

6th semester-2016_psychology(SOLVED)

Q1. Define the term “Artificial intelligence”. Discuss the points of differences and similarities between these two (10)

Answer: Artificial Intelligence (AI):

Artificial Intelligence (AI) refers to the development of computer systems or software that can perform tasks that typically require human intelligence. These tasks include problem-solving, learning from experience, understanding natural language, recognizing patterns, and making decisions. AI systems use algorithms, data, and computational power to simulate human intelligence and carry out specific tasks autonomously.

Differences between Human Intelligence and Artificial Intelligence:

1. Origin:

- **Human Intelligence:** Human intelligence is the natural cognitive ability inherent in humans, resulting from biological processes in the brain.
- **Artificial Intelligence:** AI is created by humans through programming and machine learning algorithms and does not possess consciousness or biological origins.

2. Learning and Adaptation:

- **Human Intelligence:** Humans can learn from a wide range of experiences, adapt to new situations, and apply knowledge across diverse domains.
- **Artificial Intelligence:** AI systems learn and adapt within specific, predefined domains and often require extensive data and reprogramming to handle new tasks or environments.

3. Emotion and Creativity:

- **Human Intelligence:** Human intelligence involves emotions, creativity, and the ability to think beyond predefined rules and algorithms.
- **Artificial Intelligence:** AI lacks emotions, creativity, and the capacity for spontaneous, original thought. It operates based on predefined algorithms and patterns.

4. Consciousness:

- **Human Intelligence:** Humans possess consciousness, self-awareness, and subjective experiences, which influence decision-making and problem-solving.
- **Artificial Intelligence:** AI lacks consciousness and self-awareness. It operates purely based on algorithms and data inputs.

Similarities between Human Intelligence and Artificial Intelligence:

1. Problem-Solving:

- Both human intelligence and AI involve problem-solving capabilities. Humans use their intelligence to solve complex problems, while AI systems are designed to tackle specific tasks or problems efficiently.

2. Learning:

- Both humans and AI systems can learn from experience. Humans learn through education and life experiences, while AI systems learn from data and training.

3. Pattern Recognition:

- Both human intelligence and AI excel at recognizing patterns, whether in language, images, or data. Humans use pattern recognition for various cognitive tasks, and AI systems rely on it for tasks like image recognition and natural language processing.

4. Decision-Making:

- Both human intelligence and AI can make decisions based on information and inputs. Humans make decisions influenced by emotions, values, and experience, while AI systems make decisions based on algorithms and data.

In summary, artificial intelligence refers to computer systems that simulate human-like intelligence to perform specific tasks. While there are similarities in problem-solving, learning, pattern recognition, and decision-making, significant differences exist, including the origin, learning adaptability, emotional and creative aspects, and consciousness. Human intelligence is rooted in biological processes and is characterized by consciousness and emotional depth, while AI is a product of human engineering, restricted to predefined tasks, and lacks consciousness or emotions.

Q.2. Write a detailed note on the following branches of psychology.

(i) Criminal psychology

(ii) Child psychology

(iii) Clinical psychology

(10)

Answer:

(i) Criminal Psychology:

Criminal psychology, often referred to as forensic psychology, is a specialized field that focuses on the intersection of psychology and the criminal justice system. It involves the study of the psychological factors that contribute to criminal behavior, the assessment and treatment of individuals involved in the legal system, and the application of psychological principles to various aspects of law enforcement and the legal process.

Key Areas of Criminal Psychology:

1. Criminal Profiling: Criminal psychologists may assist law enforcement in creating profiles of potential offenders based on behavioral and psychological characteristics.

Profilers attempt to understand the motives, personality traits, and likely behaviors of criminals.

2. Assessment and Evaluation: Criminal psychologists conduct assessments of individuals involved in the criminal justice system, including suspects, witnesses, and victims. They may assess competency to stand trial, assess the sanity of defendants, and evaluate the risk of reoffending.

3. Witness Testimony: Psychologists in this field may provide expertise in understanding and improving the accuracy of eyewitness testimony. They investigate the factors that can affect the reliability of witness statements.

4. Treatment and Rehabilitation: Some criminal psychologists work in correctional facilities, providing therapy and intervention programs for inmates. Their goal is to reduce the risk of recidivism and help individuals reintegrate into society successfully.

(ii) Child Psychology:

Child psychology, also known as developmental psychology, focuses on the study of the physical, cognitive, emotional, and social development of children from infancy through adolescence. It explores how children grow, learn, and adapt to their environment.

Key Areas of Child Psychology:

1. Early Childhood Development: This area focuses on the development of infants and toddlers, including milestones such as motor skills, language acquisition, and attachment to caregivers.

2. Cognitive Development: Child psychologists study how children's thinking and problem-solving abilities evolve as they age. This includes research on memory, attention, and reasoning skills.

3. Social and Emotional Development: Understanding how children develop socially and emotionally is a crucial aspect of child psychology. Researchers examine attachment, social relationships, emotional regulation, and the impact of family and peers on development.

4. Developmental Disorders: Child psychologists also investigate developmental disorders, such as autism spectrum disorder, ADHD, and learning disabilities. They assess, diagnose, and provide interventions for children with these conditions.

(iii) Clinical Psychology:

Clinical psychology is one of the broadest and most well-known branches of psychology. It is concerned with the assessment, diagnosis, treatment, and prevention of mental and emotional disorders and psychological distress in individuals. Clinical psychologists work in various settings, including private practices, hospitals, and mental health clinics.

Key Areas of Clinical Psychology:

1. Assessment and Diagnosis: Clinical psychologists use standardized assessments and diagnostic tools to evaluate individuals and determine the presence of psychological disorders. This process helps guide treatment planning.

2. Therapy and Intervention: Clinical psychologists provide psychotherapy or counseling to individuals and groups. They use evidence-based therapeutic approaches to help clients manage and overcome mental health challenges.

3. Research: Many clinical psychologists are actively involved in research, contributing to our understanding of mental health, treatment effectiveness, and the development of new therapeutic techniques.

4. Mental Health Promotion: Clinical psychologists also work to prevent mental health issues by promoting psychological well-being, stress management, and resilience in individuals and communities.

In summary, these branches of psychology each have unique focuses and applications. Criminal psychology deals with the intersection of psychology and the legal system, child psychology explores the development of children and adolescents, and clinical psychology is concerned with assessing, diagnosing, and treating mental health issues in individuals of all ages. Each of these branches plays a vital role in improving our understanding of human behavior and mental well-being.

Q3. long Q1-2018.

Short Question.

Q4. Q3-2021

Q5. Define “Memory”. also differentiate between STM and LTM.(5)

Answer: Memory refers to the cognitive process of encoding, storing, retaining, and retrieving information and experiences over time. It involves the ability to acquire, store, and use knowledge, skills, and past events, allowing individuals to learn, adapt, and interact with the world.

Short-Term Memory (STM):

Short-term memory, also known as working memory, is a component of memory responsible for the temporary storage of information needed for immediate tasks. It

has a limited capacity and duration, typically holding information for seconds to minutes. Key characteristics of STM include:

- Limited Capacity: STM can hold a small amount of information, usually around 7 ± 2 items (as suggested by George A. Miller).
- Temporary Storage: Information in STM is transient and tends to fade quickly unless rehearsed or transferred to long-term memory.
- Conscious Awareness: STM is the part of memory that you are currently aware of and actively using for tasks like mental arithmetic, reading, or holding a phone number in mind temporarily.

Long-Term Memory (LTM):

Long-term memory is a vast and enduring storage system for information and experiences that can be retained over extended periods, ranging from minutes to a lifetime. It is characterized by:

- Virtually Unlimited Capacity: LTM has the capacity to store a vast amount of information, including facts, skills, personal experiences, and general knowledge.
- Relatively Permanent: Information in LTM can be retained for an extended period, and it is less susceptible to decay compared to STM.
- Semantic Organization: LTM is often organized by semantic relationships, with related concepts and memories linked to each other.

Q6. Q6-2017 \ 2nd long of 2020

Q7. Give an overview of different “ Methods of psychology”.(5)

Answer: Psychology employs various methods to study and understand human behavior, cognition, and mental processes. These methods are diverse and can be broadly categorized into several approaches:

1. Experimental Method:

- **Overview:** This method involves controlled experiments to investigate cause-and-effect relationships. Researchers manipulate one or more variables and observe the resulting effects on behavior or mental processes.

- **Example:** A psychologist conducts an experiment to study the impact of sleep deprivation on memory by manipulating the amount of sleep participants receive and measuring their subsequent memory performance.

2. Observational Method:

- **Overview:** Observational research involves systematically watching and recording behavior in natural or controlled settings. Researchers do not manipulate variables but gather data through direct or participant observation.

- **Example:** A psychologist observes and records children's play behaviors in a preschool to study social interaction patterns.

3. Survey Method:

- **Overview:** Surveys use questionnaires or interviews to gather self-reported information from individuals or groups. This method is used to collect data on attitudes, opinions, beliefs, or behaviors.

- **Example:** Researchers administer a survey to assess public attitudes toward environmental conservation by asking people about their recycling habits and support for conservation measures.

4. Case Study Method:

- **Overview:** Case studies involve in-depth, detailed examinations of individual or small groups. Researchers collect extensive data through interviews, observations, and records to gain insights into unique or unusual phenomena.

- **Example:** A psychologist conducts a case study on a patient with a rare neurological disorder to better understand its symptoms, causes, and potential treatments.

5. Correlational Method:

- **Overview:** Correlational research examines the relationship between two or more variables without manipulation. It assesses the degree and direction of association between variables.

- **Example:** Psychologists use correlation to investigate the relationship between hours spent studying and academic performance, determining whether more study time is associated with higher grades.

6. Experimental Method:

- **Overview:** The experimental method involves controlled experiments to investigate cause-and-effect relationships. Researchers manipulate one or more variables and observe the resulting effects on behavior or mental processes.

- **Example:** A psychologist conducts an experiment to study the impact of sleep deprivation on memory by manipulating the amount of sleep participants receive and measuring their subsequent memory performance.

7. Biological Method:

- **Overview:** This approach examines the biological underpinnings of behavior and mental processes. It often involves neuroimaging techniques, genetics, and physiological measurements to understand how the brain and body influence psychological phenomena.

- **Example:** Neuroscientists use functional MRI (fMRI) to study brain activity patterns associated with memory retrieval tasks.

8. Cross-Cultural Method:

- **Overview:** Cross-cultural psychology explores how culture influences behavior, cognition, and mental processes. Researchers compare and contrast cultural groups to identify similarities and differences.

- **Example:** Psychologists study cultural variations in parenting practices to understand how cultural norms and values shape child-rearing strategies.

9. Psychophysiological Method:

- **Overview:** This method investigates the relationship between physiological processes (such as heart rate, brain waves, and hormone levels) and psychological experiences or behaviors.

- **Example:** Psychologists use electroencephalography (EEG) to study brain wave patterns associated with different states of consciousness, such as during sleep or meditation.

10. Longitudinal Method:

- **Overview:** Longitudinal research follows the same individuals or groups over an extended period, often years or decades, to study developmental changes and stability over time.

- **Example:** Researchers conduct a longitudinal study tracking the cognitive and emotional development of a group of children from infancy to adulthood to understand how factors like early experiences impact later life outcomes.