areas have emerged. The following are some of the major areas of research and application within psychology:

Abnormal psychology is the study of abnormal behavior and psychopathology. This specialty area is focused on research and treatment of a variety of mental disorders and is linked to psychotherapy and clinical psychology.

Biological psychology (biopsychology) studies how biological processes influence the mind and behavior. This area is closely linked to neuroscience and utilizes tools such as MRI and PET scans to look at brain injury or brain abnormalities.

Clinical psychology is focused on the assessment, diagnosis, and treatment of mental disorders.

Cognitive psychology is the study of human thought processes including attention, memory, perception, decision-making, problem-solving, and language acquisition.

Comparative psychology is the branch of psychology concerned with the study of animal behavior. **Developmental psychology** is an area that looks at human growth and development over the lifespan including cognitive abilities, morality, social functioning, identity, and other life areas.

Forensic psychology is an applied field focused on using psychological research and principles in the legal and criminal justice system.

Industrial-organizational psychology is a field that uses psychological research to enhance work performance and select employees.

Personality psychology focuses on understanding how personality develops as well as the patterns of thoughts, behaviors, and characteristics that make each individual unique.

Social psychology focuses on group behavior, social influences on individual behavior, attitudes, prejudice, conformity, aggression, and related topics.

Q.2 Explain the historical background of psychology.

Ans. Early psychology evolved out of both philosophy and biology. Discussions of these two subjects date as far back as the early Greek thinkers, including Aristotle and Socrates.

The word "psychology" itself is derived from the Greek word psyche, literally meaning "life" or "breath." Derived meanings of the word include "soul" or "self."

The emergence of psychology as a separate and independent field of study truly came about when Wilhelm Wundt established the first experimental psychology lab in Leipzig, Germany in 1879.

Throughout psychology's history, various schools of thought have formed to explain the human mind and behavior. In some cases, certain schools of thought rose to dominate the field of psychology for a period of time.

The following are some of the major schools of thought in psychology.

Structuralism: Wundt and Titchener's structuralism was the earliest school of thought, but others soon began to emerge.

Functionalism: The early psychologist and philosopher William James became associated with a school of thought known as functionalism, which focused its attention on the purpose of human consciousness and behavior.

Psychoanalysis: Soon, these initial schools of thought gave way to several dominant and influential approaches to psychology. Sigmund Freud's psychoanalysis centered on how the unconscious mind impacted human behavior.

Behaviorism: The behavioral school of thought turned away from looking at internal influences on behavior and sought to make psychology the study of observable behaviors.

Humanistic psychology: Later, the humanistic approach centered on the importance of personal growth and self-actualization.

Cognitive psychology: By the 1960s and 1970s, the cognitive revolution spurred the investigation of internal mental processes such as thinking, decision-making, language development, and memory.

While these schools of thought are sometimes perceived as competing forces, each perspective has contributed to our understanding of psychology.

Q.3 Explain the modern perspective of psychology.

Ans. Seven major perspectives of modern psychology. There are many different ways of thinking about human behavior. Psychologists utilize a variety of perspectives when studying how people think, feel, and behave. Some researchers focus on one specific school of thought, such as the biological perspective, while others take a more eclectic approach that incorporates multiple points of view. There is no single perspective that is "better" than another; each simply emphasizes different aspects of human behavior.

Major Perspectives in Modern Psychology

The early years of psychology were marked by the domination of a succession of different schools of thought. If you have ever taken a psychology course in school, you probably remember learning about these different schools which included structuralism, functionalism, psychoanalysis, behaviorism, and humanism. As psychology has grown, so has the number and variety of topics that psychologists investigate. Since the early 1960s, the field of psychology has flourished and continues to grow at a rapid pace, and so has the depth and breadth of subjects studied by psychologists.

Today, few psychologists identify their outlook according to a particular school of thought. While you may still find some pure behaviorists or psychoanalysts, the majority of psychologists instead categorize their work according to their specialty area and perspective.

Different Approaches to the Same Topic

Every topic in psychology can be looked at in a number of different ways. For example, let's consider the subject of aggression. Someone who emphasizes a biological perspective would look at how the brain and nervous system impact aggressive behavior. A professional who stresses a behavioral perspective would look at how environmental variables reinforce aggressive actions. Another psychologist who utilizes a cross-cultural approach might consider how cultural and social influences contribute to aggressive or violent behaviors.

Here are seven of the major perspectives in modern psychology.

1. **The Psychodynamic Perspective**

The psychodynamic perspective originated with the work of Sigmund Freud. This view of psychology and human behavior emphasizes the role of the unconscious mind, early childhood experiences, and interpersonal relationships to explain human behavior and to treat people suffering from mental illnesses.

Psychoanalysis became one of the earliest major forces within psychology thanks to Freud's work and influence. Freud conceived of the mind as being composed of three key elements: the id, the ego, and the superego. The id is the part of the psyche that includes all the primal and unconscious desires. The ego is the aspect of the psyche that must deal with the demands of the real world. The superego is the last part of the psyche to develop and is tasked with managing all of our internalized morals, standards, and ideals.

While the psychodynamic perspective is not as dominant today, it continues to be a useful psychotherapeutic tool.

2. **The Behavioral Perspective**

Behavioral psychology is a perspective that focuses on learned behaviors. Behaviorism differs from many other perspectives because instead of emphasizing internal states, it focuses solely on observable behaviors.

This approach to psychology was founded on the work of psychologists such as Edward Thorndike and John B. Watson.2 While this school of thought dominated psychology early in

the twentieth century, it began to lose its hold during the 1950s. Today, the behavioral perspective is still concerned with how behaviors are learned and reinforced. Behavioral principles are often applied in mental health settings, where therapists and counselors use these techniques to explain and treat a variety of illnesses.

3. The Cognitive Perspective

During the 1960s, a new perspective known as cognitive psychology began to take hold. This area of psychology focuses on mental processes such as memory, thinking, problem-solving, language, and decision-making.3 Influenced by psychologists such as Jean Piaget and Albert Bandura, this perspective has grown tremendously in recent decades.

Cognitive psychologists often utilize an information-processing model, comparing the human mind to a computer, to conceptualize how information is acquired, processed, stored, and utilized.

4. The Biological Perspective

The study of physiology played a major role in the development of psychology as a separate science. Today, this perspective is known as biological psychology. Sometimes referred to as biopsychology or physiological psychology, this point of view emphasizes the physical and biological bases of behavior.4

Researchers who take a biological perspective on psychology might look at how genetics influence different behaviors or how damage to specific areas of the brain influence behavior and personality. Things like the nervous system, genetics, the brain, the immune system, and the endocrine systems are just a few of the subjects that interest biological psychologists.

This perspective has grown significantly over the last few decades, especially with advances in our ability to explore and understand the human brain and nervous system. Tools such as magnetic resonance imaging (MRI) scans and positron emission tomography (PET) scans allow researchers to look at the brain under a variety of conditions. Scientists can now look at the effects of brain damage, drugs, and disease in ways that were simply not possible in the past.

5. The Cross-Cultural Perspective

Cross-cultural psychology is a fairly new perspective that has grown significantly over the last twenty years. Psychologists and researchers in this school of thought look at human behavior across different cultures. By looking at these differences, we can learn more about how culture influences our thinking and behavior.5

For example, researchers have looked at how social behaviors differ in individualistic and collectivistic cultures. In individualistic cultures, such as the U.S., people tend to exert less effort when they are part of a group, a phenomenon known as social loafing. In collectivistic cultures such as China, however, people tend to work harder when they are part of a group.

6. The Evolutionary Perspective

Evolutionary psychology is focused on the study of how evolution explains physiological processes.6 Psychologists and researchers take the basic principles of evolution, including natural selection, and apply them to psychological phenomena. This perspective suggests that these mental processes exist because they serve an evolutionary purpose—they aid in survival and reproduction.

7. The Humanistic Perspective

During the 1950s, a school of thought known as humanistic psychology emerged. Influenced greatly by the work of prominent humanists such as Carl Rogers and Abraham Maslow, this perspective emphasizes the role of motivation in thought and behavior.

Concepts such as self-actualization are an essential part of this perspective. Those who take the humanist perspective focus on the ways that human beings are driven to grow, change, and develop their personal potential. Positive psychology, which focuses on helping people live happier, healthier lives, is one relatively recent movement in psychology that has its roots in the humanist perspective.

Q.4 What are the goals of psychology?

Ans. The Goals of Psychology.The four main goals of psychology are to describe, explain, predict and change the behavior and mental processes of others.

To Describe

Describing a behavior or cognition is the first goal of psychology. This can enable researchers to develop general laws of human behavior.

For example, through describing the response of dogs to various stimuli, Ivan Pavlov helped develop laws of learning known as classical conditioning theory.

To Explain

Once researchers have described general laws behavior, the next step is to explain how or why this trend occurs. Psychologists will propose theories which can explain a behavior

To Predict

Psychology aims to be able to predict future behavior from the findings of empirical research. If a prediction is not confirmed, then the explanation it is based on might need to be revised.

For example, classical conditioning predicts that if a person associates a negative outcome with a stimuli they may develop a phobia or aversion of the stimuli.

To Change

Once psychology has described, explained and made predictions about behavior, changing or controlling a behavior can be attempted. For example, interventions based on classical conditioning, such as systematic desensitization, have been used to treat people with anxiety disorders including phobias.

Research methods

Q.5 Describe the different types of research methods of psychology.

Ans. Psychologists use many different methods for conducting research. Each method has advantages and disadvantages that make it suitable for certain situations and unsuitable for others.

Descriptive or Correlational Research Methods

Case studies, surveys, naturalistic observation, and laboratory observation are examples of Descriptive or Correlational Research Methods. Using these methods, researchers can describe different events, experiences, or behaviors and look for links between them. However, these methods do not enable researchers to determine causes of behavior.

Remember: Correlation Is not The Same As Causation. Two factors may be related without one causing the other to occur. Often, a third factor explains the correlation.

Example: A psychologist uses the survey method to study the relationship between balding and length of marriage. He finds that length of marriage correlates with baldness. However, he can't infer from this that being bald causes people to stay married longer. Instead, a third factor explains the correlation: both balding and long marriages are associated with old age.

Measuring Correlation

A Correlation Coefficient measures the strength of the relationship between two variables. A correlation coefficient is always a number between –1 and +1. The sign (+ or –) of a correlation coefficient indicates the nature of the relationship between the variables. A Positive Correlation (+) means that as one variable increases, the other does too.

Example: The more years of education a person receives, the higher his or her yearly income is. A Negative Correlation (–) means that when one variable increases, the other one decreases.

Example: The more hours a high school student works during the week, the fewer A's he or she gets in class. The higher the correlation coefficient, the stronger the correlation. A +0.9 or a –0.9 indicates a very strong correlation; a +0.1 or a –0.1 indicates a very weak correlation. A correlation of 0 means that no relationship exists between two variables.

Common correlational research methods include case studies, surveys, naturalistic observation, and laboratory observation.

Case Studies

In a Case Study, a researcher studies a subject in depth. The researcher collects data about the subject through interviews, direct observation, psychological testing, or examination of documents and records about the subject.

Surveys

A Survey is a way of getting information about a specific type of behavior, experience, or event. When using this method, researchers give people questionnaires or interview them to obtain information.

When subjects fill out surveys about themselves, the data is called Self-Report Data. Self-report data can be misleading because subjects may do any of the following:

Lie intentionally

Give answers based on wishful thinking rather than the truth Fail to understand the questions the survey asks

Forget parts of the experience they need to describe

Naturalistic Observation

When using naturalistic observation, researchers collect information about subjects by observing them unobtrusively, without interfering with them in any way. Researchers create a record of events and note relationships among those events. With naturalistic observation, researchers face the challenge of getting a clear view of events without becoming noticeable to the subjects.

Laboratory Observation

As the name implies, researchers perform Laboratory Observation in a laboratory rather than in a natural setting. In laboratory observation, researchers can use sophisticated equipment to measure and record subjects' behavior. They can use one-way mirrors or hidden recording devices to observe subjects more freely while remaining hidden themselves. Unlike observation in a natural setting, laboratory observation offers researchers some degree of control over the environment.

Psychological Tests

Researchers use Psychological Tests to collect information about personality traits, emotional states, aptitudes, interests, abilities, values, or behaviors. Researchers usually Standardize these tests, which means they create uniform procedures for giving and scoring them. When scoring a test, researchers often compare subjects' scores to Norms, which are established standards of performance on a test. A well-constructed standardized test can evaluate subjects better than self- report data.

CHAPTER-2

BIOLOGICAL BASIS OF HUMAN BEHAVIOR

Chapter -2 Biological basis of human behavior. The function and structure of nervous system, structure and function of central nervous system and peripheral nervous system.

Q.1 What is role of Biological factors on Psychology.

Ans. Biological psychology, also called physiological psychology or behavioral neuroscience, the study of the physiological bases of behaviour. Biological psychology is concerned primarily with the relationship between psychological processes and the underlying physiological events—or, in other words, the mind-body phenomenon. Its focus is the function of the brain and the rest of the nervous system in activities (e.g., thinking, learning, feeling, sensing, and perceiving) recognized as characteristic of humans and other animals. Biological psychology has continually been involved in studying the physical basis for the reception of internal and external stimuli by the nervous system, particularly the visual and auditory systems. Other areas of study have included the physiological bases for motivated behaviour, emotion, learning, memory, cognition, and mental disorders. Also considered are physical factors that directly affect the nervous system, including heredity, metabolism, hormones, disease, drug ingestion, and diet.

Theories of the relationship between body and mind date back at least to Aristotle, who conjectured that the two exist as aspects of the same entity, the mind being merely one of the body's functions. In the dualism of French philosopher René Descartes, both the mind and the soul are spiritual entities existing separately from the mechanical operations of the human body. Related to this is the psychological parallelism theory of German philosopher Gottfried Wilhelm Leibniz. Leibniz believed that mind and body are separate but that their activities directly parallel each other. In recent times behaviourists such as American psychologist John B. Watson moved away from consideration of the spiritual or mental and focused on observable human and animal behaviours and their relationship to the nervous system.

Q.2 Explain nervous system?

Ans. The nervous system is an organ system that handles communication in the body. There are four types of nerve cells in the nervous system: sensory nerves, motor nerves, autonomic nerves and inter-neurons (neuron is just a fancy word for nerve cell). You can divide up all the nerves in the body into roughly two parts: the central nervous system and the peripheral nervous system.

Central Nervous System (CNS)

The central nervous system contains two organs—the brain and the spinal cord. It has all four types of nerve cells and is the only place you can find inter-neurons. The central nervous system is insulated from the outside world pretty well. It never even touches blood. It gets its nutrients from cerebrospinal fluid, a clear liquid that bathes the brain and spinal cord.

Both organs are covered with three layers of membranes called the meninges. The meninges and cerebrospinal fluid cushion the brain to keep it from being injured by a knock on the noggin. It's possible to get an infection from viruses or bacteria in the meninges called meningitis. It's also possible to have bleeding either between the meninges and the skull (called an epidural hematoma) or in between the layers of the meninges (called a subdural hematoma). Any bleeding or infection inside the skull can put pressure on the brain and cause it to malfunction.

The central nervous system is like the guts of your computer (maybe the computer you're using to read this). It's in there with millions of connections moving little impulses around from circuit to circuit (nerve to nerve), calculating and thinking. Your brain makes all the calculations and stores information. Your spinal cord is like a cable with lots of individual wires running to all different parts of the brain.

But the computer brain inside your laptop, like the brain inside your head, is useless all by itself. You have to be able to tell your computer what you need and see or hear what your computer is trying to tell you. You need some sort of input and output devices. Your computer uses a mouse, a touchscreen or a keyboard to sense what you want it to do. It uses a screen and speakers to react.

Your body works very similarly. You have sensory organs to send information to the brain—eyes, ears, nose, tongue, and skin. To react, you have muscles that make you walk, talk, focus, wink, stick your tongue out—whatever. Your input/output devices are part of your peripheral nervous system.

Peripheral Nervous System (PNS)

The peripheral nervous system is everything connected to the central nervous system. It has motor nerves, sensory nerves, and autonomic nerves. Autonomic nerves act automatically, which is a way to remember them. They are the nerves that regulate our bodies. They are the body's version of a thermostat, a clock, and a smoke alarm. They work in the background to keep us on track and healthy, but they don't take up brain power or need to be controlled.

Autonomic nerves are loosely split into either sympathetic or parasympathetic nerves.

Sympathetic nerves have a tendency to speed us up. They increase heart rate, breathing, and blood pressure. These nerves are responsible for the Fight or Flight response.

Parasympathetic nerves stimulate blood flow to the gut. They slow down the heart and decrease blood pressure.

Think of the sympathetic nerves as the body's accelerator, and parasympathetic nerves as the brake pedal. Your body is always stimulating both the parasympathetic side and the sympathetic side at the same time—just like my grandmother used to drive, with a foot on each pedal.

Motor nerves start from the central nervous system and go out toward the far reaches of the body. They're called motor nerves because they always end in muscles. If you think about it, the only signals your brain sends to the outside world consist of making things move.

Walking, talking, fighting, running, or singing all take muscles.

Sensory nerves go the other direction. They carry signals from the outside toward the central nervous system. They always start in a sensory organ—eyes, ears, nose, tongue or skin. Each of those organs has more than one type of sensory nerves—for instance, the skin can sense pressure, temperature, and pain.

Q.3 What is endocrine system?

Ans. The endocrine system consists of several glands located throughout the body. These glands secrete hormones -- chemical messengers that signal the body to perform essential functions, usually related to growth and metabolism.

There are two types of glands within the endocrine system.1

Endocrine glands include the pancreas, thyroid, pituitary, and adrenal glands. They secrete their hormones directly into the bloodstream, where they are carried to the site of action.

Exocrine glands secrete their hormones directly into ducts. Examples of exocrine glands include sebaceous, mammary, salivary and digestive glands.

Q.4 How Do Hormones Work?

Ans. Many endocrine glands are sensitive to the concentration of either the hormone they produce or the substance that activates them. If the concentration of the hormone or substance is lower than normal, it will typically activate the gland. If the concentration is high, it will stop production of the hormone. This is what is referred to as a negative feedback system.2 Endocrine glands can also be activated directly by nervous stimulation.

When receptors on the cell membranes of an endocrine gland are activated by a particular hormone, a cascade of chemical events is triggered within the cell. Receptors and hormones are very specific. Only one type of hormone will fit in a given receptor. If the incorrect hormone tries to fit into a receptor, no reaction will occur.

Endocrine Glands and the Hormones They Produce

Pituitary Gland – This is often called the “master gland” because of its large number of functions related to metabolism and maintenance of homeostasis. There are two lobes of the pituitary: the anterior and posterior.

The anterior lobe produces many hormones including:

Prolactin

Growth hormone

Follicle stimulating hormone Luteinizing hormone Thyroid stimulating hormone

Adrenocorticotropin hormone The posterior lobe secretes: 3

Anti-diuretic hormone Oxytocin

Hypothalamus – The hypothalamus is a small portion of the brain that is in very close

proximity to the pituitary gland. It controls the pituitary hormones by releasing hormones that stimulate or inhibit their release. For example, the hypothalamus secretes gonadotropin-releasing hormone, which causes the production of gonadotropins (follicle stimulating hormone and luteinizing hormone) by the pituitary. It also produces corticotrophin releasing hormone, thyrotropin releasing hormone, and growth hormone-releasing hormone.3

Thymus – A gland used primarily in childhood, the thymus secretes hormones that help the immune system develop. Around the time of puberty, its tissue becomes replaced with fat and is no longer necessary for normal immune function.4

Pineal Gland – This is a small gland located within the brain that secretes melatonin. Melatonin has been found to regulate the wake-sleep cycle.2

Thyroid – The thyroid is a gland found on the windpipe in the front of the throat. It produces thyroxin (T4) and tri-iodothyronine (T3), known to regulate metabolism.2 It also secretes calcitonin, which helps regulate calcium levels.

Parathyroid – Four tiny glands located on the thyroid make up the parathyroid. They produce parathyroid hormone. Its secretion controls levels of calcium and phosphorus in the body.5

Adrenal Glands – There are two adrenal glands, one located on top of each kidney. Each of the glands is divided into two regions, the cortex and medulla, which have very different functions.

The hormones produced by the cortex are vital for life and include the glucocorticoids, mineralocorticoids and some of the sex hormones, like androgens and small amounts of estrogen.2

The adrenal medulla secretes both epinephrine and norepinephrine.

Pancreas – The pancreas is a large gland in the abdomen that secretes insulin and glucagon. These two hormones are essential in the regulation and maintenance of normal blood sugar levels.1 Glucagon stimulates the liver to release more glucose into the body, while insulin causes the body cells to take more glucose.

Ovaries – Found only in women, these two small glands produce estrogen, progesterone, and inhibin. Estrogen and progesterone are the primary sex hormones responsible for many of the female secondary sex characteristics. Inhibin is a hormone that controls levels of follicle stimulating hormone, which regulates egg development.1 Testes – A pair of glands found only in men, the testicles secrete testosterone, the primary hormone responsible for the male secondary sex characteristics.

What Happens With Endocrine Disorders?

Any time one of these hormones is out of balance, many other systems, glands, and hormones can be affected. Women with polycystic ovary syndrome, for example, may show alterations in follicle stimulating hormone, luteinizing hormone, androgens (testosterone) and insulin, which can, in turn, affect her estrogen levels. Alterations of any of these hormones can cause changes in weight, metabolism and energy levels.

CHAPTER-3

SENSATION AND PERCEPTION

Perception: Laws of Perceptual organization, Perceptual Constancy, Depth Perception.

Sensation.: Meaning, sensory receptors, threshold, adaptation

Q 1 Definition of Perception.

Ans. Definition- Perception is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli.

Through the perceptual process, we gain information about the properties and elements of the environment that are critical to our survival. Perception not only creates our experience of the world around us; it allows us to act within our environment.

Q.2 What is Perception?

Ans. Perception includes the five senses; touch, sight, sound, smell, and taste. It also includes what is known as proprioception, a set of senses involving the ability to detect changes in body positions and movements. It also involves the cognitive processes required to process information, such as recognizing the face of a friend or detecting a familiar scent.

Q.3 Types of Perception.

Ans. Types of Perception

Some of the main types of perception include:

Vision

Touch Sound

Taste Smell

There are also other senses that allow us to perceive things such as balance, time, body position, acceleration, and the perception of internal states. Many of these are multimodal and involve more than one sensory modality. Social perception, or the ability to identify and use social cues about people and relationships, is another important type of perception.

Q.4 How Perception works?

Ans. The perceptual process is a sequence of steps that begins with the environment and leads to our perception of a stimulus and action in response to the stimulus. It occurs continuously, but you do not spend a great deal of time thinking about the actual process that occurs when you perceive the many stimuli that surround you at any given moment.

For example, the process of transforming the light that falls on your retinas into an actual visual image happens unconsciously and automatically. The subtle changes in pressure against your skin that allow you to feel objects occur without a single thought.

Perception acts as a filter that allows us to exist and interpret the world without becoming overwhelmed by the abundance of stimuli.1

Steps in the Perceptual Process

The Environmental Stimulus The Attended Stimulus

The Image on the Retina Transduction

Neural Processing Perception Recognition Action

Impact of Perception

In order to see the impact of perception, it can be helpful to look at how the process works. This varies somewhat for every sense. In the case of visual perception:

The environmental stimulus: The world is full of stimuli that can attract attention through various senses. The environmental stimulus is everything in the environment that has the potential to be perceived.

The attended stimulus: The attended stimulus is the specific object in the environment on which attention is focused.

The image on the retina: This involves light actually passing through the cornea and pupil and onto the lens of the eye. The cornea helps focus the light as it enters the eye, and the iris of the eye controls the size of the pupils in order to determine how much light to let in. The cornea and lens act together to project an inverted image onto the retina.

Transduction: The image on the retina is then transformed into electrical signals in a process known as transduction. This allows the visual messages to be transmitted to the brain to be interpreted.

Neural processing: The electrical signals then undergo neural processing. The path followed by a particular signal depends on what type of signal it is (i.e. an auditory signal or a visual signal). Perception: In this step of the process, you perceive the stimulus object in the environment. It is at this point that you become consciously aware of the stimulus.

Recognition: Perception doesn't just involve becoming consciously aware of the stimuli. It is also necessary for the brain to categorize and interpret what you are sensing. The ability to interpret and give meaning to the object is the next step, known as recognition.

Action: The action phase of perception involves some type of motor activity that occurs in response to the perceived and recognized stimulus. This might involve a major action, like running toward a person in distress, or something as subtle as blinking your eyes in response to a puff of dust blowing through the air.

The perceptual process allows you to experience the world around you and interact with it in ways that are both appropriate and meaningful.

Take a moment to think of all the things you perceive on a daily basis. At any given moment, you might see familiar objects in your environment, feel the touch of objects and people

against your skin, smell the aroma of a home-cooked meal, and hear the sound of music playing in your next- door neighbor's apartment. All of these things help make up your conscious experience and allow you to interact with the people and objects around you.

Q.5 Describe Gestalt theory of Perception.

Ans The law of closure is one example of a Gestalt law of perceptual organization. According to this principle, things in the environment often tend to be seen as part of a whole. In many cases, our minds will even fill in the missing information to create cohesive shapes. Gestalt laws of perceptual organization A Brief History of the Gestalt Laws Gestalt psychology was founded by German thinkers Max Wertheimer, Wolfgang Kohler, and Kurt Koffka and focused on how people interpret the world.2 The Gestalt perspective formed partially as a response to the structuralism of Wilhelm Wundt, who focused on breaking down mental events and experiences to the smallest elements.

Max Wertheimer noted that rapid sequences of perceptual events, such as rows of flashing lights, create the illusion of motion even when there is none. This is known as the phi phenomenon. Motion pictures are based on this principle, with a series of still images appearing in rapid succession to form a seamless visual experience.

According to Gestalt psychology, the whole is different from the sum of its parts. Based upon this belief, Gestalt psychologists developed a set of principles to explain perceptual organization, or how smaller objects are grouped to form larger ones.

These principles are often referred to as the "laws of perceptual organization." However, it is important to note that while Gestalt psychologists call these phenomena "laws," a more accurate term would be "principles of perceptual organization." These principles are much like heuristics, which are mental shortcuts for solving problems

1 Law of Similarity Gestalt law of similarity

The law of similarity suggests that things similar things tend to appear grouped together. Grouping can occur in both visual and auditory stimuli. In the image above, for example, you probably see the groupings of colored circles as rows rather than just a collection of dots.

2 Law of Pragnanz

Gestalt Law of Pragnanz

The word pragnanz is a German term meaning "good figure." The law of Pragnanz is sometimes referred to as the law of good figure or the law of simplicity. This law holds that objects in the environment are seen in a way that makes them appear as simple as possible.

3 You see the image above as a series of overlapping circles rather than an assortment of curved, connected lines.

Law of Proximity

Gestalt Law of Proximity

According to the law of proximity, things that are near each other seem to be grouped together.4 In the above image, the circles on the left appear to be part of one grouping while those on the right appear to be part of another. Because the objects are close to each other, we group them together.

Law of Continuity Gestalt law of continuity

The law of continuity holds that points that are connected by straight or curving lines are seen in a way that follows the smoothest path. Rather than seeing separate lines and angles, lines are seen as belonging together.

5 Law of Closure Gestalt law of closure

According to the law of closure, things are grouped together if they seem to complete some entity.1 Our brains often ignore contradictory information and fill in gaps in information. In the image above, you probably see the shapes of a circle and rectangle because your brain fills in the missing gaps in order to create a meaningful image.

6 The Law of Common Region

This Gestalt law of perceptual organization suggests that elements that are grouped together within the same region of space tend to be grouped together.

For example, imagine that there are three oval shapes drawn on a piece of paper with two dots located at each end of the oval. The ovals are right next to each other so that the dot at the end of one oval is actually closer to the dot at the end of a separate oval. Despite the proximity of the dots, the two that are inside each oval are perceived as being a group rather than the dots that are actually closest to each other.

Factors Affecting Perception:

There are individual differences in perceptual abilities. Two people may perceive the same stimulus differently.The factors affecting the perceptions of people are:

a. Perceptual learning:
Based on past experiences or any special training that we get, every one of us learns to emphasise some sensory inputs and to ignore others. For example, a person who has got training in some occupation like artistry or other skilled jobs can perform better than other untrained people. Experience is the best teacher for such perceptual skills. For example, blind people identify the people by their voice or by sounds of their footsteps.

b. Mental set:
Set refers to preparedness or readiness to receive some sensory input. Such expectancy keeps the individual prepared with good attention and concentration. For example, when we are expecting the arrival of a train, we listen to its horn or sound even if there is a lot of noise disturbance.

c. Motives and needs:

Our motives and needs will definitely influence our perception. For example, a hungry person is motivated to recognise only the food items among other articles. His attention cannot be directed towards other things until his motive is satisfied.

d. Cognitive styles:

People are said to differ in the ways they characteristically process the information. Every individual will have his or her own way of understanding the situation. It is said that the people who are flexible will have good attention and they are less affected by interfering influences and to be less dominated by internal needs and motives than or people at the constricted end.

Errors in Perception:

As seen above perception is process of analysing and understanding a stimulus as it is. But it may not be always possible to perceive the stimuli as they are. Knowingly or unknowingly, we mistake the stimulus and perceive it wrongly. It may be due to defect in our sense organs or defective functioning of the brain. Many times the prejudices in the individual, time of perception, unfavourable background, lack of clarity of stimulus, confusion, conflict in mind and such other factors are responsible for errors in perception. There are two kinds of errors:

a. Illusion:

Illusion is a false perception. Here the person will mistake a stimulus and perceive it wrongly. For example, in the dark, a rope is mistaken as a snake or vice versa. The voice of an unknown person is mistaken as a friend's voice. A person standing at a distance who is not known may be perceived as a known person. Most of our illusions are visual and auditory. But illusions pertaining to other senses are also possible. See Figure 3.10 for some of the examples of visual illusions.

b. Hallucination:

Sometimes we come across instances where the individual perceives some stimulus, even when it is not present. This phenomenon is known as hallucination. The person may see an object, person, etc. or he may listen to some voice though there are no objects and sounds in reality. Hallucinations pertain to all the sensations appear in people, but visual and auditory hallucinations are more common. Usually persons with unsound mind, emotionally disturbed, alcoholics and those who are in confused states may experience hallucinations. However, among abnormal people and intoxicated persons hallucinations are very common.

Q.1 Define Sensation.

Ans. Sensation is the process by which our senses gather information and send it to the brain. A large amount of information is being sensed at any one time such as room temperature, brightness of the lights, someone talking, a distant train, or the smell of perfume.

Q.2 Define Nature of Sensations:

Ans. A sensation is the simplest form of cognition. It is a simple impression produced in the mind by a stimulus. The stimulus acts upon a sense-organ or the peripheral extremity of a

sensory nerve; the impression is conducted by the sensory nerve to a sensory centre in the brain; then it is experienced as a sensation.This is the case with sensations of colours, sounds, tastes, smells, heat, cold etc. Stimuli are either external to the organism or within the organism.

Q.3 What is Absolute Threshold?

Ans. The absolute threshold is the point where something becomes noticeable to our senses. It is the softest sound we can hear or the slightest touch we can feel. Anything less than this goes unnoticed. The absolute threshold is therefore the point at which a stimuli goes from undetectable to detectable to our senses.

Q. 4 What is Difference Threshold?

Ans. Once a stimulus becomes detectable to us, how do we recognize if this stimulus changes. When we notice the sound of the radio in the other room, how do we notice when it becomes louder. It's conceivable that someone could be turning it up so slightly that the difference is undetectable. The difference threshold is the amount of change needed for us to recognize that a change has occurred. This change is referred to as the Just Noticeable Difference. This difference is not absolute, however. Imagine holding a five pound weight and one pound was added. Most of us would notice this difference. But what if we were holding a fifty pound weight? Would we notice if another pound were added? The reason many of us would not is because the change required to detect a difference has to represent a percentage. In the first scenario, one pound would increase the weight by 20%, in the second, that same weight would add only an additional 2%. This theory, named after its original observer, is referred to as Weber's Law.

Q.5 Explain Signal Detection Theory

Ans. Have you ever been in a crowded room with lots of people talking? Situations like that can make it difficult to focus on any particular stimulus, like the conversation we are having with a friend. We are often faced with the daunting task of focusing our attention on certain things while at the same time attempting to ignore the flood of information entering our senses. When we do this, we are making a determination as to what is important to sense and what is background noise. This concept is referred to as signal detection because we attempt detect what we want to focus on and ignore or minimize everything else.

Q.6 What is Sensory Adaptation?

Ans. The last concept refers to stimuli which has become redundant or remains unchanged for an extended period of time. Ever wonder why we notice certain smells or sounds right away and then after a while they fade into the background? Once we adapt to the perfume or the ticking of the clock, we stop recognizing it. This process of becoming less sensitive to unchanging stimulus is referred to as sensory adaptation, after all, if it doesn't change, why do we need to constantly sense it?

CHAPTER-4

LEARNING

Learning: Nature. Theories: Classical and Operant Conditioning; Observational Learning; Insightful learning;

Q.1 What is learning? What are its distinguishing features?

Ans. Learning can be defined as any relatively permanent change in behaviour or behavioural potential produced by experience. Changes that occur due to practice and experience, and are relatively permanent, are a component of learning.

Its distinguishing features are:

(i) Learning always involves some kind of experience. For instance, a child gets lost at a place on leaving the hands of the parents, would learn not to leave the handof elders the next time.

(ii) Behavioural changes that occur due to learning are relatively permanent and are different from temporary behavioural changes caused by habituation, drugs or fatigue. For example, feeling tired after studying is a temporary change and does not involve learning.

(iii) Learning is an inferred process that involves a series of psychological events. It is also different from a performance

Q.2 How does classical conditioning demonstrate learning by association?

Ans. Classical conditioning demonstrates learning by association as one stimulus signifies the possibility of the occurrence of another stimulus. Unconditioned stimulus and response are gradually conditioned. For example, in the experiment conducted by Ivan P. Pavlov on the dog, a bell was rung after which food was served to the dog. After some days, no food was served after the ringing of bell, but the dog still salivated to the sound of it and thus, associated the bell with the food. The association resulted in the acquisition of the new response by the dog, i.e. salivation to the sound of bell. In this case, the bell was a conditioned stimulus and saliva secretion was a conditioned response.

Therefore, in classical conditioning, one stimulus signifies the possible occurrence of another stimulus.

Q.3 Define operant conditioning. Discuss the factors that influence the course of operant conditioning.

Ans. Operant conditioning refers to the conditioning of behaviours and responses that are under the control of animals and human beings and are emitted voluntarily by them. The behaviour is learned, maintained or changed through its consequences called reinforcers. These refer to a stimulus or event that increases the probability of the occurrence of the response. The factors that influence the course of operant conditioning are as follows:

Type of reinforcements Positive reinforcement involves pleasant consequences that satisfy needs. Negative reinforcement involves unpleasant and painful consequences that lead to learning of avoidance.

Number and quality of reinforcements The course of operant conditioning is accelerated by increase in number, amount and quality of reinforcements.

Schedule of reinforcement Continuous reinforcement elicits a desired response every time during a trial. Intermittent reinforcement elicits responses only intermittently.

Delay in the delivery of reinforcement It results in a poor level of conditioning and performance.

Q.4 Explain the procedures for studying verbal learning.

The following are the procedures for studying verbal learning:

(i) Paired Associates Learning

This method is used to learn foreign languages. A list of paired-associates is prepared and the first word is used as a stimulus, while the second word is used as a response.

Members of the each pair may be from the same language or two different languages.

The learner is first shown both the stimulus-response pairs and instructed to remember and recall the response after the presentation of each stimulus term.

This continues until the participant remembers all the response words without any error.

The total number of trials taken to reach the criterion becomes the measure of paired associates learning.

(ii) Serial Learning

This method is used to find out the ways through which participants learn the lists of verbal items and the processes involved in it.

The participant is presented with a list of nonsense syllables, most familiar or least familiar words and interrelated words. Then, he/she is required to produce the items in the same serial order.

During the first trial, the participant is shown the first item after which he/she has to produce the second item. If the participant fails to do that then the second item is presented and the participant has to produce the third.

The learning trials continue until the participant remembers all the items in the given order.

(iii) Free Recall

The participants in this method are presented with a list of words to read and speak out. After this, they are required to remember the words in any order.

This method is used to study the kind of organisation of words made by the participants in order to store them in memory.

Q.5 How can you distinguish between generalisation and discrimination?

Ans. The distinguishing features between generalisation and discrimination are as follows:

Generalisation refers to the phenomenon of responding similarly to similar stimuli. It represents the occurrence or elicitation of learned response by a new stimulus. For instance, in the absence of mother, a child is able to find the jar of chocolates. Furthermore, generalisation occurs due to failure of discrimination.

Discrimination on the other hand is a response caused by difference in stimuli. Discriminative response depends on the discrimination capacity of the organism. For example, a child who is scared of all men with moustache may not be scared of clean-shaved men.

Q.6 Explain the different forms of cognitive learning?

Ans. The different forms of cognitive learning are:

(i) Insight Learning.

It refers to the process through which the solution to a problem suddenly becomes clear.

The problem is presented after which a period of time follows without apparent progress and finally a solution suddenly emerges.

The solution can be repeated immediately the next time the problem is confronted.

Learning is not a specific set of conditioned associations between stimuli and responses but a cognitive relationship between a means and an end. Thus, it can be generalised to similar problems.

(ii) Latent Learning

A new behaviour is learnt but not demonstrated until the reinforcement is provided for displaying it. Tolman explained it with an experiment on rats wherein the rats were grouped into two, and one group was given food at the end of maze, while the other group was not given any food. However, after being reinforced these rats ran through the maze as efficiently as the group that was given food.

Q.7 Explain the theories of learning.

Ans. Basic Principles of Social Learning Theory Learning Through Classical Conditioning The concept of classical conditioning has had a major influence on the field of psychology, yet the man who discovered it was not a psychologist at all. A Russian physiologist named Ivan Pavlov first discovered the principles of classical conditioning during his experiments on the digestive systems of dogs. Pavlov noticed that the dogs in his experiments had begun to salivate whenever they saw the white coats of his lab assistants prior to being fed.

So how exactly does classical conditioning explain learning? According to the principles of classical condoning, learning takes place when an association is formed between a previously neutral stimulus and a naturally occurring stimulus. In Pavlov's experiments, for example, he paired the natural stimulus of food with the sound of a bell. The dogs would naturally salivate in response to food, but after multiple associations, the dogs would salivate to the sound of the bell alone.

Q.8 What is Classical Conditioning? Learning Through Operant Conditioning

Operant conditioning was first described by the behavioral psychologist B.F. Skinner. It is sometimes also referred to as Skinnerian conditioning and instrumental conditioning. Skinner believed that classical conditioning simply could not account for all types of learning and was instead more interested in learning how the consequences of actions influence behaviors.

Like classical conditioning, operant conditioning relies on forming associations. In operant conditioning, however, associations are made between a behavior and the consequences of that behavior. When a behavior leads to a desirable consequence, it becomes more likely that the behavior will be repeated again in the future. If the actions lead to a negative outcome, however, then the behavior then becomes less likely to occur.

Q.9 What Is Operant Conditioning?

Learning Through Observation

Albert Bandura believed that associations and direct reinforcements simply could not account for all learning. "Learning would be exceedingly laborious, not to mention hazardous if people had to rely solely on the effects of their own actions to inform them what to do," he famously wrote in his 1977 book Social Learning Theory.

Instead, he proposed that much of learning takes place through observation. Children observe the actions of those around them, particularly caregivers and siblings, and then imitate these behaviors. In his well-known Bobo doll experiment, Bandura revealed just how easily children could be led to imitate even negative actions. Children who watched a video of an adult beating up a large inflatable doll were then much more likely to copy those same actions when given a chance.

Perhaps most importantly, Bandura noted that learning something does not necessarily result in a change in behavior. Children frequently learning new things through observation, but might not engage in such behaviors themselves until there is actually a need or motivation to utilize the information.

CHAPTER-5

MEMORY

Memory: Stages of Memory, Types of memory, Techniques for improving memory. Processing Models of memory.
Chapter 5

❖ Memory

Meaning of Memory and its Compounds or Stages

Memory is a general term that refers to the ability to store past experiences in the brain. Cognitive psychologists such as Lehman, Lehman and Butterfield (Lehman, Lehman & Butterfield, 1979) have defined memory as the ability to store information for a specific period of time.

The time period can be less than a second or even a lifetime. Psychologists have told two aspects of memory – ***positive aspect and negative aspect***.

The **positive aspect** of memory refers to remembering past experiences and the **negative aspect** refer to those experiences is caused by the inability to remember. Hence it can be said that the positive side of memory is remembering and the negative side is forgetting.

Psychologists have described three components or stages of memory, which are as follows-

1. **Encoding**: - By perceiving any information or external stimulation, a person converts it into a certain form. In other words, it can be said that coding is a process by which information is converted into a shape or form so that they can enter the memory. Notation is the formation of memory traces in ordinary colloquial language. The first stage of memory is encoding. This stage is also called registration.

2. **Storage:** - The second stage of memory is the stage of storage. Storage is a process in which information and stimuli received by signaling are stored for some time. In other words, in the state of storage the information and stimuli that have entered the memory are retained for some time. This state is also called retention.

3. **Retrieval**: - Retrieval is the third stage of memory. In this state the information stored in the memory is recalled and searched. In other words recovery is a process in which as per the requirement, the person searches for specific information from the information present in the storage and reaches them tries to reach. This stage is also called remembering.

It is clear that memory has three distinct states. If we look carefully, it will be clear that this form of memory compels psychologists to compare human memory with computer memory. If we pay attention to the personal computer, then it will be clear that it has the above mentioned three stages similar to human memory by which the computer is able to do its basic work.

We can understand these three states of memory with an example as follows. Suppose a student is trying to memorize the names of the capitals of the states of India. The capital of the states is listed in front of the one whose perception he reads again and again and as a result of

which there is some change in his nervous system. Due to which special signs or memory marks (memory traces) are formed. After encoding the names of the capitals of the processed states, it stores it for some time, as a result of which the learned name is remembered for a few days. It is called as storage. Suppose that once the name of the capital of these states is asked from the student. Here the student will try to answer the recall of the names stored. This is called retrieval. It is not necessary that all the stored information can be retrieved. Like a student can keep the name of the capital of all the states of India in his mind but at a particular time he may not be able to retrieve the capital of all the states.

It is clear that there are three stages or elements of memory. It is also clear that these three stages are directly related to the forgetting of the remembered subjects. For example, if any information is not encoded properly or naturally no question of storage and retrieval arises. In such a condition, hearing loss is certain. Similarly if encoding is done but if storage is not done then extinction will not happen and result in oblivion. If the encoding and selection is done but due to some reason retrieval is not possible then this will also lead to forgetting. In this way it is clear that these elements or states of memory are directly related to forgetfulness.

❖ **Types of Memory**

Experimental psychologists have described several types of memory. On the basis of the criterion of the duration of accumulation of memory marks, these people have described the following three types of memory-

1. Sensory memory
2. Short-term memory
3. Long-term memory

The description of these three is as follows-

1. **Sensory Memory**: - Sensory memory is called such memory storage in which a person can keep information for a period of one second or less. In this memory, the information received from the stimulus is stored in its original form, that is, without any change in it. It is because of sensory memory that even after the stimulus has been removed from the person's front, its mark is made for a short time. Hence it is also called sensory storage or sensory register. It is of two types – Iconic memory and Echoic memory. In pictorial memory, a person can keep a visual trace of a seen object or person for up to one second, while in echoic memory; a person can keep an auditory trace of a heard sound in his mind for less than a second can keep it for a short time. Its detailed discussion will be separated further.

2. **Short-term memory (STM)**:- Short-term memory is also called Primary memory or PM by William James. This type of memory has two main characteristics. Firstly, any information can be stored in STM for a maximum of 20-30 seconds and secondly, the information that enters it is of weak nature. Because a person would have learned them only in one or two attempts. For example, suppose a person dials a stranger's telephone number from the telephone directory to talk to him on the telephone and wants to dial again after waiting for 10 seconds after getting a busy signal. But this time assuming the correct order of numbers for a while he would have forgotten. In this example, short-term memory of 10 seconds has been shown, and the telephone number of a stranger was also learned in only one exercise. It is clear from the above example that STM contains only such information, which the person is processing at the present time. STM is also known by other names such as actine memory,

immediate memory, short-term storage.

3. **Long-term memory (LTM)**:- William James has also called it secondary memory (SM). In this type of memory, a person must hold any information for at least 30 seconds. There is no fixed time limit for the maximum period for which any information can be stored here. It is possible that some information can be stored for the whole lifetime or some can be stored only for an hour. When a student is able to reproduce the lecture given by the teacher in class yesterday, it is said that the subject of the lecture was stored in long term memory. It is also known by other names such as inactive memory and long-term storage. One characteristic of long-term memory is that it stores various types of information and its form is somewhat permanent. Tulving (Tulving, 1972) defined long-term memory as the basis of events and experiences. But it is divided into the following two parts-

(i) **Episodic memory**: - In episodic memory such information is stored which happens to the person temporarily. Thus, such information basically reveals when individual events took place. Some examples of episodic memory are as follows- My childhood days were spent in Kashmir, yesterday at four in the evening I went to the doctor, ten days ago I saw a similar film, etc. This information clearly shows the time of occurrence of the event. It is also called autobiographical memory. Episodic memories that are exceptionally clear in a person's mind because of their surprising nature are called flashbulb memories.

(ii) **Semantic memory: -** In semi-semantic memory a person has a systematic knowledge about words, signs etc. Such knowledge includes the knowledge of the mutual relations of words, signs, their meanings and the rules of manipulating them, etc. Some examples of semantic memory are as follows- I know that the chemical formula of water is HO, any number multiplied by zero gives its product zero, the shortest day of the year is in December, etc. It is also called generic memory, declarative memory or explicit memory also called explicit memory. Thus declarative memory would include memory of all those things that which can be brought into the mind as a fact or which can be declared moreover there is also another type of long-term memory called non-declarative memory. This also called implicit memory. Non-declarative memory is called memory in which muscle motor skills, habits and learned responses through classical conditioning are accumulated.

Apart from the above two types, there is also another type of LTM called procedural memory goes on and the attention of psychologists has been comparatively less on it procedural memory refers to memory.

In which the learned relationships or associations between stimuli and responses are stored.

For example, we hear the telephone ringing and we immediately get ready to pick up the receiver. red light on the road and we press the brakes of the car, all these acquired or learned associative procedural memory are stored in due to this type of memory, a person is able to behave in an adaptive way. Now we can present these different types of memory in the form of a table as follows-

Sensory Memory

Meaning and characteristics Sensory memory is the shortest term memory. There is general agreement among experimental psychologists that information in sensory memory is generally stored for periods of at most one second (although, as we shall see later, in some circumstances sensory memory is specifically held by some psychologists). The duration of echoic sensory memory has also been found to be up to 10 seconds) In the light of experimental studies done in the field of sensory memory, a consensus has been reached

among psychologists about the following characteristics of sensory memory-

(i) Since the information in sensory memory can generally be stored for at most one second, Memory is of very momentary nature. In other words, even after the stimulus is removed from the person's front, the trace of that stimulus remains in the person's mind for some time due to sensory memory.

(ii) The storage capacity of sensory memory is larger than that of short-term memory but smaller than that of long-term memory.

(iii) Whatever information is there in the sensory memory, it is in its original form and in unprocessed form it occurs. This is not the case in short-term memory and long-term memory because information is processed and stored in the form of special codes.

(iv) The information stored in the sensory memory is an accurate represcritation, while the information stored in the term memory and long-term memory may be distorted and inaccurate.

Types of sensory memory

Sensory memory is divided into two parts by Neisser (Neisser, 1967)

1. Iconic memory
2. Echoic memory

The description of these two memories is as follows-

1. **Iconic memory:** According to Neisser, iconic memory is a visual sensory memory in which the person retains some of his visual impressions even after the stimulus has been removed from his presence. For the time being is made in his mind. Sperling (1960) was the first to show the existence of iconic memory. In this experiment, the subject was shown 4 types of letters written on a card which were arranged in a row of three, only for 50 milliseconds i.e. 05 seconds. A sample of such decorated letters is as follows- Z HBMSAN1QANDT

After this, the subjects had to tell all the letters that they remembered. This was called the whole report method. As a result, it was seen that in such a situation, they could not succeed in remembering more than four-five letters. But they also told at the same time that it was not really the case that they remembered only four or five letters, but they were remembering all the other letters as well, but as long as they were busy in recalling the five letters again and again. Were, his memory of other letters ended. Spalding experimented using a different method called the partial report method to test the accuracy of the experimenters' statements. Immediately after showing the letters printed on the cards, Sperling told the subject each sound whose pitch was sometimes high, sometimes low, and sometimes medium. The subject was asked to withdraw the letters of the topmost row when a high pitched sound was present, the letters of the middle row when a medium pitched sound was present, and the bottom row of letters when a low pitched sound was present. As a result, it was seen that in such a situation, the retrieval of the subjects was 100% correct, that is, they were able to retrieve all the letters of the related queue correctly. Since the user did not know in advance which category of sounds he would hear, he had to remember all the 12 letters. Therefore, from the above result, the statement given by the experimenter appears to be true, when he presented the sound in front of the experimenter after delaying it for one second, it was found that the performance of the experimenter fell down to the same level as before i.e. where he had to recall all the syllables, (i.e. the output level of four-five characters). This means that the image

memory degrades so rapidly that within a second its performance drops to the level of performance achieved in the full report method.

Several other experimental studies tried to test the validity of Spalding's findings. For example, Averbach and Coriell (Averbach & Coriell, 1961) showed the subjects an array of 16 letters for a short time. After this, a small oblong line was shown to the subject exactly where a letter had previously been. The subjects had to say the exact same letter. The results of this experiment showed that subjects were able to recall up to 12 letters out of about 16 letters when the prompt was presented immediately after the entire sequence was shown. These people also told on the basis of their study that image-related memory remains only for one-fourth of a second, that is, about 250 milliseconds. In this way, the result of Emervac and Coryell's experiment confirms the result of Spalding's experiment.

Recently there has been some debate among psychologists about the location of iconic memory. Sakitt (1976) says that memory information that is in the form of an icon; They are found in the visual receptors of the eye, especially in the rods and not in the central parts of the brain. But Banks & Barber (1977) have found in their studies that color information is also stored in image-related memory. This means that this type of memory is stored in rods as well as in cones because the presence of color responses is only may be due to stimulation of cones. McClosco and Watkins (McClosky & Watkins, 1978) have tried to explain on the basis of their study that visual memory.

Instead of being concentrated in the visual receptors, it is in the brain. But no clear and consistent evidence could be found for this. In the light of all this, we can say that the situation regarding the location of image-related memory is not yet clear. After seriously considering the above experimental studies, attention is paid to some characteristics of iconic memory, which are as follows-

(i) Memory in general is associative but iconic memory is non-associative. Wikelman and Heitman (Wickelgren & Whitman. 1970) in their study, which had a design very similar to that of Sperling's experiment, found that giving an associative cue did not enhance letter repetition performance. From which it is clear that the nature of image-related memory is nonassociative.

(ii) Memory is generally improved by practice, but no such effect of practice has been observed on image memory. Glucksberg and Balagura (Glucksberg & Balagura, 1965) have checked the truth of this characteristic by their experiment. He also used an experiment based on Sperling's design in which there were three rows of letters and one row of letters was always the same and this particular row was placed at different places in each attempt i.e. sometimes at the top, Sometimes it was presented in the middle and sometimes at the bottom. The user had to recall the letters of this row. The result showed that there was no increase in recall even after presenting the letters of this particular row up to 500 times. This clearly means that there is no effect of practice on image memory.

(ii) The duration of image-related memory is very small. Under normal viewing conditions, image-related memory is formed only up to a quarter fraction of a second, that is, 250 milliseconds. But in some special cases, its duration as found by Posner and Keele (Posner & Keele, 1967) in their study, has also been found to be up to 15 seconds. Koll and colleagues (Kroll et al. 1970) have found the duration of image memory to be more than 1.5 seconds in certain conditions. Despite all these differences, the duration of image-related memory has been found to be about 250 milliseconds in the normal viewing condition.

(2) **Echoic memory**—Echoic memory is a sensory auditory memory. Echoic memory refers to a memory in which a person experiences an auditory impression of an auditory stimulus for a short period of time even after it has ceased. Attempts have been made by many psychologists to show the existence of echoic memory and to study its characteristics. Among these, the effort made by Massay (Massaro. 1970) is more remarkable. He studied echoic memory by the method of backward masking paradigm. One of two test tones, a jab, was presented to the experimenter for 20 milliseconds on each trial. After this a second sound was produced at different time intervals which gradually masked the first sound. That's why it was called masking tone. The subject had to indicate which of the two test sounds he heard. The result showed that as the masking noise was presented with a delay of different time intervals ranging from 20 ms to 250 ms, the accuracy of the detection of the test voice also increased gradually. However, there was no significant increase in the accuracy of recognition of the probe voice when the masking voice was presented with a delay of more than 250 ms. Therefore, according to Massaro's study, the storage period of the echoic memory must be 250 milliseconds. Darwin Turvey & Crowder. (1972) conducted an experiment using the opposite design of Sperling's study design and found that echoic memory has a duration of up to two seconds. Guttman & Julesz (Guttman & Julesz, 1963) in their study have found the duration of representative memory to be up to one second. Kobvy & Howard (1976) used a complex method in which subjects had to indicate whether a test tone was different from other tones. In five subjects of his experiment, echoic memory was found up to one second, while in the sixth experiment, the duration of echoic memory was found to be ten seconds. It was found that there are considerable individual differences in the duration of echoic memory. Eriksen & Johnson (Eriksen & Johnson, 1964) have shown on the basis of their study that the echo memory of a simple voice can be up to 10 seconds. In the light of the above experimental facts, it can be said that the duration of echoic memory ultimately depends on the nature of the task that is used to measure it and partly on the method of study.

A Comparative Study of Iconic Memory and Echoic Memory

Many experiments have been done in the area of two types of sensory memory, namely, iconic memory and echoic memory. A comparative study of the results of these experiments has been done by Crowder (1978), on the basis of which the following facts have emerged mainly-

(i) The experimental evidence in support of the existence of iconic memory is more convincing and stronger than the experimental evidence for the existence of echoic memory.

(ii) There is almost agreement among psychologists in characterizing the duration of pictorial memory. Almost most psychologists agree that its duration is 1/4 second ie 250 milliseconds. It happens. But there is no agreement among psychologists about the estimation of the duration of the echoic memory. As a result, different serious claims of its duration ranging from 1/4 second to several seconds have been made by psychologists. In the light of the above comparative points, we come to the conclusion that both these types of sensory memory. There is ample evidence for the existence of memory (i.e., image-related memory and echoic memory), but image- There is more reliable evidence for associative memory than for echoic memory.

Short-term Memory or STM

Meaning and characteristics We have seen that short term or short term memory is also known

by many other names. Short-term memory refers to the storage of limited information that a person can keep in an active state for a short period of time i.e. minimum one second and maximum 20-30 seconds. In other words, it stores information that a person pays attention to, processes, and repeats. Let's assume for a while that while talking to a person, we forget his facts after 15 seconds because our attention goes to other things. This is an example of short-term memory because the information it processed was kept in contact with for only 15 seconds.

There are many types of evidence available to show the existence of short-term memory, but the best evidence is found in the study of the serial position curve. If a person recalls a list of unrelated words or lexical units, we find that recall is best from the positions of the list, that is, from the upper positions and from the lower positions. Novelty Effect of Recall from Lower Positions of the List Recency effect and rewards from higher places are called primacy effect. The recency effect indicates that the words at the bottom of the list were recalled because they were in short-term memory. The priority effect also indicates that the upper parts of the list were retrieved because they were in long-term memory. In this way, There is evidence for the existence of two types, namely, short-term memory and long-term memory. In the light of studies done by psychologists, some clear features of short-term memory are highlighted. Some of the main features of those features are given below-

(i) Short term memory is fragile. If the person is unable to pay attention or rehearse the facts for any reason, then their memory traces are immediately lost and short-term memory existence is in danger.

(ii) In sensory memory, the information received by the sense organs is stored in the same form without any manipulation. But this does not happen in short-term memory and in this the information received by sense organs about stimuli is stored by coding them. According to Salen and Baddeley (Salane & Baddeley. 1982), verbal monograms are stored in short-term memory by encoding them on the basis of their sound. On the other hand, some such evidences have been found recently, on the basis of which it is said that in the short-term memory, the words are stored by encoding them on the basis of their meaning.

(iii) It is clear from the studies done by the psychologists that in short term memory only five to nine different information can be stored together. But more than nine different pieces of information can be stored at a time by the process of chunking. Chunking is the process of grouping small pieces of information into larger units of memory. These units, called chunk recalls, contain information that is related and can be grouped together into a meaningful unit. Suppose a person is read the following list of letters once: goes FCICBICIAIBM and is asked to remember it. The very expectation is that the person will not succeed in this. But suppose that now these letters are arranged in such a way that it is recited once and then it is asked to retrieve it - FCICBICIAIBM This time there is a lot of hope that the person will get success in retraction because he (They are all abbreviations of some organization) It turns out that in short-term memory, a person can usually hold five to nine independent pieces of information, but by booking, he can also hold a large number of pieces of information. Can hold information. It will be discussed in detail later.

(iv) The duration of short term memory has been found to be maximum of 20-30 seconds. This fact has been confirmed by many studies, in which the study done by Brown (Brown, 1958), Peterson and Peterson (Peterson & Peterson, 1959) is more important. It has become clear that short-term memory has its own characteristics, on the basis of which its form can be

clearly defined can be understood from.

Long-term Memory

Meaning and characteristics - Long-term memory (LTM) refers to such memory storage in which information is stored by a person for a long period of time can keep accumulated. The minimum time limit for this long period is no more than 20-30 seconds and the maximum limit is none. It is possible that a person can store any information in LTM even for the whole life. The storage capacity of long-term memory is very large and some psychologists have called this capacity unlimited. If we pay attention to the information stored in it, it will be clear that mainly two types of information are stored in it. The first type of information is related to some facts which are related to sequences of temporal events and the second type of information is related to some facts which are related to different types of symbols and are related to the meaning of words etc. The memory for the first type of information is called episodic memory and the memory for the second type of information is called semantic memory.

Long-term memory is also known by many other names. For example, William James called this secondary memory because in this memory it is emphasized that information must pass through another storage stage before reaching this second storage area. It is also known as STM or primary memory. It is also called long- term store because in LTM there is physical storage of units. Information in LTM brings about some modification in the central nervous system and this is the reason that the person is able to remember them for a long time. It is also called inactive memory because most of the information in the LTM. It is such that the person does not keep using it at the present time. Studies by psychologists in the field of LTM reveal some of its characteristics. The following are the main such features-

(i) The information stored in LTM is relatively permanent. This means that LTM information can be retrieved or recognized by the individual even after an indeterminately long period of time.

(ii) The information stored in LTM is not a copy of the information received from the original stimulus, but the person encodes the information stored in it in the form of a sign or in terms of meaning. As a result, the information stored in LIM is slightly different from that obtained from the original stimulus. confirm this (Bartlett, 1932) in which he had told that the form of memory is constructive.

(iii) In LTM, information related to meaningful content and important content is stored for a longer period of time. This fact is corroborated by Bower (1981) and Light and Ellis (Light & Ellis, 1981) on the basis of their own studies.

(iv) A feature of LTM has also been told that the information stored in it is less active, which is received after the completion of an event or task, but the information received as a result of an event or task remaining incomplete. happens, they are more active. This is probably the reason why the recall of types of information prior to LTM is lower than the recall of other types of information. This is called the Zeigarnik effect in psychology.

(iv) Information in LTM is organized and stored in an associative fashion. Is. This means that the items which are meaningfully related to each other, the person stores them together.

(vi) The accuracy of LTM is high especially for visual materials. This fact is confirmed by the

study of Shepard (Shepard, 1967). They presented 540 Amazigh words to people, and after testing their recognition memory, it was found that on average they could correctly identify about 88% of the words. one of the purposes. The second group was shown 612 short sentences in English and tested their recognition memory, on average 89% of the words were correctly identified by the subjects. It is clear from the study that the accuracy of vision materials is higher in LIM.

It became clear that there are some special features of LTM which have been given special attention by psychologists. Main types of long term memory episodic memory and semantic memory

❖ **Major Types of Long-term Memory : Episodic Memory and Semantic Memory**

Long-term memory (LTM) is divided into two parts by Tulving (Tulving. 1972) - Episodic memory and Semantic memory. Stores information related to temporally arranged or dated events and contexts. In other words, episodic memory stores information that tells when events occurred. Some examples of information stored in episodic memory are as follows:

(i) I remember that the early years of my life were spent in great hardship.

(ii) I had reached the office by 10 a.m. yesterday. (iii) I met a strange man in the train yesterday. It became clear that the information stored in episodic memory is related to the temporal aspect of events. Individual or autobiographical experiences of a person are stored in episodic memory only. This is the reason why episodic memory is also called autobiographical memory. Semantic memory refers to the memory in which words are associated with concepts; Information related to the meaning of facts and symbols is accumulated so semantic memory is for words, concepts. There is an organized knowledge about facts and symbols. This is called generic memory. Some examples of information stored in semantic memory are as follows-

(i) I know velvet is soft.

(ii) I know that the chemical formula of water is HO.

(iii) I know that when a number is multiplied by zero, the product is zero. It became clear that the nature of information stored in semantic memory is different from the nature of information stored in episodic memory.

The following are the differences between episodic memory and semantic memory-

(i) The information stored in episodic memory is related to 'when' while the information stored in semantic memory is related to 'what'. Why' comes from 'how' etc.

(ii) Forgetting from episodic memory is faster than forgetting from semantic memory.

(iii) Retrieval of information from episodic memory is possible only when the person is provided with a correct cue about the occurrence of events. This is not the case with information stored in semantic memory. Simple and sometimes indirect cues also lead to retrieval of information.

(iv) The structure of information in semantic memory is strong enough to protect it from interference from information about extraneous facts or word meanings. Since the structure of information stored in episodic memory is not that strong, it cannot protect itself from interference from external information. Therefore, it can be said that semantic memory is of stable nature while episodic memory is comparatively less stable in nature.

It turns out that episodic memory is different from semantic memory in several ways. The

experimental verification of this difference or difference between these two is done using Underwood, Boruch & Malmi (Underwood, Boruch & Malmi, 1978). In this study, 200 college students were tested on 28 different measures of episodic memory. These measures also included free recall, paired association learning and sequential or serial learning. Semantic memory was tested on five different measures, but the common feature was that each measure focused on vocabulary. The results found that subjects' scores on episodic memory tests were not correlated with their scores on semiotic memory tests. For example, subjects who recalled more words on the free recall test did not increase their vocabulary. This study clearly indicates that semantic memory is different from episodic memory.

Despite this distinction, there are some psychologists who do not consider the distinction between generic memory (i.e. semantic memory) and episodic memory to be valid or useful. Wickelgren (1981) opines that it is difficult for a person to recall an episode without understanding its meaning and relating it to other information. That is to say that what is being called episodic memory and semantic memory or general memory are not two seeds but one thing. McClosco and Santee (1981) and Vallee (Baddeley, 1976) have even claimed that even if generic memory and episodic memory are accepted as separate memories, then Psychologists will not have any special advantage from any point of view.

Motivation and Long-term Memory

Motivational states also have an effect on LTM. It is often seen that students are not able to remember the answer of any question correctly in the examination hall, but as soon as they come out of the examination hall, they remember the answer of the question completely. Why so? The high degree of arousal or stimulation of physiological states caused by the test hinders the retrieval of answers. This simple example makes it clear that LTM also has a motivational effect on retrieval. Psychologists have specifically studied the effects of the following two types of motivational states on LTM:

1. Long-term memory: - Many such studies have been reviewed by Eysenck (1976) in which the relationship between memory and arousal has been highlighted. Based on this review, Eysenck developed the hypothesis that if a person is in a state of high arousal at the time of recall, it can either improve or decrement can also happen. The advanced or inferior nature of the recitation depends on the nature of the text. Due to the state of high arousal, the person is able to choose only those responses stored in LIM which are easily available and those which are not easily available, the person is not able to recall or retrieve them. If a person is retrieving information from an easy text or task through the LIM, a state of high arousal will make it easier to retrieve the accumulated information. But if the person is retrieving some difficult text or information, the state of high arousal will create a kind of hindrance.

Brown & Kulik (1977) have specifically studied a special type of autobiographical memory called flashbulb memory. Memory is directly related to the state of excitement. Flash memory stores memories of situations in which a person first experienced surprising and emotionally arousing events. For example, let us assume that some time an official has been slapped on the face by his own peon. For both the officer and the peon, it will be a surprising and emotionally stimulating personal event, the memory of which will often come to life from time to time for both of them. The specialty of this flashbulb memory is that the information stored in it remains very fresh because the person often rehearses it mentally from time to time. But even then it is not as accurate as it is generally understood. An experiment by

Neisser (1991) has shown that the most striking feature of the episodic memory is that it tends to be inaccurate rather than accurate. In one of his studies, he asked students to tell how they first heard the news, just a day after a special space shuttle named 'Challenger' exploded. Three years later he was again asked the same question. Most of the students were confident that they had been able to tell correctly, but the fact was that about a quarter of the information they had given was wrong. Forgas & Bower (1989) theorized that this happened because the strong emotion that was present when the flashbulb memory of the event was being formed did not result in efficient encoding. . In the above example, after 5 years of the incident, if the peon is asked what color shirt the official was wearing on that day and which fingers of his hand had a ring, then he might not be able to tell the reason for that incident. The encoding of these information could not be done properly due to the intense emotional stimulus generated by the time. Brown & Kulik (1977) based on their study and review of the information in this area suggested that the two main determinants of flashbulb memory are the high level of surprise. and high level of emotional excitement or importance.

2. **Affect and memory**: - It is clear from many studies that affect or feeling has an effect on memory. In this connection, Zajonc (1980) first suggested that when a stimulus comes in front of a person, the person first has an affective reaction and later a cognitive reaction. For example, if you eat a new vegetable for the first time, you first make an affective reaction (the vegetable is good and tasty or the vegetable is bad or tasteless) and then you make a cognitive reaction that the vegetable has something to do with it. Part appears burnt. Jaynes also told that in both these types of reactions, the person remembers the affective reaction but forgets the cognitive reaction. Whatever the experience of pleasant or unpleasant arising from the taste of the vegetable (good or bad), you may be able to recall it even years later, but it is possible that the cognitive response at that time (eg, Some part of it can be seen burnt) you forget.

An early study by Yavus & Bousfield (1959) confirms Zajone's ideology. In this experiment, the subjects were given a paired associated list to learn. The stimulus term of this paired-associate list was a meaningless word and three types of words were used as the response term - pleasant word, unpleasant word and neutral word. Later the list was recalled. The results showed that although subjects were mostly not able to recall the actual response word, they were quite successful in telling whether the word was evoking a pleasant feeling or a sad feeling. For example, if the word 'trouble' was in the response item, they were able to tell that there was a sad feeling item, even if they did not recall it. Therefore, the person recalls the pleasant feeling better than the sad and neutral feeling.

Some psychologists have specially emphasized and studied an important aspect of affect and memory- whether the person remembers all those items and events in the same way. Which produces a pleasant feeling in a person to a greater or lesser extent? Highlighting this problem, Maltin & Stang (1978) stated that the person retrieves pleasant stimuli better than sad and neutral stimuli. He has also reported that the recall of high pleasant items is better than that of low pleasant items and he has called this the Pollyanna principle. Maltin and Stagg reviewed 52 studies in the area of LIM in which subjects recalled units and events that produced varying degrees of pleasurable sensations in the individual. In 39 of these studies, it was observed that the recall of more pleasant items was comparatively better. Explaining the reason for this, Maltin & Stang said that in LTM the person stores pleasant items in a place from where they can be easily retrieved. In fact, Paliana Corporation confirms this

psychological fact that. More positive information is easier to process than less positive and negative information.

It was found that LTM is influenced by the motivational states of the individual. In these states, a person's state of excitement and state of emotion are important.

A Comparative Study of LTM & STM: Differences

Comparative studies of the two main types of memory, SIM and LIM, have been done by many psychologists. Some Psychologists, on the basis of these studies, considered them as two different memory storage systems. His school of thought is called the dual-process theory according to this principle, While doing a comparative study of STM and LTM, the following differences have been highlighted-

1. The maximum duration of information in STM is 20 seconds, although some psychologists have considered this maximum duration to be 30 seconds as well. There is no such maximum period for the accumulation of information in LTM. A person stores any information in the LTM for the rest of his life.

2. The process of active and continuous rehearsal goes on in STM, otherwise the information entered in it starts to decay. In other words, as soon as information enters the STM, the person forgets such information if the person does not pay attention to it, or does not actively rehearse it continuously. Perhaps this is the reason why STM is also called active memory. But this is not the case with LTM. In LTM, such activation is not required, although it is a fact that in the beginning, a person has to make more efforts to accumulate information in LTM. But later it becomes a passive process in which information is lost due to passage of time or active interference by other information.

3. The storage capacity of STM is limited. Miller's famous myth (1956) According to the number (magical number), the storage power of STM is 72, that is, the size of STM at a time is limited to 5 out of 9 items like letters or numbers etc. It is true that the special circumstances. This storage power is increased beyond the said limit by chunking. Storage power of LTM is unlimited. There is no limit to the number of Ekanshi a person can accumulate. 4. The basis of forgetting that occurs in STM is often the destruction of memory symbols. This type of forgetting is called trace-dependent forgetting. Forgetting in LTM is often based not on the destruction of memory traces, but on the unavailability of suitable retrieval cues. In other words, LTM is characterized by memory accumulation in the absence of appropriate retrieval cues.

In this the person is not able to recall or recognize them. This type of forgetting is called cue-dependent forgetting.

5. The recall of information from STM is very easy as if it is happening automatically. The person is able to quickly recall the information stored in the STM with little effort. But the recall of information from LTM is a bit difficult and after a lot of suitable search, the person is able to accurately recall or recognize information from LIM. Perhaps this is the reason that sometimes a person is unable to remember the information stored in LIM in a particular situation even after wishing, but later they are automatically withdrawn without any effect. Psychologists have called this phenomenon the 'tip-of-the-tongue phenomenon' (tounge phenomenon) is said as if the information has come on the tip of the tongue but the person is not able to speak it.

6. Psychologists have tried to differentiate SIM and LTM on the basis of coding also. STM is heavily influenced by phonological or acoustic coding and this also leads to confusion and

forgetting. This fact is confirmed by the studies of Conrad (1964) and Wickelman (Wickelgren. 1965). In voice encoding, the units are stored on the basis of their similarity in sound like CAT, BAT, MAT, SAT, RAT etc. LTM is affected by semantic coding i.e. similarity in meaning of semantic units (eg, Great Big Tall etc.). Shulman's (Shulman, 1972) experiments showed that similarity in meaning of cues reduced recall from LTM, but had no effect on STM.

7. The recency effect is more pronounced on STM while the primacy effect is more pronounced on LTM. When the person is shown a list of items and asked to retrieve it, in such a situation he recalls the last few items of the list first because it is present in his STM. Such an effect is called the novelty effect. But he recalls the first few Ekanshis of the list a little later. Its quantity is not as much as that of the last few units of the list. This is called primacy effect. The reason for such a priori effect is apparently due to withdrawal from the LTM.

8. STM and LTM are also differentiated from each other on the basis of neurophysiological evidences. Some such proofs have been given by Milner (Milner. 1966), Milner, Corkin & Teuber (1968) and Warrington & Shallice (1969, 1970) which clearly show that STM and LTM are two such memory systems which are determined by different rules and principles. Milner wrote a famous case known as H.M. Addressed by surname, found that H.M. LTM was severely affected but STM was fine. His problem was that he was unable to transfer information from the STM to the LTM. H. M. was an epileptic who was treated by cutting off his temporal lobe. The disease was cured but the said memory loss (amnesia) had arisen in him. Warrington and Challis have presented an example of a person who has been addressed by the nickname of K.F in psychology. The person's STM was affected but LTM was normal. He could easily recall the experiences that happened earlier, but could not recall the experiences of a few seconds ago. K. E's left parietal lobe was damaged. It is clear from this evidence that STM and LIM are two different systems which are controlled and determined by different rules and principles.

It became clear that there is a difference between STM and LTM on many points. These points have been denied by some psychologists and it has been said that it is more appropriate to consider STM and LTM as two independent memory storage systems and not as two points of the same memory. The developers of this school of thought are Craik and Lochkart (1972). This approach is called the 'level-of-processing view'. According to this theory, the capacity and duration of memory depend on the depth of processing of information obtained after perception.

If the person is not able to process the information deeply, then it can remain in the memory for a very short time, which is called short-term memory. But when a person is able to process any information very deeply, then he can store it for a long time which is called long-term memory. But the resource level theory could not get much experimental support by many studies, as a result of which this uni-process theory of memory was not given much importance.

❖ **Methods of Measuring Memory**

1. Recall method
2. Recognition method
3. Relearning method
4. Reconstruction method.

These methods are described below-

1. **Recall method**: Recall method, also known as reproduction method, is the most popular method of testing memory. In this method memory is tested by recall. The person removes the previously learned subject or lesson from his front and recalls it by speaking or writing in his absence. The higher the amount of Pratyahwaan, the stronger and stronger the impression is considered. For example, when a person can correctly recall 90% of a previously learned lesson, we clearly say that the person had a strong memory for that lesson.

2. **Recognition method:** The basis of this method is recognition. In recognition, the learned lesson or subject is presented in front of the person by mixing it with some similar and new stimuli. If in reality the person is holding the previously learned lesson or topic, then he can easily identify this lesson or topic by separating it from the new lesson or topic. But if he is unable to identify the previously learned subject or text by separating it from the new and similar text, then it is said that the person had a weak memory. In this way, we see that in the recall method, the person recalls the original text or subject in its absence by speaking or writing it, while in the identification method, the person recalls the original text or subject by mixing it with the similar text or subject. is presented in front of the teacher and the person has to identify the subject learned earlier.

It is often seen that when a person is asked to identify old items or lessons learned earlier, he identifies some items by guessing. This type of speculation increases the recognition score, but this type of score does not actually test the memory. That's why psychologists have recommended correction to save the memory from this guessing success because only then it will be able to test the memory properly. For this, the corrected recognition score is obtained by subtracting the percentage of wrongly recognized units from the percentage of correctly recognized units. The formula to calculate the net recognition score is as follows-

R_ = (R/N, × 100) - (W/N, × 100)

Here,

R = corrected recognition score R = number of items correctly recognized

W = number of items identified incorrectly

N, = number of items in the previously learned list N = number of similar and new items

An example is as follows-

Suppose a person recites a list of 10 nonsense words and after that these 10 nonsense words are randomly mixed with 20 more new and similar nonsense words and are presented in front of him. Assuming for a while that he correctly identifies 8 nonsensical items and wrongly identifies 2 nonsensical items, then according to the above formula, the net recognition score (8/10X 100) - (2/20 × 100) = 80 % - 10% = 70%. This shows that the person was retaining 70% of the original list of nonsensical terms (a list of 10 terms) and has lost the memory of 30%.

3. **Relearning Method** – This method was propounded by Ebbinghaus and it is also called saving method. In this method, the person learns the text or items up to a fixed criterion. After some time, the person is again asked to learn the same standard up to which he had learned those units earlier. Retention is tested on the basis of trials or time or error made by the individual in relearning. For example, suppose a person takes 15 trials to learn a list of 10 nonsense words to the criterion of one errorless reproduction. After two days it is given to learn the same list again and this time he takes 11 tries. It is clear that 15 – 11 = 4 efforts are saved in re-learning the applicability. We can convert this saving into percentage using the

following formula. Saving Percent Original trials - Relearning trials x 100 Original trials. Thus 15-11x 100 =4/15 x100 =26.66%.

Here the saving score percentage is 26.66%. Since the saving percentage is less than 30%, it can be said that the person's memory was not very strong. Some psychologists have blamed the saving method by saying that in the time interval given in this method, a person can increase his capacity in some way or learn a new and more efficient method than before can adopt. As a result, the savings in relearning may be partly, if not entirely, due to increased skill rather than retention.

4. **Reconstruction Method** - This method is different from relearning method lots of similarities. In this method some time interval of previously learned unit or text are then presented in a random order in front of the person in a reversed order to the person. Those units are then reconstructed or rearranged in the same order or sequence is asked to do in the order in which he learned these units. In this method, the retention is checked by the number of rearranged units in the previous sequence. By converting this number into percentage, the retention score percentage is determined. If in a list of 10 nonsensical terms he can rearrange only 3 in the correct order, then his memory score percentage will be 3/10x100 = 30%. The higher this percentage, the stronger the person's memory is considered. Thus we see that psychologists have devised many methods to test memory. In these methods, recall method and recognition method are superior to other methods.

Experimental Studies of Memory

Memory is a broad term which includes both remembering and forgetting. Remembering is a positive aspect of memory. Recollection refers to bringing to consciousness the subjects and lessons learned earlier. Regarding the nature of memory, two types of viewpoints are prevalent among psychologists, which can be reviewed in the following way:

(a) **Ehbinghaus viewpoints** Ebbinghaus was the first psychologist to study remembering experimentally. In 1885, he explained the nature of memory in his book 'On Memory' [which was in German language and which was later translated into English by Roger (Ruger) and Charles], said that memory is a Reproductive mental process. This means that whatever we learn, we are able to recall it later in exactly the same form without any manipulation. In other words, the recalled materials are carbon copies of the previously absorbed materials. After learning, as time passes. There is a reduction in the amount of recall or reproduction, but the retrieved material is exactly a carbon copy of the previously absorbed material. This means that there is a difference in the quantity of withdrawal and not in its quality.

The above conclusion of Ewinghaus was based on an experiment in which he himself was both the subject and the experimenter. They constructed nonsense syllables and learned a list of nonsense syllables by the method of serial anticipation and tested the memory after different time intervals using the relearning method. done from As a result, it was found that the memory of the nonsensical words was present in the same form in which they were learned. No change of any kind has taken place in it, it must have been seen that the amount of memory decreased very quickly immediately after learning, but then later after long time intervals, the amount of memory decreased at a slow pace.

(b) **Bartlett's viewpoint** Since Ebbinghaus first experimental study on memory, his ideas greatly influenced later psychologists. For a long time it was used by psychologists in redundant terms and their idea that memory is a reproductive mental process was accepted. But an English psychologist first denied his idea. His name was Bartlett (1932) who

elaborated in his book "Remembering" that remembering is also called a reconstructive mental process. We do not recall later in exactly the same form but by making some changes in it, adding some new material while recalling on our behalf and removing some material from the old learned material. In this way, while recalling, the learned material is reconstructed or reconstructed in a way. Pointing out the error of Ebbinghaus view, he also said that in this way his conclusion was due to the following two reasons-

(i) Ebbinghaus tested his memory by learning him nonsense words. The very nature of a meaningless phrase is such that one has to reproduce it exactly at each recall. If they had used meaningful material, then this type of conclusion would not have come.

(ii) Ebbinghaus himself was both the experimenter and the subject in his experiment use them as users

1. Nonsense syllables were first introduced by Ewinghans. Such words are made up of three letters in which the middle letter is a vowel and the adjacent letters are consonants. Such posts have no meaning. Like, (LOC: ZAL) etc. knew the hypothesis. This is the reason why he reproduced the dry posts as useful.

Bartlett's idea that memory is a reconstructive mental process is based on some of his own experiments. He basically used two methods i.e. method of serial reproduction and method of repeated reproduction in his experiment. Many experiments have been done by Bartlett which can basically be divided into two parts-

(i) Experiments related to stories—In some of his experiments, Bartlett got a reproduction of a story done by different subjects after different time intervals and in some experiments only one could be used. subject) to reproduce the same story at different time intervals. Bartlett included a variety of stories in his experiments, the most popular of which was The War of the Ghosts. In some experiments this story was narrated to a subject. He told that story to the second subject, the second subject, the third subject, the third to the fourth, and so on to many subjects at different time intervals. This method is called the method of serial reproduction. In some experiments, he gave the same story to several subjects to be read separately and made each subject recall the same story at different time intervals. He called this the repeated reproduction method. With both of these methods, Bartlett collected and analyzed many reproductions of the story.

(ii) Experiments related to figure drawing Bartlett did a very popular experiment related to figure drawing with the help of method of serial reproduction. In this experiment, a subject was shown a picture of an owl for some time and was then asked to draw it from memory. This drawn picture was then shown to the second subject for some time and removed and he was asked to draw it from memory. Then this drawn picture was taken away after showing it to the third subject for some time and he was asked to draw it from his memory. In this way many reproductions of the drawn pictures of owls were obtained. As a result of this experiment, it was observed that the original picture of the owl appeared in each reproduction. Gradually changed and in the 10th reproduction it changed to cat. Basically on the basis of Bartlett's story-related experiments and picture-drawing experiments, we come to the conclusion that when a person does recall or reproductions of previously seen pictures and learned stories, So he changes the basic subject according to his need, interest, attitude and habit. He adds some new things to the original subject and leaves some things of the original subject. According to his language habit, he makes the basic subject more simple, attractive and spicy. Bartlett thus suggested that the recall of a learned subject is affected not only by the

subject itself, but also by the person's current mental state and the mental project that reorganizes the original subject in a particular new way. is also affected by This kind of mental state and mental planning is termed as schema or schemata. This type of schema removes the detailed description of the original subject, leaving only the main points, although in the experiment of drawing drawings, he found that by the 10th reproduction, the original picture (owl) had completely changed to a cat. The picture of Bartlett, based on his various experiments, came to the conclusion that memory is a reconstructive process, not a reproductive mental process as Ebbinghaus had suggested. In Bartlett's own words, it can be said that memory is not the reexcitation of different definite memories. It is a hypothetically creative and reconstructive process. Recollection of subjects learned by rote is seldom exact.

Bartlett's idea has also been supported by some modern experiments. For example, Bansford and Franks (Bransford & Franks, 1971) have done many experiments. In their experiments, these people read out several sentences to the subjects. All the sentences were related to each other. On the basis of these sentences, he himself rendered some complex ideas. Later, when some sentences related to this complex idea were put before him, he immediately recognized it and said that this sentence is related to such and such a complex idea. None of them said that this or that sentence was related to the sentences narrated in the beginning (though the sentence was related to that also). According to the experimenters, the person had initially stored many sentences heard not exactly but in a new way as a complex idea and later he recalled the same idea and not separately of sentences.

Although Bartlett's view that memory is a reconstructive mental process is widely accepted, yet it has been criticized by some who are as follows-

(i) Bartlett's experiment suggests that The qualitative changes that take place in the original subject are the result of changes in the storage of memory or some are the result of processes that lead to retrieval or recall.

(ii) Some psychologists say that manipulations in reproductions on the basis we say that the person already has a special mental project (mental planning) (called the schema) that led to such additions and subtractions. These critics say that Bartlett has not given any method on the basis of which reproduction can be achieved by controlling the schema (reproduction) can also be controlled. Despite these criticisms, the acceptance of Bartlett's idea is still more than that of Ebbinghaus. So we come to the conclusion that it is correct to consider memory as a reconstructive mental process.

❖ **Forgetting**

Forgetting is a negative aspect of memory. Dard (Geldard, 1963) has considered forgetting as a negative memory. When we lose the previously learned experiences for some reason, it is called forgetting. Whenever we learn a subject or lesson, we hold it in the brain in the form of memory traces. When the memory traces become weak or disappear, we cannot recall the previously learned experiences and we say that it has been forgotten. In this way, we can say that forgetting is a process in which a person is not able to remember the previously learned experiences due to the loss of memory marks. But the truth is that psychologically forgetting has an incomplete meaning because sometimes it happens that a memory of a learned lesson is formed.

1. "Remembering is not the reexcitation of inumerable, fixed, lifeless and fragmentary traces. It is an imaginative reconstruction or construction.... It is thus hardly very really exact, even in

the most rudimentary cases of rote –Bartlett.

That is, we are carrying those experiences, yet we are not able to recall or recognize them. But as soon as some cues related to that text called retrieval cues are given, we retrieve them. Therefore, while defining forgetting, it can be said that forgetting is such a mental process in which a person is unable to recall or recognize previously learned experiences or lessons. This inability may be due to the loss of memory cues or the absence of appropriate retrieval cues.

When forgetting is due to actual loss of memory traces, it is called trace-dependent forgetting and when forgetting is not caused by loss of memory traces but by recall in the absence of some important cues, it is called cue dependent forgetting.

There are two main views or schools of thought among psychologists about the nature of forgetting. The first theory is that of Ebbinghaus who conducted the first experimental study on memory and forgetting in 1885 and suggested that forgetting is a passive mental process. The second school of thought is that of other psychologists, including Melton (Melton, 1940), Muller and Pilzecker (Muller & Pilzecker, 1900), Magoo (Mc Geoch, 1932) and Jenkins and Dallenbach (Jenkins & Dallenbach, 1924) etc. These psychologists say that forgetting is not a passive mental process but an active mental process. The explanation of these two ideologies is as follows-

1. Forgetting is a passive mental process. Ivighans made an experimental study of forgetting. In this study, he self-taught several lists of nonsense syllables and tested his memory at different time intervals, such as 20 minutes, 1 hour, 1 day, 2 days, 3 days, 4 days, Done on 5 days, 8 days and 30 days. In his experiments, he found that as time passes after learning, the passively formed memories in the brain automatically become weaker and weaker and with it the amount of forgetting increases. amount of forgetting) also increases, although the rate of forgetting decreases. The change in the amount and rate of forgetting with the passage of time has been shown by Ewinghaus by a special curve called Forgetting curve or Ebbinghaus curve.

Thus, according to Ewinghaus, the main reason for forgetting is the passage of time after learning. With the passage of time, there is a gradual decay in the memory marks and accordingly the degree of forgetfulness also increases. Ewinghaus found in his experiment that after 20 minutes of learning, he remembered only 44.2% of nonsensical terms, that is, he forgot 100% - 44.255.8%. Similarly, after one hour 64.29% forgot, after one day 66.3% forgot, after two days 72.2% forgot and after 30 days they forgot 79%. It is clear that with the passage of time the amount of forgetting increased although the rate of forgetting decreased. The forgetting rate in the first 20 minutes was 42.2%. After one hour the rate was 64.2% - 42.2% = 20% and similarly by day two and day 30 it was only 799% 72% 6.8.

2. Forgetting is an active mental process: Nowadays psychologists have proved that Ivighans's idea is not correct. The results of these people's experiments made it clear that the passage of time is not the cause of forgetfulness. Jenkins and Dallenbach (1924), Muller and Pilzecker (1900) and Melton and Irwin (Melton & Irwin, 1940) in their experiments clearly found that after learning The passage in itself is not the cause of forgetting, but the time interval when the person does some other work or learns some new lesson.

Because of this he forgets the original task. When a person learns a new text in a time interval, the memory traces generated by it gradually weaken the memory mark generated by the learning of the previously learned text i.e. the original text and the person forgets that original text. Therefore, forgetting does not happen passively with the passage of time, but when a

person actively learns a lesson in that past time, it leads to forgetting. Many experiments can be cited in support of "forgetting is an active mental process".

But as an example here the experiment done by Jenkins and Dallenbach (Jenkins & Dallenbach, 1924) is being mentioned. In this experiment there were only two subjects and they were urged to sleep at night in the psychological laboratory itself. Both these subjects were taught a list of 10 nonsense words in the morning and a list in the evening. During the day, after studying the list, he used to go to his class where he used to talk with his friends and listen to the teacher's speech. Not only this, he also used to study other books by going to the library. But after 1 hour, 2 hours, 4 hours and 8 hours of learning, he himself used to come to the laboratory and recall the list prepared in the morning. In the evening they rested after learning the list and went to sleep at night. But the experimenters used to wake them up from sleep at different times i.e., 1 hour, 2 hours, 4 hours and 8 hours after learning the list and took the recall of that list. As a result, it was observed that the recall made by the subjects during the day was less than the recall made during the night, that is, the amount of forgetting during the day was more than the amount of forgetting during the night. Jenkins & Dallenbach (1924) explained this result by saying that this happened because the subjects performed many tasks during the day after learning the original list in the morning. For example, the speech of the teacher was heard by the students, the book was read in the library, etc. Most of these students learned something and the memory generated from it diminished the memory of redundant items in the list, which increased the amount of forgetting. At night, since he used to fall asleep after learning the verses of the applicable list, he did not learn any other lesson. So the amount of obliteration in the night was very less. If the cause of forgetting were simply the passage of time after learning, then the amount of forgetting would have been equal in both conditions because the duration of time was equal in both the night and day conditions. Recently, Ekstrand (1967) also conducted a similar experiment and found that the amount of forgetting in the waking condition was higher than the amount of forgetting in the sleeping condition. McMue (Mc Geoch, 1942) and Melton & Irwin (Melton & Irwin. 1940) who based on the results of their experiments have confirmed the statement that after learning, forgetting does not happen automatically by the passage of time but when it If a person learns some new lesson or learns some new work in a time interval, then the fundamental subjects are forgotten.

In this way it can be said that forgetting is not a passive mental process as Ebbinghaus initially said. Nowadays the general consensus among psychologists is that the forgetting of the original subject is the result of absorbing some new subject after that subject. So it is an active mental process. Finally, it can be said that the facts that have come out from the experimental studies of memory are that both its aspects, that is, the nature of memory and forgetting, are very clear and today they are also emitting new researches.

Oblivion curve or Ebbinghaus curve (Forgetting Curve or Ebbinghaus Curve)

Among the psychologists who have done experimental studies in the field of forgetting, the name of Ebbinghaus is still the most popular. He invented nonsense syllables and experimentally studied forgetfulness with the help of these nonsense words. He said that it is appropriate to study forgetting with the help of redundant terms because such terms are not related to the past experiences of the person and at the same time, they do not have emotional importance for the person.

Ebbinghnus learned several lists of nonsense syllables such as KEL, TUP etc. He learned a list

completely and carefully wrote down the time it took. Then relearn the same list at specific time intervals and this time also write down the time taken for learning. Memory was tested on the basis of fundamental time i.e. the difference between the time taken for first learning and the time taken for later learning. For example, if it took 16 minutes to learn the list first and only 8 minutes to learn it after an hour, it means that the retention of the list was 168 = 8 i.e. 50% and the remaining 50% was forgotten. . In this way he learned several lists one after the other and his memory was tested at different time intervals by relearning method. After examining the memory of lists by Ebbinghaus, a general conclusion was reached on the basis of which he prepared a curve called forgetting curve or Ebbinghaus curve which is shown in Fig. 5.1. has been shown. The figure shows the percentage of perception scores obtained by them after different time intervals of learning. According to this curve the percentage retained after 20 minutes, 1 hour, 1 day, 2 days and 6 days of learning was 44.2%, 35.8%, 337%, 27.85 and 25.4% respectively which means that the percentage of forgetting forgetting) were 55.8%, 64.2%, 66.3%, 72.2% and 74.6% respectively. Although not shown in the curve, after 31 days the retention of Ewinghans was 24% i.e. 76% was forgotten. If the oblivion curve of Ivighans is analyzed properly, we get the following two facts from it-

(i) The rate of forgetting is rapid immediately after learning. Paying attention to the forgetting curve, it becomes clear that after the first 20 minutes, only 44.2% of the retention was forgotten, that is, 100% 44.2% = 55.8%. As time passes, this rate of forgetting slows down. For example, the rate of forgetfulness on the second day was 72.2% 66.3% 5.9% compared to the first day, the rate of forgetfulness on the sixth day was 74.6% 72.2% 2.4% compared to the second day, and the rate of forgetfulness on the 31st day compared to the sixth day was 76% = - 74.6% was 1.4%. It is clear from these data that the rate of forgetting is very fast immediately after learning, but as time passes, this rate slows down. This is the reason why the decline in the curve is rapid in the beginning, but after a very slight decline, the curve moves forward.

(ii) The amount of forgetting increases as time passes after learning. It is clear from the curve that after 20 minutes, 1 hour, 1 day, 2 days and 6 days of learning, the percentage of retention is 44.2%, 35.8%, 33.7%, 27.8% and 25.4% respectively, i.e. the percentage of forgetting is 55.8% respectively. %, 64.2%, 66.3%, 72.2% and 74.6%. But some psychologists are of the view that forgetting of all kinds of learning explained by Ebbinghaus is not the same as the forgetting curve. Mednick and his colleagues (Mednick et al., 1975) have shown in their study that the subjects in which overlearning is done.

Both the rate and the amount of forgetting differ from the Ebbinghaus forgetting curve. Often the grasp of such subjects increases instead of decreasing with the passage of time. When retention automatically increases instead of decreasing with the passage of time occurs, it is termed reminiscence by Ward (1937) phenomenon of memory.

In both, i.e. learning of verbal materials and learning of motor skills but comparatively more so in learning motor skills. According to Osgood (Osgood, 1953) children have more memory than adults. Although the results obtained in the experiment by some psychologists are contrary to the facts stated by the forgetting curve of Ewinghans and do not even support it, yet even today, Ewinghans's forgetting curve is widely accepted. It is an important incident which gives us a clear glimpse about the real nature of oblivion.

Motivated Forgetting

"Motivated forgetting is the forgetting that is believed to be based on the upsetting or

threatening nature of the information that is forgotten." –Lahey

A person forgets some experiences of his life for special reasons, especially because of their scary or frightening nature. Such experiences are called traumatic experiences. Abhi Anubhavas can be originated due to some natural causes like earthquake, accident etc. or it can also be due to some sad things arising in normal interactions. Whatever may be the reason, one wants to protect oneself from such experiences and in this effort one tries to forget them or is motivated to forget them. This type of forgetting is called motivated forgetting, which has been a strong supporter of Sigmund Freud. Lahey (Lahey, 1995) has defined motivated forgetting as follows. "Induced forgetting is forgetting that is perceived to be based on threatening and disturbing information that has been forgotten." Psychologists have described several types of motivated forgetting, which include the following:

The main ones are –

(i) **Suppression**: Suppression is such a purposeful forgetting in which a person consciously and actively tries to exclude traumatic experiences from his mind, but the person remains aware that traumatic events have occurred aware of

(ii) **Repression:** It is such a purposeful forgetting in which all traumatic experiences are removed unconsciously from the person's mind and the person is not ready to believe that any sad events or traumatic experiences had ever happened. . In amnesia that is not caused by brain damage or psychological trauma, it may also be caused by repression, leading a person to forget painful memories of his life.

Psychological studies have shown that motivated forgetting is more commonly used by individuals to cope with painful feelings than other methods. According to Linton (1979) and Meltzer (1930), it is a natural tendency to forget the sad memories of life and remember the happy events. Linton himself was useful in this experiment. In this study, every day from 1972 to 1977, all the major events that happened in their lives were written on separate cards. During this 6-year period, she wrote down about 5,000 events from day to day. Each month, Linton spent about 8 to 12 hours to test her memory of these events. As a result, it was seen that her memory for these events was very good. . She was able to correctly recall up to 95% of incidents that happened about two years ago and up to 70% of incidents that happened about 5 years ago. The most important thing in this result, from the point of view of motivated forgetting, was that she had forgotten these events. Among them Most of the information was stressful, threatening and disturbing. This is probably the reason why they continued to have depressed feelings for a few days after the testing session. Week (Bock, 1986) and Week and Klinger (Bock & Klinger, 1986) conducted experimental studies of motivated forgetting. The results of his studies were almost similar to those of Litton. In these experiments, subjects were shown a list of words and asked to recall them later. As a result, it was seen that the subjects recalled words with positive emotional effect more than words with negative emotional effect and were able to recall very little words with neutral emotional effect. This study not only supports motivated forgetting, but also shows that recall can be enhanced by any kind of emotional influence that Brown and Cook (Brown & Cook, 1977) have termed it as flashbulb memory.

Determinants or causes of forgetfulness

Psychologists have given many reasons for forgetting. Many such factors have been discussed by these people which affect forgetting. Some of these factors are related to the nature of the subject being learned and the method of absorption, some are related to the learner himself,

and some are related to factors occurring in the retention interval. In this way we see that there are many determinants of forgetting which psychologists have basically studied by dividing them into the following three categories-

1. **Factors related to learning:**

The question of forgetting any subject arises when it has been learned earlier. It is therefore natural that the degree of forgetting is influenced by factors related to the learning of a subject. Some of the major factors are listed below-

(i) Nature of learned materials - Generally, the nature of the subject to be learned can be meaningful or meaningless. Psychologists have clarified this on the basis of their experiments. That when the subject to be learned is meaningless, in such a situation it takes more trials to absorb it and at the same time it is forgotten quickly. Guilford (Guilford, 1934) found in his study that it took an average of 20.4 attempts to learn 15 nonsense words, while it took an average of 3.5 attempts to learn 15 words. Kingsley and Garry (Kingsley & Garry, 1957) have shown on the basis of their study that not only does it take more effort (trial) to learn meaningless posts or subjects, but the person forgets such subjects sooner than meaningful subjects. . Two main reasons have been given for this. First, because a person learns by rote rather than understanding useless subjects. As a result, the memories are not as strong and pure as the memories of meaningful subjects can be. When the memory mark is weak, then naturally it cannot be retained for long and it is forgotten quickly. Secondly, a person neither has any interest in meaningless subjects nor can a person establish any meaningful associations with them. The result of all this is that the person quickly forgets it.

Based on the above description, it was concluded that a person forgets meaningful topics less than meaningless topics, but it is not necessary that all meaningful topics should be forgotten at the same rate. Some meaningful topics can be pleasant for the person and some meaningful topics can be unpleasant for the person. Carter (1939) has shown in an experiment that a person forgets sad words faster than pleasant words. In this study, 100 children of classes 6 and 7 were given happy words, sad words and neutral words and were asked to associate each word with a stimulus word. After 6 months, the stimulus word was given to the children and they were asked to tell the root words related to it. As a result, it was seen that the pleasant words were recalled more than the sad words. In other words, Sad words were remembered more than pleasant words. Jergild (Jersild. 1931) conducted another study in which 51 students were asked to recall the number of happy and sad experiences they had experienced during the past three weeks. The results showed that there was 45% recall (i.e., 55% forgetting) of pleasant sensations and 31% recall (i.e., 79% forgetting) of sad sensations. That's why we tend to forget the sad feelings more than the pleasant feelings. In psychology this is called the Pollyanna principle. Thus, according to Pollyanna's law, since the processing of pleasant sensations is more efficient and realistic than the processing of sad sensations, the person tends to elicit more pleasant sensations than sad sensations.

Some psychologists are of the view that the nature of the subject to be learned can be more vivid (move vivid) and less vivid (less vivid). The difference in this vividness also affects the amount of forgetting. Buskrik, 1932) conducted a study in which subjects memorized a list of two meaningless items. Each had 9 items. All items in the first list were written in black ink on white paper in the same letters. All items in the second list were The items were written in the same manner on the same white paper with the same ink but one item was written in red ink in capital letters on a green background. It was done after a week. It was seen in the result

that the amount of erasure of the posts of both the lists was more but the post written in red ink was not forgotten by any of the experimenters. The reason for this was that this post was more clear than the other posts. (vivid) was made and placed in front of the usability.

(ii) **Degree of learning** –
Learning more than the number of trials required to learn a subject is called overlearning and less effort than the required number of trials. The learning is called underlearning. When a subject is learned with more efforts than required, then its memory is strengthened because the memory marks formed from it are very strong and strong. As a result, it is forgotten with delay. On the other hand, if a subject is learned with less effort than required, its memory footprint is weak. As a result, his memory is also weak and the person quickly forgets such subjects. Hilgard (1967) found in his study that when a list of 13 nonsense words was underlearnt, the person forgot 62% of it after 5 minutes. But if his list is learned in large quantities, then after 5 minutes the person forgets only 20%. It is clear in this study that the amount of forgetting is less when the amount of learning is high.

(iii) **Length of the learned task**
The length of the learned task has a direct effect on memory and then it also affects forgetting. The retention of long topics is more than that of short topics because a person repeats long topics again and again. As a result, the forgetting of the long subject is delayed than the forgetting of the short subject, Ebbinghaus has clearly confirmed this fact in his experimental study. He found from his study that the forgetting of a list of 36 nonsensical items is only 42% after 24 hours, while the forgetting of a list of 12 nonsensical items is 65% after 24 hours. Homeland (Hovland, 1951) has also confirmed Ewing's result by his own experiment. Woodworth (1938) also found in his experiment that if a small list and a large list are learned by giving equal number of trials, then the forgetting of the items of the large list is equal to the amount of forgetting of the items of the small list. is less than.

(iv) **Methods of learning**
If the method of learning is wrong and inappropriate, it also leads to forgetting. According to Whittaker (1970) some special Barring circumstances, the retention of the subject learned by distributed method and part method is made for a longer time because the memory generated by it is more strong and strong. As a result, one does not forget such a lesson or subject very quickly. If a person learns a long subject in a non-stop method, then the forgetting of such a subject is rapid because in this method, the memory marks generated by the learning of the lesson or subject learned in this method do not become more strong and his memory becomes weak. Is. Psychologists have also found in the same way that when a person learns a subject by the intentional method, it is forgotten more slowly than when it is learned by the incidental method. In the same way if a person learns by passive method rather than by active method, then his forgetting also happens fast.

(v) **Serial position of items**
Psychologists have done some experiments which have shown that forgetting is also affected by the position of items in the list. Ward (1937) conducted an experiment in which the subject learned a list of 12 nonsense words and checked their retention by the recall method. As a result, it was found that those units which are at the top of the list. The holding is strongest,

the units at the bottom of the holding list are less strong, and the units in the middle of the holding list are weakest. Explaining the reason for this, Ward has said that the nonsensical terms coming in the upper part of the list enter the brain first and the memory generated from it gets more opportunity to be strengthened. The posts coming at the end of the list get less chance to consolidate. The memory traces of the terms coming in the middle of the list are greatly suppressed by the memory marks of the first terms and the end terms. As a result, their perception becomes the weakest. This is the reason that the memorization of the items in the upper parts of the list is very less, the items in the last parts of the list are slightly more forgotten and the items in the middle of the list are forgotten the most. Homeland (Hovland, 1940) and Hull and his colleagues (Hull et al., 1940) have also confirmed this statement of Ward by their experiments.

(vi) **Retrieval Inhibition** —

A major cause of forgetting is retrieval inhibition which is a different concept from retroactive inhibition when a person recalls information stored in memory. , then he is able to recall the target items but at the same time it creates an inhibition about those items which he is not recalling. As a result, it becomes difficult for the individual to recall these units in the future. This is what is to be termed as retrieval inhibition. For example, when a person withdraws any 20 names from the list of names of 30 places, along with this, a barrier automatically arises in relation to the withdrawal of the other 10 names, which makes their withdrawal difficult in the future. Is. The validity and validity of the phenomenon of retrieval inhibition has been clearly tested in the experiments conducted by Anderson, Bjork & Bjork (Anderson, Bjork & Bjork. 1994) and Anderson & Spellman (1995).

2. Factors related to retention interval Some such reasons of forgetting have also been told by psychologists which are related to the factors occurring in the retention interval. The interval between learning a topic and checking its retention is called retention interval. Following are some of the main reasons that occur during this holding period, which affect the forgetting.

(1) **Retroactive inhibition** –

When a person learns a new text in the retention interval, its effect is read on the memory traces generated from the learning of the original subject. The result of this effect is that the memory traces of the original subject become weak and they are forgotten.

It happens. Therefore, the inhibitory effect produced in the retention of the original subject learned by subsequent absorption is called dorsolateral inhibition. Underwood (1965) has defined retrospective inhibition as, "The reduction in the perception of the original subject by the second type of learning that occurs between the original learning and the test of its retention is called the retrospective inhibition." For example, when we learn topic 'A' and then learn topic 'B' and again recall topic 'A', then the memory traces generated by the learning of topic 'B' will help us to learn about topic 'A'. There is obstruction or interference in the retrieval of memory marks. This type of inhibition is called retroactive inhibition or retroactive interference. It is called retroactive because it interferes with the recall of subjects learned before the interfering task. I went.

(ii) **Proactive inhibition**

Proactive inhibition is another important factor in forgetting. When we recall a lesson or subject after learning it, then at that time some subjects or lessons which were learned before that subject or lesson also get obstructed. This type of interference or inhibition is called

proactive inhibition. Houston (1976) has defined anticipatory inhibition in this way, "When the influence of a previously learned subject proves to be an obstacle to the recall of another learned subject, it is called proactive inhibition." inhibition) is termed." In the experimental condition, two conditions are taken to study visual inhibition - one controlled condition and the other, experimental condition, in the controlled condition by giving rest to the experimenter and then absorbing a subject. is given and later its retention is checked. In the experimental phase, the application is to absorb a subject at the place of rest and immediately after that he learns another subject and again the retention of this second subject is checked. Generally, the amount of forgetting in the experimental condition is greater than the amount of forgetting in the control condition, which is due to proactive inhibition (PI). This can be expressed in terms of design as stages:

(interpolated learning) (original (Conditions) controlled condition experimental stage

implicit learning subliminal learning memory interval (recall) withdrawal.

In the experimental condition, the amount of PI i.e. the amount of forgetting is high because the subject learns list 'B' before absorbing the original subject (list "C"). The terms learned by List 'B' hinder the recitation of the terms in List 'C'. In the controlled condition, before learning the basic list 'A', one does not learn the list but rests. Hence, the amount of oblivion or PI is less in it. Many psychologists have shown on the basis of their experiments that the amount of PI depends on the amount of text or subjects learned before the learning of the original subject. Greenberg and Underwood (Greenberg & Underwood. 1950) did an experiment in which a list of 10 adjectives to be used was learned and asked to recall them after 48 hours. Immediately after that, the same application was taken from another list of 10 adjectives and it was recalled after 48 hours. Similarly the subject learned two more lists and their recall was taken after 48 hours each. The results showed that the return of the first list was 69% while that of the fourth list 25 happened. It is clear that the first list was forgotten by 31% while the fourth list was forgotten by 75%. This is because the subject had learned three more lists before learning the fourth list. Like RI, PI is also affected by similarity of subjects, degree of learning and temporal factors. Slamecka (1961) As the time between the original list and its retention test increases. The amount of forgetting i.e. the amount of PI also increases in the same way. found in his study that.

"Retroactive inhibition refers to "decrement in memory of a task as a consequence of other learning coming between original learning and memory test." -Underwood: Experimental Piychology. 1965, p. 633 2. "Proactive inhibition refers to losses in our ability to remember a given set of materials that may be attributed to the interfering effects of previously learned materials Houston The Prychology of Learning 1976

3. **Factors related to learner**

Psychologists (forgetting. There are also some such reasons which are related to the person learning the lesson or subject. Some of such major factors are given below-

The Oblivion

(1) **Health** The amount of forgetfulness is affected by the health of the individual. If a person lives often, his health also deteriorates. The result of this is that the person is not able to hold the memory trace generated from the learning of a lesson for a long time. As a result, he forgets the learned easily. If a person's health is good, then he has more ability to keep the memory marks. As a result, he is not easily forgotten.

(ii**) Forgetting is also caused by mental set or expectation**. It has been observed that when a person is given a certain amount of time to retrieve a previously learned subject, the retrieval is very good, that is, the amount of forgetting is very low. On the other hand, when a person is asked to recall a previously learned subject suddenly, that is, at a time when there is no mental tendency or expectation to recall, then He is not able to recall it properly. As a result, the desiccation increases further. This is confirmed by an experimental study by Gayer (Gayer. 1930). In this experiment, he found that 8% forgetting occurred when the subject was suddenly asked to recall a previously learned subject before the expected time, and 17% more forgetting occurred when the subject was recalled after that expected time.

(iii) **Emotional factors**: At the time of recalling the learned subject, the emotional state of the person also affects it. If the person is more anxious at that time due to some reason. When Ira is agitated and nervous, then naturally his withdrawal is not much and the amount of forgetfulness increases.

(iv**) Motivational factors** The extent of forgetting also depends on the motivational state of the person. Often there is some motivation behind doing some work or learning a lesson or subject. When a person learns a work completely, then his motivation and interest ends. As a result, after some time when he tries to recall these topics, he finds that he has forgotten many parts of the topics. On the other hand, when a person leaves a work or subject in the middle for some reason without learning it completely, then the motivation, tension and interest hidden behind it remain intact. Such motivation and tension keep the person's memories alive. As a result, a person does not forget such a subject or lesson. It is meant to say that a person is not able to retain the memory marks generated by learning a subject completely or completing a task for a long time, while learning incompletely or completing a task is not possible. The memories produced by it remain in the brain for a longer period of time, as a result of which the person does not forget such tasks or subjects quickly. Therefore, the person experiences the experiences arising from the completed tasks with the experiences arising from the incomplete tasks. Experiences of complete task are forgotten sooner than experiences of uncomplete task. A Russian female psychologist named Zeigarnik was the first to prove this experimentally.

It is known as Zeigarmik effect. In this way we see that psychologists have divided the causes of forgetfulness into different categories. Among them, the attention of psychologists has been comparatively more on retroactive inhibition, visual inhibition and factors related to learning.

Retrieval Failure

It is often observed that a person feels that he is certain of a sensation, stimulus or event, but is unable to retrieve that sensation or information. This type of forgetting is called retrieval failure by psychologists.

Dulbagh (Tuving. 1974) on the basis of his studies has shown that in retrieval failure forgetting the person actually fails to locate the required or desired information. Such information is stored in long-term memory but the individual is unable to retrieve it since it is localized. Dulbhag (Tulving. 1974) clearly found in his studies that if the subjects were able to retrieve what they thought they were serves as an important retrieval cue and when given, the person retrieves the information associated with it.

Mistake A common type of retrieval failure is called the tip-of-the-phenomenon, which was first named by Brown and McNeil (Brown & Me Neil, 1966) in their study. It is a phenomenon in which a person feels that he is able to remember information or sh or first

letter or last letter of a name but not the whole word or name. Obviously here the word or name is literally on the tip of the person's tongue but he is not able to recall or retrieve it. The jaw-tip phenomenon is significant because it is consistent with the fact that long-term memory is permanent. In other words, it can be said that all the information that was stored in long-term memory, all of them are present there but they cannot be retrieved all the time. The tip-of-the-tongue phenomenon also suggests that retrieval is not an all-or-none process, meaning that individuals are able to recall only a small amount of target-related information during retrieval attempts.

It became clear that retrieval failure is a form of forgetting and that the tip of the tongue phenomenon is directly related to such failure.

❖ **Theories of Forgetting**

Psychologists have propounded different theories to explain forgetting, in which

1. Decay theory or Disuse theory
2. Perseveration-consolidation theory
3-Interference theory
4. Two-factor theory

Decay theory of Disuse theory

The oldest theory to explain forgetfulness is the Decay theory, which is also called the Disuse theory. This theory was propounded by Ebbinghaus in 1885. The basic fact of this theory is that by learning a subject, there are some physiological changes in our brain which are called memory traces. As time passes after learning, these memory traces fade away. (decay) happens on its own. The basic reason for this decline is the disuse of the lesson or subject learned in the elapsed time interval, that is, it is not repeated. become impaired and consequently memory becomes weak and forgetfulness of the learned text occurs. In short, according to this theory, after learning, as time passes, the person passively forgets it. .

This theory of Ebbinghaus was a very effective and important theory of its time. But as new research and experiments were done, it became clear that the passage of time in itself is not the reason for forgetting. Following are the major criticisms of this theory-

(i) Muller and Filzecker (1900) clearly stated that the reason for forgetting is not merely the passage of time after learning. When a person learns a new subject during this time interval, due to this the memory traces of the previously learned subject become weak and we forget them. Such a process in which interference from a later learned subject causes the forgetting of the original lesson is called retroactive inhibition. Later, Jenkins and Dallenbach (1924) have confirmed from their experimental study that the reason for forgetting is not actually the passage of time, but the learning of some new lesson or subject in this past time. Obstacle (interference) happens.

(ii) The facts found in the study of extinction also come against the decay theory. In the process of extinction, the stimulus is presented in front of the animal and it also responds. But reinforcement is not just given after the response is given. In the study of extinction, the stimulus-response process (S-R process) is repeated again and again, yet the stimulus-response connection becomes weaker. According to the disuse theory, this relationship should have been strengthened instead of weakened, that is, it should not have been a gradual forgetting because the stimulus in the time interval. The response is being used instead of

disused.

(iii) The phenomenon of spontaneous recovery and reminiscence also lends credence to the disuse theory. Both these phenomena are such that with the passage of time, retention increases rather than decreases, although the subject learned in this time interval is never repeated. In such a situation, according to the principle of disuse, forgetting of the learned subject

It was necessary, not that there should have been an increase in its holding. Keeping the above criticisms in mind, we come to the conclusion that the passage of time is not the cause of forgetting. Hence the disuse theory is an inadequate theory. Hulse, Egeth & Deese (1980) have rightly said, "we conclude that the complete. The disuse theory is inadequate to explain.

"We conclude that disuse theory is inadequate as a complete explanation of forgetting." - Hulse, Egeth & Deese: The Psychology of Learning. 1980 p.

This theory has received the support of interpretation from the experiments of Incan (Duncan, 1940). In this experiment, two groups of old people were taken – one experimental group and the other control group. studied the effects of an electro-conclusive sho on the avoidance learning of the rat. This electro-shock has two main characteristics. A kind of comatose state is produced in which the neural activities are negligible. The second feature is that this type of electric shock destroys the memory traces which are in the state of perseveration. but it has no effect on the memory that has undergone consolidation. During training, after each trial, the rats in the experimental group were given different time intervals (correct response). An electroconvulsive shock was given after each trial (after making a correct response), either 20 sec, 40 sec, 1 min, 4 min, 15 min, 1 h, or 14 h after each trial. This type of trauma to the control group of rats was not given. The results showed that the longer the delay of the electric shock was given, from 20 seconds to one hour, the faster the learning process took place. But over a period of 1 to 14 hours, the learning process occurred at the same rate as in the control group. This study makes it clear that the consolidation process in rats is completed in as little as one hour. As stated above, this type of electric shock has no effect on consolidated traces. Perhaps this is the reason that after 1 hour there was no difference in the learning process done by the mice of the experimental group and the control group. Later, Chorover and Schiller (Chorover & Schiller, 1965) and McCath (McGaugh, 1966) also obtained the same result as Duncan (Duncan) by giving electroconvulsive shocks to rats in their experiments.) found in his experiment to this theory.

The memory traces generated by the brain remain persistent for some time in the learning of the object in the words persevere. This process is called perseveration. One natural effect of perseveration on a memory is that it consolidates the memory. As a result, later it is easily recalled or recognized by the person. In such a situation, the amount of forgetting is very less. On the other hand, when a person learns an interfering task without resting immediately after learning an original lesson, the memory traces generated by the learning of the original subject do not get assimilated and When there is no condensation, there is no consolidation. The result of this is that a person quickly forgets such fundamental subjects. Thus, we see that in Santaner's reinforcement theory, the root cause of forgetting is not the consolidation of memory traces of the original subject, which occurs due to the learning of the interfering task immediately after the original subject. Since forgetting in this theory is done on the basis of lack of consolidation, this theory is also called anti-consolidation theory.

This theory was propounded by Muller and Pilzecker (Muller & Pilzecker, 1900) in

opposition to the disuse theory. By this theory, forgetting is explained by retroactive inhibition. Therefore, this theory has also been considered as the theory of retroactive inhibition. According to this theory, when a person rests after learning a subject, then the learned

Perseveration-Consolidation Theory

It is also from the results of some experiments that it has been shown that adsorption by the spaced method is superior to that by the massed method. In learning with the pause method, the user is given rest in between, so the memory generated by this type of reading gets more chances to consolidate, while the memory generated from the subjects learned by the continuous method is not lost. Such a thing does not happen with you.

The following are two important assumptions of perseveration-consolidation theory

(1) According to this theory, when the interpolated task (i.e., after the original task) is learned (assumptions)- If all subjects are placed in the middle of the retention interval, then the rate of forgetting is the least. For example, if the retention interval is three pattas, then the forgetfulness of the original subject is the least if the blocking subject is given to the cow during the period between the first one hour elapsed and the last one hour beginning. Is. Because, the perseveration and consolidation process of the memory traces of the original subject is not affected by the presentation of the blocker subject in the middle of the retention interval.

(ii) If the intensity of the interpolated task is high, then the loss of memory of the original subject is more. As a result, the amount of forgetting is high in such a state. So sound (intense noise), intense light and electric shock or emergency are some such examples which when given along with inhibitory subject increases the intensity of inhibitory subject. Psychologists have made some criticisms of this theory, which are as follows- (i) The claim of this theory is that after learning the original task, the person can not rest Any other subject, called an interpolated task, is learned, leading to forgetting. But it has become clear from experimental studies that the extent of forgetting is greater and more pronounced when the interpolated task is similar to the original task. After learning a poem, if the first poem is recalled after absorbing the second poem, then clearly the amount of forgetfulness will be more than the situation in which a person learns nonsense syllables as a blocking subject after the poem. It means to say that the theory has neglected the factor of similarity between the fundamental subject and the obstructing subject, which is not correct.

(ii) Retroactive inhibition is explained by this theory but proactive inhibition is not explained. This criticism is based on experimental facts done by some prominent psychologists like Magee and Underwood (McGeoch & Underwood, 1943), Melton and Van Lackum (1941). This principle clearly states that after learning the original task, if any other subject is absorbed. So the memento of the original subject does not get a chance for perseveration and then for consolidation which leads to forgetting. But the forgetting that happens due to the effect of the learned subject before the learning of the original subject (anticipatory inhibition), it has not been explained anywhere. As Maguire and Irion (McGeoch & Irion, 1952) put it, "The progeny theory does not explain the nonobjective constraint of memory where memory for the last of the two learned actions is weak."

(iii) The first assumption of this theory has also been proved wrong by psychologists experimentally. According to this hypothesis, when given the interfering task

"The perseveration theory offers no explanation for proactive inhibition of memory where the last learned of two activities is less well retained." -McGeoch & Iron: The Psychology of Human Learning,

If placed in the middle of the retention interval, disintegration does not occur. Bunch and McTeer (1932) found in their experiment that after a retention interval of 6 weeks (i.e. after the first 3 weeks when the interfering task was given to learn), the forgetting of the original subject was worse. It happened too much, which was not expected according to the presupposition of the theory.

(iv) Psychologists have experimentally proved the second assumption of this theory wrong. These people say that it is a difficult task to decide what kind of inhibitory text can be called intense and what kind of inhibitory text cannot be called intense. McGeoch, 1931) and Irion & Wham (1951) have shown that in the gross sense, intense light, loud noise and electric shock can be considered as acute stimuli.) as can be. In the study of these people, no significant forgetting of the original subject was found when using blocky text. According to ten principles this should not have happened. McGeoch & Irion (1952) have rightly said. "In the extensive history of retroaction, there is little evidence that there is any preconceived relationship between the intensity of interpolation and the amount of decrement."

Interference Theory

Barrier theory is a major theory of forgetting. By this theory, forgetting has been explained in the form of principles of Behaviourism. That's why this theory is also called the behavioristic theory. Forgetting has been explained by behaviorists as a stimulus-response unit. Hence the barrier theory also explains forgetting with the help of this unit. In this barrier theory, an attempt has also been made to remove the criticism of Perseveration-Consolidation theory that proactive inhibition is not a major cause of forgetting. In fact, the theory of inhibition explains forgetting in terms of both retroactive inhibition and proactive inhibition.

According to the constraint theory, when the withdrawal of previously learned responses or tasks (recall) is done, then at that time all those feelings and subjects that the person had before and after the original subject. The memories generated from what is learned interact with each other. This interaction has two consequences. **They are facilitation and interference**.

Forgetting is the result of these interfering effects. The greater this interference effect, the greater the amount of forgetting. It becomes clear from this interpretation of the principle of hindrance that the reason for forgetting in this is the hindrance or obstruction caused by the subject learned before the original subject (prospective obstruction) and the obstruction caused by the subject learned after the original subject (retrospective obstruction). Therefore, forgetting is caused by both retroactive inhibition and proactive inhibition. Therefore, this theory has been explained by dividing it into the following two aspects- (a) Interference theory: Retroactive Inhibition — The interpretation of retroactive inhibition according to the interference theory was first made by Magoo (McGeoch, 1932). To explain this type of constraint, McGue proposed the independence hypothesis rendered. According to this hypothesis, memory traces resulting from learning of the original task and

"There is little in the extensive literature on retroaction which can be interpreted plausibly in support of the assumed relation between the intensity of interpolation and the amount of decrement ." —McGeoch & Irion : The Psychology of Human Learning.

The memory traces produced by learning the interfering task are maintained in the memory storage simultaneously. Hence, it is a common belief among people that the memory generated by the absorption of an interfering task attacks and destroys the memory of the original subject, leading to forgetting. According to the independence hypothesis, the memory of the original subject and the inhibitory subject are preserved independently without affecting each other. According to this hypothesis, the cause of forgetting is the competition between the original text and the inhibitory text to be replaced by the memory mark at the time of recall. The result of this competition is that something less of the original subject is lost. That is, some part of the original subject is forgotten, although their memory is preserved. McGuire reported that when the similarity between the original subject and the interfering task is high, the competition between the two subjects in memory at the time of recall is more intense. As a result, the amount of forgetting is high. Here forgetting is explained on the basis of Chico's competition, hence it is also called competition-of-response theory. McGeoch has also pointed out that such due to competition there is negative transfer which reduces the return of original content and this is called oblivion. Hence it is also called transfer theory. In this principle of McCay (Mc Geoch), the explanation of the competition or conflict between the memory marks of the original subject and the inhibitory subject at the time of recall has been found to be in the form of the following lists-

(i) Overt interlist intrusion Some terms or parts of the obstructing subject or interpolated list are recalled while recalling the original subject or list (hist) Because of which some parts or terms of the original list are not recalled, that is, they are forgotten. This type of intrusion is called over interlist intrusion.

(ii) Overtintralist intrusion- In the original list the syllable or item to be recalled at the time of recall instead of that, another item or syllable of the same list should have been used in its place.

Sometimes the person does the withdrawal. This is called over intralist intrusion goes and is especially high in the withdrawal of a list whose items or terms. The similarity is high and the objects are placed in a particular sequence only has to be withdrawn.

(iii) Covert intrusion – In this type of intrusion, while recalling the original subject or list, an item or syllable of the included subject or list automatically comes to the person's mind. , then mistaking it, remains silent without retracting. That is why it is called covert or covert force entry or intrusion. Osgood (Osgood, 1953) has also called this type of force entry as blank because the user often misunderstands this type of force entry and remains in the group and looks emotionless.

Out of these three types of intrusion, overt intrusion leads to more reduction in recall, i.e. it leads to more forgetting and Osgood (Osgood, 1953) called overt intrusion a competition factor. The most important direct index of the competition factor is considered. Psychologists have also made some criticisms of this theory of McGeoch.

Major criticisms are as follows-

(i) Competition theory of McGeoch has been criticized by Melton and Irwin (Melton & Irwin, 1940). These people clearly found in their experimental study that retrospective inhibition. The degree of retroactive inhibition, i.e. the degree of recall after learning the first list, is not only affected by the competition between the memory symbols of these two lists, but also by another factor called factor X. ' (Factu unlearning factor which originates in the second list i.e.

interfering list also has influence during learning. Hence, Melton and Irwin explained retroactive inhibition in terms of competition and non-competition of responses. McGeoch's theory has been explained by doing unlearning or unlearning as both factors.This ideology of Melton and Irwin is called two-factor theory, which is discussed in detail further.

(ii) There is also some indirect evidence against McMue's theory of competition. According to this theory, the length of the subject or list to be learned has a direct effect on retrocine inhibition. If the length of Sudhi is more then there is more possibility of less recall of any pada or akaash (items) in it because after that pada or akaash there are many pada or akansh. Therefore, according to McGue's theory, the forgetting of a longer list or a longer item should be greater than the forgetting of a shorter list. But Shifrin (1970) has found just the opposite result in his study. As a result of this experiment, they have shown that if a list of 5 and 20 words is used as an interfering list, there is no significant difference in the amount of forgetting of the original text or list in both these cases. Not seen According to the competition theory, when given a block list of 20 words, the amount of V should have been relatively high.

(b) Interference theory: Proactive Inhibition

The theory explains not only retroactive inhibition but also proactive inhibition. When the deficit in the recall of the original subject or list is related to a subject or list that the individual has learned prior to the original subject or list, then this type of inhibition is termed as proactive inhibition. Meinvarg and Underwood (Greenberg & Underwove 1950) did an experiment in which four lists of 10-10 adjectives were prepared and given to the experimenter to absorb one by one. After 48 hours of learning the first list, it was recalled. A second list was learned after a day and then recalled after 48 hours. In a way, after teaching the third list and the fourth list, its recall was taken after 48-48 hours. It was observed that the subjects recalled 69% of the first list while only 25% of the last list were recalled. In other words, the forgetting of the first list was 31% while that of the last list was 75%. This type of forgetting was explained by Meinberg and Underwood as the competition factor. More so because the memory traces produced by the other lists learned before it compete or conflict with the memory traces generated by the learning of the fourth list, as a result of which the recall of the fourth list is reduced.

Underwood (1948) has also explained proactive inhibition as a competition factor in another way, i.e. by resorting to spontaneous recovery. The cxperimental design of a forward biased experiment usually consists of two phases—the experimental phase and the controlled phase. In the experimental condition, after learning list 'A', the person learns list 'B' and then after a certain period of rest, the items of list 'A' are recalled during the learning of list 'B'. Does. But such wrong units get extinct immediately as he keeps on learning List 8. But learning list 'B' will lead to forgetting it (i.e. list B). It happens? The truth is that it is also forgotten, which is as follows- When a person is given rest for a certain time after reading list 'B', then in this time interval, the posts or units of list 'A' item) which is extinguished during the absorption of list 'B' and there is spontaneous recovery and the recovery is as high as the competition with items or poses of 'B' more happens. As a result, the recall of the items of list 'B' is less, that is, it goes through forgetting. Postman Stark & Fraser (1968) and Ceraso & Henderson (1965) have found in their experimental studies that the original list i.e. list 'B' is the most important factor in the learning and retention of the list. The longer the probe time (called the hold interval), the greater the spontaneous recovery of the interfering list i.e., list 'A'. As a result,

there is more competition with the items of the lists, which in turn affects the recall of the original list and leads to forgetting ie proactive inhibition.

Original Some psychologists like Underwood and Postman (Underwood & Postman. 1960) have tried to explain uncontrolled forgetting with the help of proactive inhibition. According to these people, uncontrolled forgetting means such forgetting which is caused by different types of associations and linguistic habits learned in day-to-day life outside the experimental situation. When a list of subjects is given to learn in an experimental situation, the attitudes and habits learned by the subject before coming to the laboratory affect the recall of the list learned in the laboratory. The forgetting that results from this is called uncontrolled forgetting. Since the development of such associations and habits occurs outside the experimental situation, it has been considered as an extra experimental source of forgetting. But unfortunately the result of the experiment conducted by Underwood and Postman (Underwood & Postman, 1960) could not confirm the fact that the importance of extra experimental source would have been to cause forgetting in the form of proactive interference. Some psychologists say that the proactive inhibition explanation of the constraint theory fails to explain another important fact. In general, learning from an interfering task (interfering task) with distributed practice is stronger than learning from massed practice. In such a situation, the amount of anticipatory inhibition should be greater than that of residual exercise in pause exercise. But Underwood and Edstrand (Underwood & Edstrand, 1966) did an experiment with paired-associate method in which the subjects were taught two lists i.e. A BAD. The subjects were exposed to the A-B list in two conditions, i.e. both in the massed practices and the distributed practices condition. The list was learned up to four levels, ie, 12 trials, 32 trials, 48 trials and 80 trials. In continuous practice, the number of attempts of each level was given continuously and in distributed practice, the number of attempts of each level was the same, but the trials were not given continuously but after giving some rest. After this the A-D list was taught and after 24 hours the AD list was again recalled. The result showed that the interfering list i.e. A B list was learned by giving distributed practice, but the amount of proactive inhibition was less when it was learned by giving it massed practice. If it was done, the quantum of implementation was high, which should not have happened according to the interference theory.

In this way, we find that the interpretations of both sides of the barrier or interference theory, i.e., retroactive inhibition and proactive inhibition, have been criticized by the presence of some experimental facts. Shown inconsistencies true to a certain extent, yet today the barrier theory is the dominant theory of oblivion with no alternative and in the words of Dauz (Hulse. Egeth & Deese. 1980) we arrive at, "in the last dozen years Over the years, many psychologists became dissatisfied with the constraint theory, but no coherent and universal theory has yet been proposed as an alternative to the theory."

Two-factor Theory

This theory was propounded by Melton and Irwin (Melton & Irwin, 1940). The retroactive inhibition theory explained by Joe McGue

Performed by the group De-Ek, it was criticized. They conducted an experiment that clearly established that forgetting caused by retroactive inhibition cannot be explained solely as a competition factor. In this experiment, two experimental groups of subjects and the other controlled group. All the subjects in both the groups studied a list of nonsense items for 5 trials by serial anticipator method. Since the purpose of this experiment was to see how

different amounts of practice with the interpolated list affect retention of the original list, the experimental group was given continuous practice with the list. Up to 5, 10, 20 and 40 trials were conducted. The control group was not presented with the included list and rested during this period. 30 minutes after the end of practice on the inserted list, both groups of subjects were tested for the retention of the original list by the relearning method. Its results were very interesting. The results showed that the amount of total retroactive inhibition or RI increased initially with practice on the interpolated list and reached a maximum on the 20th trial. Subsequent exercises (i.e. exercises after the 20th attempt) showed a slight decline in the amount of RI. (52) 1. "During the past dozen or so years a growing number of psychologists have become dissatisfied with interference

This is very clear, especially if we look at the curve of the entire RI (Amount of Rias function of practice on interpolated task) as a result of practice on the interpolated list. Melton & Irwin (Melton & Irwin) found the following two factors contributing to the total amount of RI obtained in their study-

(1) Competition factor - When a person learns the original list (like A-B list) and learns an interpolated list like A-C list and then retrieves the original list, many such units (items) that belong to the included list and not to the original list. Such intrusions by units are called interlist intrusion or interlist intrusion, and Melton and Irwin call this the apparent competition factor. overt competition factor). In Figure 5.2, the curve formed by the overt competition factor is shown separately, which is the lowermost curve). Paying attention to this curve, it becomes clear that the amount of apparent competition increases up to the 5th rials on the interpolated list, but even after the practice continues, the intrusion caused by this factor gradually increases. It starts decreasing slowly. Melton and Irwin have given the reason for this that as the amount of practice on the interpolated list increases, the memory of the items of this list becomes more clear and differentiated. As a result, at the time of recall, the person recalls only the items of the original list and not the items of the included list. Therefore, the amount of intrusion gradually decreases as the practice on the included list increases. Psychologists have studied the original list and Variation learned in included list.

And this distinction is called list differentiation phenomenon. As stated above, the amount of overt intrusion or overt competition increases up to the 5th attempt on the included list and then decreases as practice continues. If McGeoch's competition theory were true, i.e., RI was caused only by overt competition, then after the 5th attempt, as the amount of overt competition decreases, so does the amount of RI. . But Melton and Irwin have clearly found in their experiment that the amount of overall RI increases instead of decreasing and becomes maximum on the 20th attempt. This then clearly means that the cause of oblivion ie RI is caused by some factor other than overt competition. Melton and Irwin have called this new factor as 'factor X' or 'unlearning factor'. In Fig. 5.2, the amount of RI resulting from the non-learning factor is shown by a separate curve. Now the question arises that what is unlearning factor? how it originated it occurs?

After learning the associations or items of the original list or the first list, when a person learns the items of the interpolated list or the second list, the first The associations of the list are unavailable to the individual and their extinction takes place. Therefore, psychologists have considered unlearning to be equivalent to extinction. Among such psychologists, the names of Kappel (Kappel, 1968), Postman (Postman, 1971), Postman & Underwood (Postman & Underwood, 1973) and Houston (Houston, 1976) are more famous. It is clear from the

above explanation that the unlearning factor originates during the learning of interpolated list. When there is overt intrusion or covert intrusion of associations or units of the original list during the learning of this list, the experimenter mistaking such units does not provide any stimulus thereafter. As a result, in a way, the recall of the items of the first list or the original list is verbally unreinforced which reinforces the tendency of the individual not to recall the items of this list. The result of this is that gradually the extinction of the items of the original list starts, which we call unlearning. Thus Unlearning is a type of extinction equivalent process, and we also get the proof of this that there is also a great quality related to extinction which is known as spontaneous recovery. This is the reason why some psychologists like Forester (1970) and Shulman & Martin (1970) have found in their experiments that if there is more difference between the learning of the interpolated list and the test of retention of the original list. Given time, spontaneous recovery of some of the original list takes place in such a state. But this type of pontaneous recovery has not been found by some psychologists. Thus, we see that Meston and Irwin explained forgetting, especially RI (retroactive inhibition), not on the basis of overt competition only, but also on the basis of overt competition. It has been done on the basis of both competition) and unlearning factor. That is why it is called the two-factor theory.

The most important assumption of the two-factor theory is that under comparable conditions, the amount of retroactive inhibition, ie RI, is greater than the amount of proactive inhibition. This is because when the included list is learned immediately after the absorption of the Gaulish list or the subject and then immediately after the recall of the original list (i.e. RI is designed, the reduction in recall in such a situation indicates the RI And in that shortfall both competition factor and unlearning factor are involved. But in the design of the embedded list is learned first and then the original list is learned and then after some time interval the original list is learned. The list is retrieved. At the time of retrieval, there is intrusion by the units of the included list, which we call the competition factor. But since no other list is learned after the original list, there is an unlearning factor in it. factor) does not happen. That is why the amount of R is always less than the amount of RI.

This two-factor theory of Melton and Irwin has also been criticized, which is as follows--- (1) In this theory, Melton and Irwin have considered the interlist intrusion at the time of restoration of the original list, i.e. The withdrawal made from the included list is called the competition factor. Similar interfist intrusion from the original list while learning the interpolated list is called the unlearning factor. Critics are of the opinion that the same type of infiltration has been termed as competition factor at one place and unlearning factor at another place. After all, what is the difference between these two types of interlist intrusion, due to which one has been called competition factor and the other as non-teaching factor. This fact was nowhere explained in the theory of Melton and Irwin.

1. To further clarify the meaning of competition factor and unlearning factor

For this the following similarities and differences are being presented to the students-

Similarities;

(i) Index of competition factor is interlist intrusion and unlearning factor also has interlist intrusion.

(ii) Both the factors i.e. competition factor and teaching factor have the same effect i.e. interference.

Dissimilarities:

(i) The competition factor is found to occur at the time of recall of the original list while the learning factor is found to occur at the time of learning of the interpolated list. (ii) Competition factor contributes to both RI (reproactive inhibition) and Pl (proactive inhibition) whereas non-learning factor contributes to RI only.

(ii) It is also clear from the explanation of Melton and Irwin that the amount of unlearning factor increases with the practice given on the interpolated list. In other words, the frequency of intrusions from the original list increases with the practice given on the contained list. Some researchers like Thune & Underwood (1943) and Osgood (1948) analyzed the data of Melton and Darwin's experiment and found that the frequency of intrusions from the original list and There was no regularity in the exercises given on the included list. This then meant, in the words of Osgood (1953), "either the illiteracy factor has limited significance or overt intrusions constitute an invalid index of it."

Sagood (Osgood, 1946) has done an experiment, based on the results of which both the competition factor and the non-teaching factor have been sharply criticized. He taught the subject two lists i.e. A B and A-K one by one by the paired association method. The stimulus term of both these lists were similar but there was some difference in the degree of similarity of the response term. Adjectives were used as response items in both the lists with three levels of similarity or similarity. Some adjectives were very similar to each other, some adjectives were neutral to each other and some were opposite to each other. Later, the response posts of the original list i.e. AB list were recalled. As a result, it was seen that the forgetting of similar items was less than that of neutral and opposite items. According to this result, the amount of intrusion revealed by the interpolated list at the time of recall of items similar to the original list should be less than the amount of intrusion at the time of recall of other items such as neutral and opposite items. Similarly, while sorting the included list, the amount of interference from similar terms of the original list should be less than the amount of interference from both the other types of terms. But in fact, at the time of withdrawal of the original list, the frequency of infiltration from similar posts was more. It becomes clear that this result of Osgood's experiment can be explained neither by the competition factor nor by the non-learning factor i.e. overt intrusion.

Despite these criticisms, the two factor theory propounded by Melton and Irwin is an important theory. We reach this conclusion in the words of Houston (Houston. 1976). Although the two-factor theory conflicts with some recent findings of memory, it is nevertheless a major explanatory contribution to its field."

CHAPTER SUMMARY

1. Memory is a general term that refers to the ability to store past experiences in the brain. Three elements of memory have been described – encoding, storage and retrieval.
2. Three types of memory have been described – sensory memory, short term memory and long term memory.
3. Sensory memory is the shortest term memory which is generally of two types – iconic memory and echoic memory.
4. A distinction has been made between short term memory and long term memory on eight points.

1. "Either the unlearning factor is of limited importance or the overt intrusion is an invalid index of it," Osgood Method and Theory in Experimental Psychology
2. "Although the two-factor formulation has come into sharp conflict with more recent

conception of memory it still stands as one of the major expalantory developments within the field."---- Houston The Psychology of Learning

5. Four methods have been proposed to measure memory or retention – recall method, recognition method, re-learning method and reconstruction method. 6. To measure memory or retention, four methods have been rendered - recall method,

7. Forgetting is a mental process in which a person forgets his past experiences by bringing them to the present consciousness.

8. According to Ebbinghaus, forgetting is a passive mental process, while later research has shown that it is an active mental process.

9. The forgetting curve, also known as the Ebbinghaus, curve, is a curve that shows that the rate of forgetting is very rapid immediately after learning a word, but that rate decreases with the passage of time. Although the amount of forgetting increases.

10. Forgetting is affected by many factors which are basically divided into three parts- factors related to learning, factors related to retention and factors related to the learner. 11. Several theories have been proposed to explain forgetting, including the loss theory, balance-consolidation theory,

Theory, barrier or intervention theory and two-factor theory are the major ones.

Q.1 What is memory?

Ans. Memory is our ability to encode, store, retain and subsequently recall information and past experiences in the human brain. It can be thought of in general terms as the use of past experience to affect or influence current behaviour.

Q.2 What is the meaning of the terms 'encoding', 'storage' and 'retrieval'?

Ans. The meaning of the terms encoding, storage and retrieval are as follows:

(i) Encoding It refers to the first stage of memory in which information is recorded and registered for the first time, in order to be used by memory systems. The external stimulus generates neural impulses in sensory organs during encoding which helps to receive the information and process it in different areas of the brain, in order to derive a meaning and represent it to be processed further.

(ii) Storage It is the second stage of memory in which the encoded information is stored and retained over a period of time to be used later.

(iii) Retrieval It is the third stage and refers to bringing the stored information into awareness in order to be able to perform the cognitive tasks.

Q.3 How is information processed through sensory, short-term and long-term memory systems?

Ans. The information is processed through sensory, short-term and long-term memory systems in the following ways:

(i) Sensory Memory The incoming information enters through sensory memory which has a large capacity but is of very short duration of less than a second. It registers information from each of the senses with a reasonable accuracy.

(ii) Short-term Memory It refers to the system that holds small amount of information for a brief period of time. According to Atkinson and Shiffrin, the information is primarily encoded acoustically and unless it is rehearsed continuously, the information gets lost within 30 seconds.

(iii) Long-term Memory The information that survives in short term memory enters the long-term memory system. Once information enters here, it is never forgotten as it gets encoded semantically. Thus, it is a permanent storehouse of all the information.

Q.4 How are maintenance rehearsals different from elaborative rehearsals?

Ans. Maintenance rehearsals maintain the information through repetition. The information is lost when the repetition is discontinued.

The short term memory system uses maintenance rehearsal to retain the information for a longer duration and it is carried through silent or vocal repetition.

On the other hand, elaborative rehearsals associate the information that is to be retained with the already existing information in long-term memory. The permanence of new information is determined by the number of associations that is created around it.

The incoming information is organised in many different ways by expanding the logical framework and creating a mental image.

Q.5 Differentiate between declarative and procedural memories?

Ans. Declarative Memory Procedural Memory

1. Declarative Memory

It refers to all the information related to facts and data such as first prime minister of India was Jawaharlal Nehru and human is a mammal.

1. Procedural Memory

It refers to the memories related to procedures for accomplishing various tasks and skills like driving a car or playing cricket.

2. Declarative Memory

The facts are amenable to verbal descriptions.

2.Procedural Memory

The contents cannot be described easily.

Q.6 Why does forgetting take place?

Ans. Forgetting takes place because of a sharp drop in memory. The following are the different theories that have been put forward to explain the causes of forgetting:

(i) Forgetting due to trace decay It is the earliest theory of forgetting which assumes that the memory leads to modification in the central nervous system. This is akin to physical

changes in the brain called memory traces. These traces later fade away and become unavailable when they are not used for a long time.

(ii) Forgetting due to interference This theory suggests that forgetting is due to interference between various information that are contained in the memory store. Interference occurs when the sets of associations that are formed during learning and memorising compete with each other for retrieval.

Proactive interference is a result of earlier information that interferes with subsequent learning while retroactive interference occurs when new information interrupts the recalling of earlier information.

(iii) Forgetting due to retrieval failure The contents of memory may become inaccessible either due to inappropriateness or absence of retrieval cues at the time of recall.

Q.7 Define mnemonics? Suggest a plan to improve your own memory.

Ans. Mnemonics are processes to enhance memory by using images or emphasising the organisation of the learnt behaviour. In order to improve memory, two easy methods can be used based on the kind of material to be learnt. These are:

(i) WordsWords can be learnt by relating them to form sentences. For example the words areshoe, pen, teacher, books, table. These words can be arranged asI was gifted a new pair of shoes and a pen by my teacher. However, after looking at my dirty books, she asked me to stand on the table. This method helps to learn the words easily.

(ii) Chapters or lessons can be learnt by first reading and then writing them. This enables continuous recall of information. After enough practice, most chapters can be recalled.

CHAPTER-6

EMOTION AND MOTIVATION

Motivation: Nature and Components, Approaches to Motivation: Need theory, Drive-reduction, Incentive and Arousal Approach;

Emotion: Nature and Components, Theories: James-Lange theory, Cannon-Bard theory and Schacter-Singer theory**.**

Q.1 Explain the concept of motivation.

Ans. The concept of motivation focuses on the explanation of the causes of behaviour. The term motivation has been derived from the Latin word ‘movere’, which refers to the movement of activity. The everyday behaviour is explained in terms of motives. For instance, earning money is the motive behind going to work. Though there can be other reasons too. Similarly, the motive behind attending school/college is getting good education or acquiring a degree so that one can get a good job. Motivation also makes prediction about behaviour, and thus it is one of the determinants of behaviour.

Q.2 What are the biological bases of hunger and thirst needs?

Ans. The biological bases of hunger and thirst needs are those which are indicated by events inside and outside the body. Every organism has needs that produce drive and stimulate behaviour. It leads to certain actions towards achieving certain goals and reducing the drive.

The stimuli for hunger include stomach contractions, low concentration of glucose in the blood, nerve impulses sent by liver to the brain and external factors like aroma, taste and appearance of food.

Thirst occurs due to deprivation of water that leads to loss of water from cells and tissues of the body, drying of the mouth and subsequently causes dehydration. The anterior hypothalamus contains osmoreceptors that generate nerve impulses as a signal for thirst and drinking in case of cell dehydration.

Q.3 How do the needs for achievement, affiliation, and power influence the behaviour of adolescents? Explain with examples.

Ans. The needs for achievement, affiliation and power influence the behaviour of adolescents as they shape the motives that result from their interaction with environment. The need for affiliation is aroused when individuals feel threatened, helpless or happy. For example, adolescents face a lot of peer pressure to be popular. They are motivated to interact socially to gain popularity.

Individuals are motivated towards achievement by tasks that are difficult and challenging. They have a strong desire for feedback on their performance to achieve their goal. The adolescents want to achieve good marks in examinations in order to experience the sense of achievement.

The need for power refers to the ability of a person to take control over others. An adolescent who wants to become a "head student" is motivated to get power in the school and exercise control over the rest of the students.

Q.4 What is the basic idea behind Maslow's hierarchy of needs? Explain with suitable examples.

Ans. The basic idea behind Maslow's hierarchy of needs is the portrayal of human behaviour by arranging the various needs in a hierarchy in terms of their importance for the sustenance of an individual. They are arranged in an ascending order with the fundamental needs at the base and self-actualisation at the top. The hierarchy of needs are as follows:

The pyramid starts at the bottom with the basic physiological needs like hunger, thirst etc. A person will only be in a position to obtain other needs when his/her basic needs are fulfilled.

The next stage represents the need to feel safe and secured in the physical and psychological sense. For example, home or any shelter that fulfils the need to be safe physically.

Belongingness needs are related to the desire of the individual to be a part of a group, in order to have a collective consciousness. For example, being a part of family fulfils the need of belongingness and love.

The esteem need arises during the stage where the individual wants to develop a sense of self- worth. For example, holding a position of authority adds to the self-esteem of a person.

The need for self-actualisation occurs when a person is motivated to fully develop his/her potential. It is manifested through awareness, responsiveness, creativity etc. An instance of the same can be when an individual attempts to learn new things in the middle of his/her career.

Q.5 Does physiological arousal precede or follow an emotional experience? Explain.

Ans. Physiological arousal follows an emotional experience. This is because the physiological changes accompany emotions that are experienced as a result of neurophysiologic activations. For example, appearance in an examination without preparing, results in emotional distress due to fear of failure and the student gets anxious. The emotional experience leads to physiological changes as eventually the student gets nervous and experiences sweating.

Q.6 Is it important to consciously interpret and label emotions in order to explain them? Discuss giving suitable examples.

Ans. Yes, it is important to consciously interpret and label emotions in order to explain them as the expression of emotions varies from culture to culture. There are some basic emotions that are common to all cultures and yet there are other emotions that are culture specific. The identification and experience of emotions also vary across cultures and display rules exist to modify the intensity of expression of emotions. For example, the Tahitian language has 46 labels for anger that may be used in different contexts. The North Americans can produce up to 40 different facial expressions for anger while the Japanese have 10 labels for various facial expressions of happiness and 8 levels to express anger. While some emotions like love, anger, grief and wonder are deemed to be universal and present across Indian, Chinese and Western cultures, other emotions like surprise, contempt and shame are not considered as basic to everyone and the degree of their presence varies individually as well as culturally.

Therefore, it is important to interpret and label emotions in order to understand and explain them.

Q.7 How does culture influence the expression of emotions?

Ans. Culture influences the expression of emotions by shaping the gestures that vary among different societies. Facial expressions are the most common form of expressing emotions. While interaction, the Latin Americans and Southern Europeans direct their gaze to the interactant, Asians, on the other hand, prefer a peripheral gaze. Gesture and proximal movement are shaped to convey emotions non-verbally and are variable from culture to culture. For example, a handclap in China is an expression of worry or disappointment, whereas, anger is expressed by laughter.

Silence is also seen as culturally bound. In India, silence is sometimes used to express deep emotions while it may convey embarrassment in Western countries.

Q.8 Why is it important to manage negative emotions? Suggest ways to manage negative emotions.

Ans. It is important to manage negative emotions because negative emotions act as an obstruction towards viewing things clearly and taking rational decisions. For instance, anxious individuals find it difficult to concentrate or to make decisions even for small matters. Negative emotions also affect the psychological and physical health of an individual and may result in decreased ability to think or concentrate, and loss of interest in personal or social activities. Thus, managing emotions effectively

is integral to effective social functioning.

The ways to suggest negative emotions are:

(i) Enhancing self-awareness and being creative.

(ii) Appraising the situation objectively, without bias or preconceptions.

(iii) Self-monitoring by constant evaluation of accomplishments and various experiences.

(iv) Engaging in self modelling by evaluating one's best performance and using them as inspiration.

(v) Perceptual reorganisation and cognitive restructuring.

(vi) Developing and nurturing good relations and having empathy for others

(vii) Participating in community service.

Q.9 Explain the basic concepts associated with Maslow's hierarchy of needs. Explain how different praise and mindsets can lead to different levels of performance.

Ans. Why do we do the things we do? What motivations underlie our behaviors? Motivation describes the wants or needs that direct behavior toward a goal. In addition to biological motives, motivations can be intrinsic (arising from internal factors) or extrinsic (arising from external factors) (Figure 1). Intrinsically motivated behaviors are performed because of the sense of personal satisfaction that they bring, while extrinsically motivated behaviors are performed in order to receive something from others.

Theories about Motivation

William James (1842–1910) was an important contributor to early research into motivation, and he is often referred to as the father of psychology in the United States. James theorized that behavior was driven by a number of instincts, which aid survival (Figure 3). From a

biological perspective, an instinct is a species-specific pattern of behavior that is not learned. There was, however, considerable controversy among James and his contemporaries over the exact definition of instinct. James proposed several dozen special human instincts, but many of his contemporaries had their own lists that differed. A mother's protection of her baby, the urge to lick sugar, and hunting prey were among the human behaviors proposed as true instincts during James's era.

This view—that human behavior is driven by instincts—received a fair amount of criticism because of the undeniable role of learning in shaping all sorts of human behavior. In fact, as early as the 1900s, some instinctive behaviors were experimentally demonstrated to result from associative learning (recall when you learned about Watson's conditioning of fear response in "Little Albert")

Motivation is a huge field of study. There are many theories of motivation. Some of the famous motivation theories include the following:

1. Maslow's hierarchy of needs

Abraham Maslow postulated that a person will be motivated when his needs are fulfilled. The need starts from the lowest level basic needs and keeps moving up as a lower level need is fulfilled.

Below is the hierarchy of needs:

Physiological: Physical survival necessities such as food, water, and shelter. Safety: Protection from threats, deprivation, and other dangers.

Social (belongingness and love): The need for association, affiliation, friendship, and so on. Self-esteem: The need for respect and recognition.

Self-actualization: The opportunity for personal development, learning, and fun/creative/challenging work. Self-actualization is the highest level need to which a human being can aspire.Maslow's hierarchy of needs

The leader will have to understand the specific need of every individual in the team and accordingly work to help fulfil their needs.

2. Hertzberg's two factor theory

Hertzberg classified the needs into two broad categories namely hygiene factors and motivating factors.

Hygiene factors are needed to make sure that an employee is not dissatisfied. Motivation factors are needed for ensuring employee's satisfaction and employee's motivation for higher performance. Mere presence of hygiene factors does not guarantee motivation, and presence of motivation factors in the absence of hygiene factors also does not work.

3. McClelland's theory of needs

McClelland affirms that we all have three motivating drivers, and it does not depend on our gender or age. One of these drives will be dominant in our behaviour. The dominant drive depends on our life experiences.

The three motivators are:

Achievement: a need to accomplish and demonstrate own competence People with a high need for achievement prefer tasks that provide for personal responsibility and results based on their own efforts. They also prefer quick acknowledgement of their progress.

Affiliation: a need for love, belonging and social acceptance People with a high need for affiliation are motivated by being liked and accepted by others. They tend to participate in social gatherings and may be uncomfortable with conflict.

Power: a need for control own work or the work of others People with a high need for power desire situations in which they exercise power and influence over others. They aspire for positions with status and authority and tend to be more concerned about their level of influence than about effective work performance.

Emotions:

Q.1 What Is Emotion?

Ans.In psychology, emotion is often defined as a complex state of feeling that results in physical and psychological changes that influence thought and behavior. Emotionality is associated with a range of psychological phenomena, including temperament, personality, mood, and motivation. According to author David G. Myers, human emotion involves "...physiological arousal, expressive behaviors, and conscious experience.

Q.2 Explain the Theories of Emotion.

Ans. The major theories of emotion can be grouped into three main categories: physiological, neurological, and cognitive.

Physiological theories suggest that responses within the body are responsible for emotions. Neurological theories propose that activity within the brain leads to emotional responses.

Cognitive theories argue that thoughts and other mental activity play an essential role in forming emotions.

Evolutionary Theory of Emotion

It was naturalist Charles Darwin who proposed that emotions evolved because they were adaptive and allowed humans and animals to survive and reproduce. Feelings of love and affection lead people to seek mates and reproduce. Feelings of fear compel people to either fight or flee the source of danger.

According to the evolutionary theory of emotion, our emotions exist because they serve an adaptive role. Emotions motivate people to respond quickly to stimuli in the environment, which helps improve the chances of success and survival.

Understanding the emotions of other people and animals also plays a crucial role in safety and survival. If you encounter a hissing, spitting, and clawing animal, chances are you will quickly realize that the animal is frightened or defensive and leave it alone. By being able to interpret correctly the emotional displays of other people and animals, you can respond correctly and avoid danger.

The James-Lange Theory of Emotion

The James-Lange theory is one of the best-known examples of a physiological theory of emotion. Independently proposed by psychologist William James and physiologist Carl Lange, the James- Lange theory of emotion suggests that emotions occur as a result of physiological reactions to events. This theory suggests that seeing an external stimulus leads to a physiological reaction. Your emotional reaction is dependent upon how you interpret those physical reactions.

For example, suppose you are walking in the woods and see a grizzly bear. You begin to tremble, and your heart begins to race. The James-Lange theory proposes that you will conclude that you are frightened ("I am trembling. Therefore, I am afraid"). According to this

theory of emotion, you are not trembling because you are frightened. Instead, you feel frightened because you are trembling.

The Cannon-Bard Theory of Emotion

Another well-known physiological theory is the Cannon-Bard theory of emotion. Walter Cannon disagreed with the James-Lange theory of emotion on several different grounds. First, he suggested, people can experience physiological reactions linked to emotions without actually feeling those emotions. For example, your heart might race because you have been exercising, not because you are afraid.

Cannon also suggested that emotional responses occur much too quickly to be simply products of physical states. When you encounter a danger in the environment, you will often feel afraid before you start to experience the physical symptoms associated with fear, such as shaking hands, rapid breathing, and a racing heart.

Cannon first proposed his theory in the 1920s, and his work was later expanded on by physiologist Philip Bard during the 1930s. According to the Cannon-Bard theory of emotion, we feel emotions and experience physiological reactions such as sweating, trembling, and muscle tension simultaneously. More specifically, the theory proposes that emotions result when the thalamus sends a message to the brain in response to a stimulus, resulting in a physiological reaction. At the same time, the brain also receives signals triggering the emotional experience. Cannon and Bard's theory suggests that the physical and psychological experience of emotion happen at the same time and that one does not cause the other.4

Schachter-Singer Theory

Also known as the two-factor theory of emotion, the Schachter-Singer theory is an example of a cognitive theory of emotion. This theory suggests that the physiological arousal occurs first, and then the individual must identify the reason for this arousal to experience and label

it as an emotion. A stimulus leads to a physiological response that is then cognitively interpreted and labeled, resulting in an emotion. Schachter and Singer's theory draws on both the James-Lange theory and the Cannon-Bard theory. Like the James-Lange theory, the Schachter-Singer theory proposes that people infer emotions based on physiological responses. The critical factor is the situation and the cognitive interpretation that people use to label that emotion.

Like the Cannon-Bard theory, the Schachter-Singer theory also suggests that similar physiological responses can produce varying emotions. For example, if you experience a racing heart and sweating palms during an important exam, you will probably identify the emotion as anxiety. If you experience the same physical responses on a date, you might interpret those responses as love, affection, or arousal.

Facial-Feedback Theory of Emotion

The facial-feedback theory of emotions suggests that facial expressions are connected to experiencing emotions. Charles Darwin and William James both noted early on that sometimes physiological responses often had a direct impact on emotion, rather than simply

being a consequence of the emotion.

Supporters of this theory suggest that emotions are directly tied to changes in facial muscles. For example, people who are forced to smile pleasantly at a social function will have a better time at the event than they would if they had frowned or carried a more neutral facial expression.

CHAPTER-7

COGNITION

Q.1 What is cognitive psychology?

Ans. Cognitive psychology is the field of psychology dedicated to examining how people think. It attempts to explain how and why we think the way we do by studying the interactions among human thinking, emotion, creativity, language, and problem solving, in addition to other cognitive processes.

Categories and Concepts

Q.2 Define category?

Ans. A category a set of objects that can be treated as equivalent in some way. For example, consider the following categories: trucks, wireless devices, weddings, psychopaths, and trout. Although the objects in a given category are different from one another, they have many commonalities.

Q.3 What is concept?

Ans. The mental representations we form of categories are called concepts. There is a category of trucks in the world, and you also have a concept of trucks in your head. We assume that people's concepts correspond more or less closely to the actual category, but it can be useful to distinguish the two, as when someone's concept is not really correct**.**

Q.4 What is prototype?

Ans. A prototype is the best example or representation of a concept. For example, for the category of civil disobedience, your prototype could be Rosa Parks. Her peaceful resistance to segregation on a city bus in Montgomery, Alabama, is a recognizable example of civil disobedience. Or your prototype could be Mohandas Gandhi, sometimes called Mahatma Gandhi ("Mahatma" is an honorific title) (Figure 2).

Mohandas Gandhi served as a nonviolent force for independence for India while simultaneously demanding that Buddhist, Hindu, Muslim, and Christian leaders—both Indian and British—collaborate peacefully.

Although he was not always successful in preventing violence around him, his life provides a steadfast example of the civil disobedience prototype.

Q.5 Difference between Natural and Artificial Concepts.

In psychology, concepts can be divided into two categories, natural and artificial. Natural concepts are created "naturally" through your experiences and can be developed from either direct or indirect experiences. For example, if you live in Essex Junction, Vermont, you have probably had a lot of direct experience with snow. You've watched it fall from the sky, you've seen lightly falling snow that barely covers the windshield of your car, and you've

shoveled out 18 inches of fluffy white snow as you've thought, "This is perfect for skiing." You've thrown snowballs at your best friend and gone sledding down the steepest hill in town. In short, you know snow. You know what it looks like, smells like, tastes like, and feels like. If, however, you've lived your whole life on the island of Saint Vincent in the Caribbean, you may never have actually seen snow, much less tasted, smelled, or touched it. You know snow from the indirect experience of seeing pictures of falling snow—or from watching films that feature snow as part of the setting. Either way, snow is a natural concept because you can construct an understanding of it through direct observations or experiences of snow (Figure 3).

Photograph A shows a snow covered landscape with the sun shining over it. Photograph B shows a sphere shaped object perched atop the corner of a cube shaped object. There is also a triangular object shown.

Figure 3. (a) Our concept of snow is an example of a natural concept—one that we understand through direct observation and experience. (b) In contrast, artificial concepts are ones that we know by a specific set of characteristics that they always exhibit, such as what defines different basic shapes. (credit a: modification of work by Maarten Takens; credit b: modification of work by "Shayan (USA)"/Flickr)

An artificial concept, on the other hand, is a concept that is defined by a specific set of characteristics. Various properties of geometric shapes, like squares and triangles, serve as useful examples of artificial concepts. A triangle always has three angles and three sides. A square always has four equal sides and four right angles. Mathematical formulas, like the equation for area (length × width) are artificial concepts defined by specific sets of characteristics that are always the same. Artificial concepts can enhance the understanding of a topic by building on one another. For example, before learning the concept of "area of a square" (and the formula to find it), you must understand what a square is. Once the concept of "area of a square" is understood, an understanding of area for other geometric shapes can be built upon the original understanding of area. The use of artificial concepts to define an idea is crucial to communicating with others and engaging in complex thought.

CHAPTER-8

INTELLIGENCE

Intelligence: Nature and theories: Sternberg's and Gardener's theory of Intelligence, Measurements of intelligence.

Q.1. What is intelligence

Ans. Intelligence involves the level of ability to do the following:

Learn: The acquisition, retention, and use of knowledge is an important component of intelligence. Recognize problems: To put knowledge to use, people must be able to identify possible problems in the environment that need to be addressed.

Solve problems: People must then be able to take what they have learned to come up with a useful solution to a problem they have noticed in the world around them.

Q.2 How the Concept of Intelligence Developed.

Ans. The term "intelligence quotient," or IQ, was first coined in the early 20th century by a German psychologist named William Stern. Psychologist Alfred Binet developed the very first intelligence tests to help the French government identify schoolchildren who needed extra academic assistance. Binet was the first to introduce the concept of mental age or a set of abilities that children of a certain age possess.

Q.3 Describe the theories of intelligence.

Ans. Theories of Intelligence

Different researchers have proposed a variety of theories to explain the nature of intelligence. Here are some of the major theories of intelligence that have emerged during the last 100 years:

Charles Spearman: General Intelligence

British psychologist Charles Spearman (1863–1945) described a concept he referred to as general intelligence or the g factor. After using a technique known as factor analysis to examine some mental aptitude tests, Spearman concluded that scores on these tests were remarkably similar.

People who performed well on one cognitive test tended to perform well on other tests, while those who scored badly on one test tended to score badly on others. He concluded that intelligence is a general cognitive ability that can be measured and numerically expressed.3

Louis L. Thurstone: Primary Mental Abilities

Psychologist Louis L.Thurstone (1887–1955) offered a differing theory of intelligence. Instead of viewing intelligence as a single, general ability, Thurstone's theory focused on seven different primary mental abilities. The abilities that he described include:

Verbal comprehension Reasoning

Perceptual speed Numerical ability Word fluency Associative memory Spatial visualization Howard Gardner: Multiple Intelligences One of the more recent ideas to emerge is Howard Gardner's theory of multiple intelligences. Instead of focusing on the analysis of test scores, Gardner proposed that numerical expressions of human intelligence, such as in the IQ test, are not a full and accurate depiction of people's abilities. His theory describes eight distinct types of intelligence based on skills and abilities that are valued in different cultures.

The eight kinds of intelligence Gardner described are:

Visual-spatial intelligence Verbal-linguistic intelligence Bodily-kinesthetic intelligence

Logical-mathematical intelligence Interpersonal intelligence Musical intelligence Intrapersonal intelligence Naturalistic intelligence

Gardner's Theory of Multiple Intelligences

Robert Sternberg: Triarchic Theory of Intelligence

Psychologist Robert Sternberg defined intelligence as "mental activity directed toward purposive adaptation to, selection, and shaping of real-world environments relevant to one's life." While he agreed with Gardner that intelligence is much broader than a single, general ability, he instead suggested that some of Gardner's types of intelligence are better viewed as individual talents.

Sternberg proposed what he referred to as "successful intelligence," which involves three different factors:

Analytical intelligence: Your problem-solving abilities.

Creative intelligence: Your capacity to deal with new situations using past experiences and current skills.

Practical intelligence: Your ability to adapt to a changing environment.

Q.4 Explain the first Mesurement test of intelligence

Ans. First IQ Test

This first intelligence test, referred to today as the Binet-Simon Scale, became the basis for the intelligence tests still in use today. However, Binet himself did not believe that his psychometric instruments could be used to measure a single, permanent, and inborn level of intelligence.

Binet stressed the limitations of the test, suggesting that intelligence is far too broad a concept to quantify with a single number. Instead, he insisted that intelligence is influenced by a number of factors, that it changes over time, and that it can only be compared to children with similar backgrounds.

Stanford-Binet Intelligence Test

When the Binet-Simon Scale was brought to the United States, it generated considerable interest. Stanford University psychologist Lewis Terman took Binet's original test and

standardized it using a sample of American participants. This adapted test, first published in 1916, was called the Stanford-Binet Intelligence Scale and soon became the standard intelligence test used in the U.S.

The Stanford-Binet intelligence test used a single number, known as the intelligence quotient (or IQ), to represent an individual's score on the test.

The IQ score was calculated by dividing the test taker's mental age by his or her chronological age and then multiplying this number by 100.

For example, a child with a mental age of 12 and a chronological age of 10 would have an IQ of 120 (12/10 x 100).

The Stanford-Binet remains a popular assessment tool today, despite going through a number of revisions over the years since its inception.

The Wechsler Adult Intelligence Scale

The Wechsler Adult Intelligence Scale (WAIS) is an intelligence test that was first published in 1955 and designed to measure intelligence in adults and older adolescents. The test was designed by psychologist David Wechsler who believed that intelligence was made up of a number of different mental abilities rather than a single general intelligence factor.

History of the Wechsler Intelligence Scales

Wechsler was dissatisfied with what he believed were the limitations of the Stanford-Binet test. Among his chief complaints about that test was the single score that emerged, its emphasis on timed tasks, and the fact that the test had been designed specifically for children and was therefore invalid for adults.

As a result, Wechsler devised a new test during the 1930s that was known as the Wechsler-Bellevue Intelligence Scales. The test was later revised and became known as the Wechsler Adult Intelligence Scale or WAIS.

Q.5 How Did the Wechsler Adult Intelligence Test Compare to the Stanford Binet?
Ans. One interesting thing to note is that Alfred Binet, the developer of the world's first intelligence test, also believed that intelligence was far too complex a subject to be sufficiently described by a single number. The goal of his original test was to help identify children who needed specialized help in school and he felt that a variety of individual factors, including a child's level of motivation, could influence test scores.

Stanford-Binet Developed in 1939

Produced only a single, general intelligence score Developed for use with children

Emphasized timed tests WAIS

Introduced in 1939

Developed as a reaction to perceived weaknesses with the Stanford-Binet

Provides a number of different scores on areas such as verbal comprehension and working memory.

Created to be used with adults

Only some of the subtests on the WAIS are timed

In a sense, Wechsler's test was a return to many of the ideas that Binet had also espoused. Instead of giving a single overall score, the WAIS provided a profile of the test-takers overall strengths and weaknesses. One benefit of this approach is that the pattern of scores can also provide useful information. For example, scoring high in certain areas but low in others

might indicate the presence of a specific learning disability.

CHAPTER-9

PERSONALITY

Q.1 What is self & Personality?

Ans. Self and Personality –can be referred as the characteristics in which we define our existence. These characteristics are usually acquired from our experiences and they show up in our behaviour.

These characteristics make people different from each other. Hence they behave differently in similar situations.Also same people behave almost similarly in different situations.

Hence it is safe to say that Different people have different personalities in different situations.

Q.2 Concept of Personality.

Ans. Literary definition- This word is derived from Latin word-Persona, which means mask used by actors in Roman theatre to perform their roles.

Q.3 Describe features of Personality

Ans. It consists of both physical to psychological components Expression of personality in form of behaviour is unique for each individual It's main features do not easily change with time though some features may change due to internal or external situational demands, making personality also adaptive to situations.

Q.4 Explain Different Approaches to study Personalities and behaviours.

Ans. Type approach Trait Approach

Interactional Approach Psychodynamic approach Behaviour approach Cultural Approach Humanistic approach.

Type Approach: This approach attempts to comprehend and segregate people into groups by examining and based on their broad patterns in observed behaviours.

So each pattern type refers to a group of people who have similarity of their behavioural characteristics that match with the pattern that set denotes.

Greek physician Hippocrates had proposed a typology of personality based on fluid/humour: Sanguine, Phlegmatic, melancholic, choleric.

Charak Samhita famous treatise on Ayurveda classifies as- Vata, pitta and kapha based on 3 humoural elements- Tridosha

Typology of personality based on trigunas:

Sattva- Cleanliness, Truthfulness, dutifulness, detachment and discipline. Rajas- Intensive activity, desire for sense gratification, dissatisfaction, envy. Tamas– Anger, arrogance, depression, laziness, feeling of helplessness.

Sheldon theory: based on body type and temperament Endomorphic- Fat, soft and round. Relaxed and sociable.

Mesomorphic- Strong muscular, rectangular body and energetic and courageous by temperament

Ectomorphic- Thin, long, fragile by body type and creative, brainy and introvert by temperament. Jung theory- Introverts, Extroverts

Friedman & Rosenman- Type A & Type B

Type A- Possess high motivation, lack patience, fall short of time, in a great hurry, always feel burdened with work, cant slow down.

Type B- Absence of category of Type A Type C- Unassertive, cooperative, patient Type D- Proneness of depression.

Trait Approach: This type groups people as per specific set of traits. For eg Shyness is a trait, so people can be rated in terms of degree of presence or absence of that trait in individuals as Less, More, Not shy at all against that. Friendliness can be another trait and many others.

Traits are relatively stable over time

They are generally consistent across situations

Their strengths and combinations vary across individuals leading All of the above lead to individual differences in personality.

Q.4 Explain Gordon Allport's Trait theory.

Ans. As per Allport, Traits are the intervening variables between situations which stimulate and person's response to them.

Cardinal traits: They are highly pervasive and generalized and indicate the goals around which an individual's life revolves. g. Mahatma Gandhi's non-violence – Gandhian trait

and Hitler's Nazism – Hitlerian trait

Central traits: These are less pervasive, still much generalized dispositions. E.g. warm, sincere , diligent

We often use these traits for writing a job recommendation or in our resume.

Secondary traits: These are least generalized Commonly found in various people, cannot be made the basis for differentiating personalities of people. E.g. likes mangoes, prefer ethnic clothes, likes black dresses.

Cattell theory: Trait based personality factors- He developed a test called sixteen personality factor questionnaire.

Source traits: Stable and are considered as building block of personality.

Surface traits: They result out of the interaction of source traits.

Q.5 Explain Eysenck's Theory?

Ans. Based on biological and genetically governed, Personality could be reduced into two broad dimensions– (However, in his later work Eysenck introduced 3rd dimension also).

Neuroticism Vs Emotional stability: If refers to the degree of control people have on their feelings. People who score high on the neuroticism are anxious, moody, touchy, restless, distressed, irritable, emotional unstable. The opposite /low scores are calm, emotionally stable.

Extraversion Vs Introversion: Extraversion refers to people who are outgoing, active, gregarious, impulsive, thrill seeking and introversion refers to people passive, quiet, cautious and reserved. Psychoticism Vs sociability: Person scoring high on psychoticism tends to be hostile, egocentric, anti-social. The opposite are friendly and sociable.

Q. 7 Explain Psychodynamic approach:

Ans. Highly popular approach to study personality, by Sigmund Freud. He used 'Free Association' the technique (a method in which a person is asked to openly share his thoughts, feelings and ideas that comes to his/her mind) Dream and error analysis to understand the functioning of mind and help analyse thoughts by expression.

Based on the theory of Levels of consciousness, Freud visualizes the human minds in terms of 3 levels of consciousness:

Conscious: Thoughts, feelings, actions people are aware of.

Preconscious: The mental activity people are aware of only if they pay attention to it closely. Unconscious: This includes mental activity people are unaware of. These are instinctive, animalistic drives concealed and repressed away from conscious mind because they may lead to psychological conflicts.

Freud used therapy of Psychoanalysis to bring the repressed, unconscious materials to consciousness.

According to this theory there are 3 structural elements of Personality- Id, Ego and Superego.

Id – It is source of a person's instinctual energy. Deals with immediate gratification of primitive needs- sexual desires, aggressive impulses does not care for moral values, society or any individuals. Id is energised by two instinctive forces- life instinct & death instinct.

The life force that energises the Id is called libido, which seeks immediate gratification.

Ego- It grows out of Id only but seeks to satisfy an individual's instinctual needs in accordance with reality. Works by reality principle. Ego often directs the Id towards more appropriates ways of behaving, which are socially acceptable.

Eg: A boy sees some one having an ice-cream. His Id may want him to snatch it and eat it. But Ego guides him to ask permission and then take it, which is socially more acceptable behaviour.

Human behaviours reflect an attempt to deal with or escape from anxiety. People avoid anxiety by distorting reality. Freud described defence mechanism of 5 types:

Repression: Anxiety provoking behaviours or thoughts are totally dismissed by the unconscious mind. When people repress any desire at times they totally become unaware of that desire. E,g When someone does something which expresses that desire in a situation, they say, ' I do not know why I did this.'

Projection: In projection, people attribute their own traits to others. E.g People who have aggressive tendencies may see other people also acting aggressive towards them. i.e projecting their own behaviour.

Denial: Person in this trait totally refuses to accept reality.

e.g. A person with AIDs refuses to accept or deny his illness.

Reaction formation: This person to defend against anxiety adopts a behaviour totally opposite to the instinctive feeling.

e.g Many people acquire religious practices to channelize their strong sexual urges. **Rationalization**: Trying to rationalize their unreasonable feelings and behaviours making them seem reasonable and acceptable.

e.g. When a student after doing poorly in exams buys new pens to rationalize reason of bad performance and tells himself that he will do well with these new pen.

Super Ego- Super Ego can be characterised as the moral branch of mental functioning. Super Ego tells the Id and Ego whether gratification is ethical or not.

e.g. Extending the same example, If the child who wants ice cream, if asks his mother for it which is socially and morally correct.

Q.8 Explain Psychosexual stages of Personality.

Ans. Freud Approach: Freud claims that core aspects of personality are formed at an early stage and remain stable throughout life. He has proposed a 5 stage theory.

Oral stage: Newborn's instincts are focused on the mouth. The baby seeks pleasure in food that reduces his hunger, thumb sucking, biting, and babbling through his mouth.

Anal stage: It is found that around ages of 2 or 3 child learns to respond to some of the needs of society and learns to control the bodily functions of urination and defecation. If left to themselves, most children at this age experience pleasure by focusing on their anal area and in moving their bowls.

Phallic stage: This stage focuses on genitals. At age of 4 to 5, children begin to realise the difference between males and females. During this stage male children may feel Oedipus

complex, which involves love for mother and hostility towards father. And female child experiences Electra complex wherein they are more attached to father and see mothers as their rivals.

Latency Stage: From age of 7 to puberty, child continues to grow physically. Sexual urges are relatively inactive.

Much of their energy is channelled in social or achievement activities.

Genital Stage: During this stage, individual develops maturity in psychosexual development. People learn to deal with opposite gender in a socially mature way. However, if the journey is marked thorough excessive stress or over-indulgence, it may cause fixation to that stage or regression to an earlier stage of development.

Q.9 Who is a Healthy Person? As per humanistic approach.

Ans. The Humanistic theory suggests that no one can be a healthy person by mere adjusting to the society.

It involves following characteristics:

Awareness of self , one's feelings and their limits and accept themselves. Experience Here and Now. Mindfulness.

Don't so much live in the past and dwell in the future through anxious expectations and distorted defences.

Q.10 Explain Personality Assessment

Ans. A formal process aimed at understanding personality of an individual with minimum error and maximum accuracy is termed as personality assessment.

Uses of Personality Assessment:

Helps understand how an individual is likely to behave in a given situation. Accurate assessment is also useful for diagnosis, training, placement, counselling Techniques:

Psychometric tests Self- report measures Projective techniques Behavioural Analysis

Self-Report: Method to assess a person by asking him/her about himself/herself. These are structured measures in which subjects are made to objectively report verbal responses using a rating scale.

Minnesota Multiphasic Personality Inventory (MMPI)- developed for psychiatric diagnosis but later applied to variety of psychopathology- hypochondriasis, depression, hysteria masculinity, femininity. True/false questions

Eyesenck Personality Questionnaire – (EPQ)

Tests 2 dimensions of personality- Introverted / Extraverted and Emotionally stable/unstable. Later Eyesenck added 3rd dimension to this theory psychoticism (lack of feelings for other). Such people have a tough manner of interaction, tendency to defy social conventions.

Cattell- Sixteen personality factor questionnaire – (16PF). The tests provides with declarative statements and the subjects respond to the specific situation by choosing from a set of given alternatives.

Uses of Self-report test:

Career guidance, vocational exploration and occupational testing for students/adults.

To assess specific dimensions of personality type (e.g. authoritarianism, locus of control, optimism)

Limitations of Self-report tests:

Social desirability: this is a tendency on part of a student to endorse/select responses basis socially desirable behaviour.

Acquiescence: It is a tendency of the subject of saying Yes to items irrespective of the content, which makes it less reliable for an effective outcome.

Hesitant to open: This being a direct method where assessment is based on the information directly obtained from the subject, hence he knows that he is been assessed for personality and gets self-conscious and hesitates to share his private feeling.

Hence these tests should be performed under careful supervision of an expert or a trained person.

Projective Technique:

This technique is an indirect method, used to uncover and assess the large part of the behaviour which is governed by unconscious motives, as direct (self-report) methods cannot assess this. Methods include: Reporting association with stimuli- words, inkblots, story writing around pictures, some require sentence completion, expression through drawings.

Features of this technique:

The stimuli are relatively or fully unstructured and poorly defined.

The subject is not told about the purpose of assessment and method of scoring and interpretation. The person is informed that there is no correct or incorrect answer.

Each response is considered to reveal a significant aspect of personality. Scoring and interpretation are lengthy and sometime subjective.

Examples of Projective tests:

Rorschach Inkblot Test:

This test was developed by Harmann Rorschach. The tests consists of 10 inkblots (5 black and white, 2 red and remaining of pastel colours) printed in the centre of a cardboard of 7” to 10”.

1st Phase- Performance proper: Subjects are shown the cards and are asked to tell what they see in each.

2nd Phase- Inquiry: A detailed report of responses is prepared by asking the subject to tell on where, how and on what basis was a particular response made.

Use of the test requires extensive training to make fine judgment and interpretation.

The Thematic Appreciation Test (TAT): developed by Morgan and Murray. Little more structured that the Inkblot test. It consists of 30 black and white picture cards and 1 blank card. Each card depicts one or more people in a variety of situations. 20 cards to 5 cards are used for performing assessment.

Method: One card is presented at a time, asking the subject to tell a story describing the situation presented in the picture:

What led up to the situation

What is happening at the moment What will happen in future

What are the characters thinking and feeling.

A standard procedure is followed for scoring the TAT responses. Indian adaptation done by: Uma Chaudhary.

Rozensweig's Picture-Frustration study (P-F Study): was developed by Rozenweig to assess how people express aggression in a frustrating situation.

The test consists cartoon like pictures depicting situations where one person is frustrating other. The subject is asked to describe:

What the frustrated person will say or do? Analysis is based on:

the Type and Direction of aggression (towards onself or environment or evading the situation). It is examined whether the focus is on frustrating object or protecting the frustrated person, or on constructive solution.

Sentence Completion Test:

This test makes use of number of incomplete sentences. The starting of the sentence is presented and the subject has to provide an ending of the sentence. The type of ending helps assess the unconscious attitude, motivation and conflicts.

e.g.

My father…….

My greatest fear is……..

The best thing about my mother is……..

I am proud of……

Draw-a-Person test:

In this test subject is provided with a pencil, eraser and sheet and asked to draw a picture of a person.

After the completion of the drawing, subject is asked to draw a picture of a person of opposite gender. Subject is asked to make a story about the person as if he/she was a character of a movie/novel. Some examples of the interpretation as follows:

Omission of facial features suggests that the person tries to evade a highly conflict-ridden interpersonal relationship.

Graphic emphasis on the neck suggests lack of control over impulses.

Disproportionately large size of the head suggests organic brain disease or preoccupation with headaches.

Behavioural Analysis:

This analysis can provide us with a meaningful information about his/her personality. An observer's report contains data obtained from:

Interview Observation Ratings Nomination Situational tests Interview:

Structured interview follows a set of very specific questions and set procedure. This is often done to make objective comparison of persons being interviewed.

Use of rating scales add to the objectivity.

Unstructured Interview involves asking a number of questions (not specific) to develop an impression about a person. The way a subject answers and presents himself and answers the questions carries enough potential to reveal about his/her personality.

Observation:

Use of Observation for a personality assessment is a sophisticated procedure that cannot be carried out by untrained people. It requires careful training of the observer and fairly detailed guideline to carry out analysis to use observations to assess personality. In spite of the widespread use of this method, it has following limitations:

Professional training required for collection of useful data and is quite demanding and time consuming.

Maturity of the observer is a precondition. Else personal biases can alter the assessment. Mere presence of the observer may contaminate the results.

Biyani Girls College
Sample Paper
B.A Part-1st
Subject- Psychology
(Basic Psychological Process)
Paper-1
Set-A

Time Allowed: 3 hours. **M.M 75**

SEC-A

VERY SHORT QUESTIONS. (Attempt Any five) **(5x2)**

Q.1 Define Psychology.
Q.2 What is memory?
Q.3 Mention some mental processes.
Q.4 What is perception?
Q.5 Define learning.
Q.6 What is "SOMA"?
Q.7 Mention some mental processes.
Q.8 Name the hormones produced by pancreas.

SEC- B

SHORT QUESTIONS (ATTEMPT ANY FOUR) **(4x5)**

Q.9 Explain schedule of reinforcement.
Q.10 Explain cycle of motivation
Q.11 Discuss the Nature of memory with major components.
Q.12 Describe the characteristics of perception.
Q.13 Explain the types of motivation.

SEC-C

LONG QUESTIONS (ATTEMPT ANY THREE) **(15x3)**

Q.14 What is Neuron explain with structure

Or

Q.15 Explain observation method with types.

Q.16 Explain Theories of learning.

Or

Q.17 Explain Theories of Emotions.

Q.18 Explain the Theories of Intelligence.

Or

Q.19 Describe the type approach of Personality

Biyani Girls College
Sample Paper
B.A. Part-1st
Subject- Psychology
(Basic Psychological Process)
Paper-1
Set-B

Time allowed : 3Hrs **Maximum Marks :75**

SEC-A

Very short Questions. (Attempt any five) **(5x2)**

Q.1 Definition of learning.
Q.2 Who was the father of Gestalt psychology
Q.3 Name some cognitive processes.
Q.4 Name the hormones produced by Thyroid.
Q.5 Name the schools of psychology.
Q.6 Name the Jung's Personality types.
Q.7 Define sensation.
Q.8 Definition of Psychology

SEC-B

Short Questions. (Attempt any four) **(4x5)**

Q.9 Explain pituitary gland.
Q.10 Write characteristics of perception.
Q.11 Explain Jung's Personality Types.
Q.12 Explain basic concept(cycle) of Motivation.
Q.13 Draw Need- hierarchy pyramid given by Maslow.

SEC-C

Long Questions. (Attempt any three) **(15x3)**

Q.14 Explain learning with different Approach.

OR

Q.15 Explain Theories of Emotions.

Q.16 What is Gestalt theory of perception.

OR

Q.17 Explain Nervous system with flow chart.

Q.18 Explain theories of Personality

OR

Q.19 What is neuron? Explain neuron structure. Explain learning with theories.

ROLL NO. .....

1124/1178-I

B.A./B.Sc. (Part-I) EXAMINATION - 2022

(Common for the Faculties of Arts & Science)

[Also Common with Subsidiary Paper of B.A./B.Sc. (Hons.) Part - I]

(Three-Year Scheme of 10+2+3 Pattern)

1011-14

PSYCHOLOGY

Paper-I

(Basic Psychological Process)

Time Allowed : 3 Hours

Maximum Marks : 75 for Arts, 50 for Science

समय : 3 घण्टे

अधिकतम अंक : कला के लिए 75, विज्ञान के लिए 50

Note :

सूचना :

1. *Write your roll number on question paper before start writing answers of questions.*

   प्रश्नों के उत्तर लिखने से पूर्व प्रश्न-पत्र पर रोल नम्बर अवश्य लिखिए।

2. *No Supplementary Answer-book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer-book only.*

   किसी भी परीक्षार्थी को पूरक उत्तर-पुस्तिका नहीं दी जाएगी। अत: परीक्षार्थियों को चाहिए कि वे मुख्य उत्तर-पुस्तिका में ही समस्त प्रश्नों के उत्तर लिखें।

3. *Question paper consists of three Sections. All **three** Sections are **compulsory**.*

   *प्रश्न पत्र **तीन** खण्डों में विभाजित है। सभी **तीनों** खण्ड **अनिवार्य** हैं।*

4. *Section-A : Will contains 10 questions of 20 words each. Each will be of 1.5 marks for Arts students and 1 mark for Science students. Thus, Section-A will be of 15 marks for Arts students and of 10 marks of Science students.*

   खण्ड-अ में 10 प्रश्न हैं और प्रत्येक प्रश्न के लिए कला के विद्यार्थियों के लिए 1.5 अंक और विज्ञान के विद्यार्थियों के लिए 1 अंक निर्धारित है। प्रत्येक प्रश्न का उत्तर 20 शब्दों से अधिक नहीं होना चाहिए।

5. *Section-B : Will contain 7 questions of 50 words each, out of which students are required to attempt 5 questions. Each question will be of 3 marks for Arts students and 2 marks for Science students. Thus, Section-B will be of 15 marks for Arts students and 10 marks of Science students.*

   खण्ड-ब में 7 प्रश्न हैं और प्रत्येक प्रश्न के लिए कला के विद्यार्थियों के लिए 3 अंक और विज्ञान के विद्यार्थियों के लिए 2 अंक निर्धारित हैं। कुल पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न का उत्तर 50 शब्दों से अधिक नहीं होना चाहिए।

6. *Section-C : Will contain 3 long questions each with internal choice. Each question will be of 15 marks for Arts students and of 10 marks of Science students.*

   खण्ड-स से तीन प्रश्नों के उत्तर दीजिए, जिनमें प्रत्येक प्रश्न में आन्तरिक विकल्प दिया गया है। प्रत्येक प्रश्न कला के विद्यार्थियों के लिए 15 अंक और विज्ञान के विद्यार्थियों के लिए 10 अंक निर्धारित हैं।

SECTION - A / खण्ड- अ

1. What is the nature of Psychology ?
मनोविज्ञान की प्रकृति क्या है ?

2. Define functional Psychology.
प्रकार्यात्मक मनोविज्ञान को परिभाषित कीजिए।

3. Define experimental method.
प्रयोगात्मक विधि को परिभाषित कीजिए।

4. What do you mean by Perception ?
प्रत्यक्षीकरण से आप क्या समझते हैं ?

5. What is Gestalt ?
गेस्टाल्ट क्या हैं ?

6. Write the types of memory.
स्मृति के प्रकार लिखिए।

7. Define Emotion.
संवेग को परिभाषित कीजिए।

8. Write the types of Neuron.
न्यूरॉन के प्रकारों के नाम लिखिए।

9. Define intelligence.
बुद्धि को परिभाषित कीजिए।

10. Define Personality.
व्यक्तित्व को परिभाषित कीजिए।

SECTION - B / खण्ड - ब

11. Explain Case History.
जीवनवृत्त विधि की व्याख्या कीजिए।

12. Explain functions of Neuron.
न्यूरॉन के कार्यों की व्याख्या कीजिए।

13. Explain sensory threshold .
संवेदी सीमान्त्र की व्याख्या कीजिए।

14. What is forgetting ? Explain causes of forgetting.
विस्मरण क्या है ? विस्मरण के कारणों की व्याख्या कीजिए।

15. Explain operant conditioning theory of learning.
प्रसूति अनुबंधन अधिगम सिंद्धात की व्याख्या कीजिए। 3/2

16. Explain the concept of I.Q.
बुद्धि लब्धि के प्रत्यय की व्याख्या कीजिए। 3/2

17. What do you mean by Projective tests ?
प्रक्षेपण परीक्षणों से आप क्या समझते हैं ? 3/2

SECTION - C / खण्ड - स

18. Explain Survey method in detail. 15/10
सर्वेक्षण विधि की विस्तार में व्याख्या कीजिए।

OR / अथवा

Explain Behaviourism in detail. 15/10
व्यवहारवाद की विस्तार में व्याख्या कीजिए।

19. What is classical conditioning ? Discuss. 15/10
प्राचीन अनुबंधन क्या हैं ? चर्चा कीजिए।

OR / अथवा

Discuss the types of Motivation in detail. 15/10
प्रेरणा के प्रकार की विस्तार में चर्चा कीजिए।

20. Explain Spearman's theory of intelligence. 15/10
स्पीयरमैन के बुद्धि के सिद्धान्त की व्याख्या कीजिए।

OR / अथवा

Discuss about trait theory of personality given by Allport. 15/10
ऑलपोर्ट द्वारा दिए गए शील गुण व्यक्तित्व सिद्धान्त की चर्चा कीजिए।

- o 0 o -