

PSYCHOLOGY ENTRANCE EXAMINATIONS

Useful for CUET-PG Psychology, GATE & Other M.A/ M.Sc
Psychology Entrances

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Chapter 04

State of Consciousness

Explanations

1. a) exposure to bright fluorescent light.

Explanation: The sleep cycle can be reset through carefully timed exposure to bright fluorescent light. Light exposure, particularly bright light, influences the body's internal clock, or circadian rhythm, by suppressing the production of melatonin, a hormone that regulates sleep-wake cycles. When individuals are exposed to bright light, especially in the morning, it signals to the brain that it is time to wake up and resets the internal clock to align with the desired sleep schedule. This process is particularly effective for managing conditions like jet lag or shift work sleep disorder, where the sleep-wake cycle needs adjustment.

2. d) concentration

Explanation: Concentration is not considered an altered state of consciousness. Altered states of consciousness refer to significant deviations from the normal waking state, which can be induced by various activities or substances and are characterized by changes in perception, cognition, and awareness. Concentration, on the other hand, involves maintaining a focused and alert state of mind to process information or complete tasks efficiently. It enhances cognitive function and awareness rather than altering the state of consciousness.

3. c) slightly more than 24 hours.

Explanation: When individuals are unaware of the actual time and are not exposed to external cues such as natural light, their "day" cycle, or circadian rhythm, typically averages slightly more than 24 hours. This intrinsic cycle, often referred to as the free-running cycle, tends to be around 24.2 to 25 hours. This slight deviation means that, without external cues to reset the internal clock, people would gradually shift their sleep-wake cycle later each day. Studies conducted in environments isolated from natural light and other time cues have shown that this is the natural rhythm of the human circadian clock, requiring external factors like exposure to light and social schedules to keep it aligned with the 24-hour day of the Earth's rotation.

4. d) all of these conditions

Explanation: Consciousness includes a wide range of mental states and conditions. It encompasses various levels of awareness and responsiveness to the environment and internal experiences. These include:

- a) Focused attention: A state where an individual is fully engaged and concentrating on a specific task or stimulus.
- b) Sleeping: Although it may seem like a state of unconsciousness, sleep involves different stages, including REM (rapid eye movement) sleep, where dreaming occurs, and NREM (non-rapid eye movement) sleep, which is crucial for restorative processes. These stages reflect different levels of brain activity and awareness.
- c) Hypnosis: A trance-like state of focused attention, heightened suggestibility, and deep relaxation. People under hypnosis can experience changes in perception, memory, and behavior.

5. b) REM

Explanation: True dreams, characterized by vivid and often story-like experiences, primarily occur during REM (Rapid Eye Movement) sleep. REM sleep is a unique phase of the sleep cycle, marked by rapid movements of the eyes, increased brain activity, and temporary muscle paralysis. During this stage, the brain's activity closely resembles that of wakefulness, which facilitates the vivid and immersive nature of dreams. While some dreaming can occur during other stages of sleep, it is during REM sleep that dreams are most intense, complex, and memorable.

6. (d) shake the bed

Explanation: Shaking the bed can also be successful in waking someone up, especially if the person is a heavy sleeper or if other methods have failed. The physical sensation of movement can stimulate the sleeper's senses and disrupt their sleep, prompting them to wake up. This method can be particularly useful in situations where auditory cues, such as alarms, may not be effective or accessible.

7. a) suprachiasmatic nucleus.

Explanation: Circadian rhythms, which are the physical, mental, and behavioral changes that follow a roughly 24-hour cycle, are controlled by a biological clock located in the suprachiasmatic nucleus (SCN). The SCN is a small region located in the hypothalamus, situated just above the optic chiasm. It receives direct input from the eyes about light levels, which helps synchronize the internal clock with the external environment. The SCN regulates the production of melatonin in the pineal gland and influences various bodily

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functions, including sleep-wake cycles, hormone release, and body temperature, ensuring they follow a 24-hour rhythm.

8. b) suprachiasmatic nucleus.

Explanation: The suprachiasmatic nucleus (SCN) is the cluster of brain cells that control the circadian rhythm. The SCN is located in the hypothalamus, just above the optic chiasm. It serves as the master clock that coordinates the body's internal rhythms with the 24-hour day-night cycle. The SCN receives direct input from the eyes about light exposure, which helps regulate the production of melatonin by the pineal gland and other circadian rhythms, including sleep-wake cycles, hormone release, and body temperature. The amygdala is involved in emotional processing, NPY (neuropeptide Y) is associated with appetite regulation, and the pineal gland produces melatonin, but it is the SCN that orchestrates the overall circadian rhythm.

9. c) hypothalamus.

Explanation: The circadian clock is located in the suprachiasmatic nucleus (SCN) within the hypothalamus. The SCN is the master regulator of circadian rhythms, coordinating various physiological and behavioral processes according to a roughly 24-hour cycle. It receives input about light levels from the retina, which helps synchronize the body's internal clock with the external environment. The pons, cerebral cortex, and medulla are involved in other functions such as regulating sleep, cognitive processes, and autonomic control, respectively, but the SCN in the hypothalamus is specifically responsible for managing circadian rhythms.

10. c) 50%

Explanation: Approximately 50% of people report getting too little sleep. Insufficient sleep is a widespread issue that affects a significant portion of the population, leading to various negative health outcomes, including impaired cognitive function, weakened immune response, and increased risk of chronic conditions such as obesity, diabetes, and cardiovascular disease. This percentage reflects the growing concern about sleep deprivation in modern society, where factors like increased screen time, stress, and demanding work schedules contribute to inadequate sleep. Efforts to improve sleep hygiene and public awareness of the importance of sufficient sleep are crucial in addressing this prevalent problem.

11. c) melatonin.

Explanation: Melatonin is the hormone primarily involved in regulating circadian rhythms.

It is produced by the pineal gland in response to darkness and helps signal the body to prepare for sleep. The secretion of melatonin follows a daily cycle, with levels rising in the evening, peaking during the night, and falling in the early morning. This hormone plays a crucial role in synchronizing the sleep-wake cycle with the external light-dark cycle. Testosterone and progesterone are sex hormones involved in reproductive functions, while serotonin is a neurotransmitter that contributes to mood regulation and can be a precursor to melatonin, but it is melatonin that is directly associated with the regulation of circadian rhythms.

12. c) NREM-2

Explanation: Sleep spindles predominate during stage NREM-2 (Non-Rapid Eye Movement Stage 2) of sleep. NREM-2 is characterized by the presence of sleep spindles, which are short bursts of brain activity that last for a fraction of a second. These spindles typically occur in clusters and are most prominent in this stage of sleep. NREM-1 is the transitional stage between wakefulness and sleep, NREM-3 is deep sleep or slow-wave sleep characterized by slow delta waves, and REM (Rapid Eye Movement) sleep is a stage associated with vivid dreaming and rapid eye movements.

13. c) increases in alpha waves

Explanation: During meditation, increases in alpha waves are most likely to occur. Alpha waves are a type of neural oscillation that occur in the frequency range of 8–12 Hz and are associated with a relaxed but alert mental state. They are commonly observed during states of relaxation, meditation, and wakeful rest. Alpha wave activity tends to increase when the mind is calm and focused, which are typical characteristics of meditation practice. This heightened alpha wave activity is often accompanied by a reduction in beta waves, which are associated with active concentration and alertness. Additionally, meditation is associated with a decrease in sympathetic nervous system activity, leading to a relaxation response, rather than an increase as seen in the sympathetic nervous system's fight-or-flight response.

14. d) all of the above

Explanation: All of the options listed an overseas trip, switching shifts at work, and going on daylight savings time can desynchronize circadian rhythms. Circadian rhythms are sensitive to changes in environmental cues such as light-dark cycles, meal times, and social schedules.

a) An overseas trip often involves crossing multiple time zones, leading to jet lag, where the body's internal clock is out of sync with the new time zone.

Answer Key

b) Switching shifts at work can disrupt regular sleep-wake patterns, particularly if shifts alternate between day and night work, leading to shift work sleep disorder.

c) Going on daylight savings time involves changing the clocks forward or backward by one hour, which can temporarily disrupt sleep patterns and the timing of other circadian rhythms.

15. d) REM sleep

Explanation: During REM (Rapid Eye Movement) sleep, the body experiences increased heart rate, rapid breathing, and genital arousal. REM sleep is a unique stage of sleep characterized by vivid dreaming, rapid eye movements, and a high level of brain activity similar to wakefulness. Physiologically, REM sleep is associated with increased autonomic nervous system activity, which manifests as heightened heart rate, rapid and irregular breathing, and increased blood pressure. Genital arousal is also common during REM sleep, particularly in males, due to increased blood flow to the genital area. These physiological changes are part of the body's normal sleep architecture and are essential for restorative sleep and various cognitive and emotional processes associated with dreaming.

16. c) stream.

Explanation: William James, a pioneering psychologist, developed the idea of consciousness as a “stream” in his work “The Principles of Psychology” published in 1890. He used the metaphor of a stream to describe the continuous flow of thoughts, sensations, and emotions that make up our conscious experience. According to James, consciousness is not static but rather dynamic and ever-changing, much like a stream that flows continuously. This metaphor emphasizes the fluid and interconnected nature of conscious experience, where thoughts and perceptions seamlessly transition from one moment to the next.

17. a) alpha waves.

Explanation: The brain waves that occur when you first go to bed and relax are called alpha waves. Alpha waves are neural oscillations in the frequency range of 8–12 Hz and are associated with a relaxed but wakeful state of mind. They are commonly observed when individuals are awake but in a relaxed state, such as when daydreaming, meditating, or just before falling asleep. Alpha waves are typically detected by electroencephalography (EEG) and are characterized by regular oscillations with relatively low amplitude.

18. d) 90

Explanation: The sleep cycle typically lasts approximately 90 minutes. During this cycle, an

individual progresses through various stages of sleep, including non-rapid eye movement (NREM) stages 1, 2, and 3, and rapid eye movement (REM) sleep. Each stage has distinct characteristics in terms of brain wave patterns, eye movements, and muscle activity. The sleep cycle is repeated multiple times throughout the night, with the duration of each cycle remaining relatively consistent at around 90 minutes, although it can vary slightly from person to person. As the night progresses, the proportion of time spent in each stage of sleep may change, with more time spent in REM sleep during later cycles.

19. b) periods of REM sleep get shorter as the night continues

Explanation: Periods of REM (Rapid Eye Movement) sleep actually get longer as the night progresses, not shorter. REM sleep occurs cyclically throughout the night, with each cycle typically lasting around 90 minutes. During these cycles, REM periods tend to become progressively longer, with the first REM period being relatively short and subsequent REM periods lengthening, especially in the later stages of the sleep cycle. This phenomenon is known as REM sleep rebound and is thought to be associated with the brain's need for REM sleep, which is essential for various cognitive and emotional processes, including memory consolidation and emotional regulation.

20. c) Stage 2

Explanation: Sleep spindles are characteristic features of stage 2 of non-rapid eye movement (NREM) sleep. Stage 2 follows stage 1 and precedes stage 3 in the sleep cycle. During stage 2, sleep spindles, which are brief bursts of brain activity lasting a fraction of a second, are observed on an electroencephalogram (EEG). These spindles typically occur in clusters and are associated with the consolidation of memory, as well as the suppression of external stimuli to promote uninterrupted sleep. Stage 2 sleep is also characterized by the presence of K-complexes, which are sharp, high-amplitude waves that occur in response to external stimuli or internal processing.

21. d) all of these effects.

Explanation: Chronic sleep deprivation can have a wide range of negative effects on both physical and mental health. Some of these effects include:

- a) Suppression of the immune system: Chronic sleep deprivation can weaken the immune system, making individuals more susceptible to infections and illnesses.
- b) Diminished productivity: Sleep deprivation can impair cognitive function, concentration, and decision-making abilities, leading to diminished productivity at work or school.
- c) Depression: Chronic sleep deprivation is associated with an increased risk of developing mood disorders such as depression and anxiety.

Answer Key

22. a) infants

Explanation: Infants typically sleep the longest compared to other age groups. Newborn infants, in particular, have a sleep-wake pattern characterized by frequent sleep episodes throughout the day and night, totaling around 16-18 hours of sleep per day on average. As infants grow older, their total sleep duration gradually decreases, but they still require a substantial amount of sleep for healthy growth and development. Children and adolescents also need ample sleep for proper physical and cognitive development, but their sleep needs vary depending on factors such as age, individual differences, and lifestyle factors.

23. b) REM sleep.

Explanation: The most vivid dreams occur during REM (Rapid Eye Movement) sleep. REM sleep is a stage of sleep characterized by rapid eye movements, heightened brain activity, and vivid dreams. During REM sleep, the brain's activity is similar to that of wakefulness, with increased activity in areas responsible for emotions, memory, and visual processing. This heightened brain activity, coupled with muscle paralysis that prevents individuals from acting out their dreams, contributes to the intensity and vividness of dreams experienced during REM sleep. While dreams can also occur during non-REM (NREM) sleep stages, they are typically less vivid and memorable compared to those experienced during REM sleep.

24. a) decrease REM sleep.

Explanation: One effect of sleeping pills, particularly those that are classified as sedative-hypnotics or benzodiazepines, is to decrease REM (Rapid Eye Movement) sleep. These medications are often prescribed to help individuals with insomnia or other sleep disorders fall asleep faster and stay asleep longer. However, they can also suppress REM sleep, leading to a reduction in the amount of time spent in this stage of sleep. While sleeping pills may help individuals fall asleep more quickly by increasing the amount of time spent in NREM (Non-Rapid Eye Movement) sleep stages, they can disrupt the normal sleep architecture by reducing REM sleep.

25. b) have a strong alcoholic drink before bed.

Explanation: Having a strong alcoholic drink before bed is not a suggestion to help overcome insomnia. In fact, alcohol consumption close to bedtime can worsen sleep problems and exacerbate insomnia symptoms. Alcohol is a central nervous system depressant that can initially make individuals feel drowsy and help them fall asleep faster. However, it disrupts the normal sleep cycle by suppressing REM (Rapid Eye Movement) sleep and increasing the likelihood of waking up during the night. As a result, alcohol can

lead to fragmented and poor-quality sleep, leaving individuals feeling tired and unrefreshed the next day.

26. c) lucid dream.

Explanation: Ruth is experiencing a lucid dream. Lucid dreaming occurs when an individual is aware that they are dreaming while the dream is happening. In a lucid dream, the dreamer may have a sense of self-awareness and consciousness, allowing them to recognize that the events unfolding are not real and that they are actually in a dream state. Moreover, lucid dreamers may even have some level of control over the dream narrative, allowing them to manipulate the dream environment or the actions of dream characters. Lucid dreaming can be a fascinating and unique experience for individuals who are able to achieve it. Some people actively practice techniques to induce lucid dreams, such as reality testing, maintaining dream journals, and engaging in meditation or visualization exercises.

27. d) alcohol

Explanation: Alcohol is classified as a depressant. Depressants are a category of drugs that slow down the central nervous system, resulting in sedation, relaxation, and a decrease in physical and mental functioning. Alcohol acts as a depressant by enhancing the effects of the neurotransmitter gamma-aminobutyric acid (GABA), which inhibits brain activity and produces feelings of calmness and relaxation. While methamphetamine, LSD (Lysergic acid diethylamide), and marijuana (cannabis) are all psychoactive substances that alter brain function and behavior, they do not belong to the category of depressants. Methamphetamine and LSD are stimulants, which increase alertness, energy, and euphoria, while marijuana is considered a psychoactive drug with mixed effects, including mild depressant, stimulant, and hallucinogenic properties, depending on the specific strain and individual response.

28. c) activation-synthesis

Explanation: The activation-synthesis hypothesis suggests that dreams result from the brain's attempts to make sense of and interpret random neural activity that occurs during sleep. According to this theory proposed by J. Allan Hobson and Robert McCarley in 1977, during REM (Rapid Eye Movement) sleep, the brainstem sends random signals to the cerebral cortex, which is responsible for higher cognitive functions such as thinking, perception, and interpretation. As a result, the cortex attempts to synthesize these random signals into coherent narratives or stories, which we experience as dreams. The activation-synthesis hypothesis proposes that dreams are not meaningful or purposeful in themselves but rather are a byproduct of the brain's attempt to impose order and meaning on spontaneous neural activity.

Answer Key

29. (c) eliminating sleep deprivation

Explanation: Eliminating sleep deprivation could indeed have a significant impact on average life expectancy. Chronic sleep deprivation is associated with various health problems such as obesity, heart disease, diabetes, and impaired immune function. Addressing sleep deprivation could potentially reduce the risk of these health issues and improve overall health outcomes, thereby increasing life expectancy.

30. b) sleep apnea.

Explanation: Sleep apnea is a sleep disorder characterized by repeated pauses in breathing or shallow breathing during sleep. These breathing interruptions can occur multiple times throughout the night and may last for several seconds to minutes. Sleep apnea can be classified into two main types: obstructive sleep apnea (OSA), which occurs when the muscles in the throat relax and block the airway, and central sleep apnea (CSA), which occurs when the brain fails to send signals to the muscles that control breathing. Individuals with sleep apnea often experience symptoms such as loud snoring, gasping or choking sounds during sleep, excessive daytime sleepiness, morning headaches, and difficulty concentrating.

31. (a) a symbolic fulfillment of erotic wishes.

Explanation: According to Freud, dreams are often interpreted as symbolic representations of repressed or unconscious desires, including erotic wishes. Freud proposed that dreams provide a safe outlet for expressing and fulfilling these forbidden or suppressed desires in a symbolic form, allowing the individual to satisfy their urges without facing the consequences of societal norms or personal inhibitions.

32. c) neurotransmitters.

Explanation: Psychoactive drugs primarily work by affecting neurotransmitters, which are chemical messengers that transmit signals between neurons in the brain and nervous system. These drugs can alter the levels of neurotransmitters, such as dopamine, serotonin, norepinephrine, and gamma-aminobutyric acid (GABA), either by increasing or decreasing their production, release, reuptake, or receptor activity. By modifying neurotransmitter activity, psychoactive drugs can produce various effects on mood, cognition, behavior, and physiological functions. For example, drugs that increase dopamine levels may produce feelings of euphoria and reward, while drugs that enhance serotonin activity may improve mood and reduce anxiety.

33. c) alteration of neural activity in the brain.

Explanation: Psychoactive drugs affect behavior and perception primarily through the alteration of neural activity in the brain. These drugs interact with the brain's neurotransmitter systems, modifying the release, reuptake, or receptor binding of neurotransmitters such as dopamine, serotonin, norepinephrine, and gamma-aminobutyric acid (GABA). By modulating neurotransmitter activity, psychoactive drugs can influence various brain functions, including mood, cognition, perception, and behavior. While the power of suggestion and the placebo effect can influence an individual's perception and response to drugs, they are not the primary mechanisms through which psychoactive drugs exert their effects.

34. d) all of the above

Explanation: All of the substances listed - tobacco, opium, and caffeine - are psychoactive drugs. Psychoactive drugs are substances that affect brain function, leading to alterations in perception, mood, consciousness, cognition, or behavior. Tobacco contains nicotine, a psychoactive alkaloid that acts as a stimulant by binding to nicotinic acetylcholine receptors in the brain. Opium is derived from the poppy plant and contains various psychoactive alkaloids, including morphine and codeine. These opioids act as central nervous system depressants by binding to opioid receptors in the brain and spinal cord, producing analgesia, sedation, and euphoria. Caffeine is a psychoactive alkaloid found in coffee, tea, chocolate, and some soft drinks. It acts as a stimulant by blocking the action of adenosine, a neurotransmitter that promotes relaxation and sleepiness.

35. b) consciousness.

Explanation: At its beginning, psychology primarily focused on the study of consciousness. The early schools of psychology, such as structuralism and functionalism, were concerned with understanding the structure and function of conscious experience. Structuralism, founded by Wilhelm Wundt, aimed to analyze the basic elements of consciousness through introspection, or the systematic observation of one's own thoughts and feelings. Functionalism, advocated by William James, focused on the adaptive functions of consciousness and behavior in promoting survival and adaptation to the environment.

36. b) depressants.

Explanation: Alcohol, tranquilizers, and sedatives are examples of depressant drugs. Depressants are substances that depress or slow down the activity of the central nervous system, leading to relaxation, sedation, and decreased alertness. These drugs typically work by enhancing the inhibitory effects of the neurotransmitter gamma-aminobutyric acid (GABA), which reduces neuronal activity and produces calming effects. Alcohol is a widely

Answer Key

used depressant that affects various neurotransmitter systems in the brain, including GABA and glutamate receptors. It produces effects ranging from mild relaxation and euphoria to sedation, impaired coordination, and respiratory depression at higher doses.

37. (a) Asian-Americans.

Explanation: According to national surveys in the United States, Asian-American high school seniors tend to report the lowest rates of drug use compared to other racial and ethnic groups. This pattern is consistent across various types of drugs, including alcohol, tobacco, marijuana, and other illicit substances. Several factors may contribute to the lower rates of drug use among Asian-American youth. Cultural factors, such as strong family ties, parental monitoring, and traditional values that discourage substance use, may play a role in shaping attitudes and behaviors related to drug use.

38. d) all of the above

Explanation: All of the factors listed - physical condition, expectations for the drug, and prior experience with cocaine can influence an individual's reaction to cocaine or any other psychoactive substance.

Physical condition refers to factors such as overall health, metabolism, body weight, and tolerance levels, which can affect how a person's body responds to the drug. Individuals with different physical conditions may metabolize drugs at different rates, experience different levels of drug absorption, and exhibit varying degrees of sensitivity to drug effects. Expectations for the drug can also shape an individual's response. If Gonzalo and Edinam have different beliefs or expectations about the effects of cocaine, these expectations can influence their subjective experiences and perceptions of the drug's effects. Prior experience with cocaine or other drugs can also influence how individuals respond to subsequent drug use. Individuals with previous exposure to cocaine may develop tolerance to its effects, meaning they require higher doses to achieve the same effects as before.

39. d) Insomnia

Explanation: Insomnia is a sleep disorder characterized by difficulty falling asleep, staying asleep, or experiencing non-restorative sleep despite adequate opportunity for sleep. Individuals with insomnia may have trouble initiating sleep at the beginning of the night, experience frequent awakenings during the night, or wake up too early in the morning and have difficulty returning to sleep. Insomnia can be acute, lasting for a short period, or chronic, persisting for months or even years. It can be caused by various factors, including stress, anxiety, depression, medical conditions, medications, caffeine or alcohol

consumption, poor sleep habits, environmental factors, or disruptions in the sleep-wake cycle.

40. b) The uninterrupted flow of thoughts and sensations in consciousness.

Explanation: The “stream of consciousness” refers to the continuous and uninterrupted flow of thoughts, feelings, sensations, and perceptions that occur in an individual’s conscious experience. This concept, introduced by William James, highlights the dynamic and ever-changing nature of consciousness, where various thoughts and mental contents arise and pass away in a continuous stream. In the stream of consciousness, one thought or sensation leads to another in a seemingly effortless and spontaneous manner, without strict organization or structure. It encompasses both the conscious awareness of external stimuli and internal mental processes, including memories, emotions, desires, and intentions.

41. c) The limited capacity to process only specific stimuli while ignoring others.

Explanation: Selective attention refers to the cognitive process by which individuals focus their attention on specific stimuli or information while ignoring or filtering out irrelevant or distracting stimuli. It involves the ability to allocate limited cognitive resources to relevant stimuli while suppressing attention to irrelevant or competing stimuli. Selective attention is characterized by its limited capacity, as individuals cannot attend to all stimuli in their environment simultaneously. Instead, they prioritize certain stimuli based on factors such as relevance, importance, novelty, and personal goals.

42. d) The limitations of selective attention.

Explanation: The “cocktail party phenomenon” refers to the phenomenon wherein individuals are able to selectively attend to and focus on a single conversation or voice amidst a background of multiple conversations or auditory stimuli, such as at a crowded party or social gathering. This phenomenon illustrates the limitations of selective attention, as individuals must filter out irrelevant or less important auditory information to focus on the conversation of interest. Despite the presence of numerous competing auditory stimuli, individuals are often able to effectively tune into and process the relevant conversation, demonstrating the selective nature of attention.

43. c) Automatic processing is fast and effortless, while attentional processing is slow and effortful.

Explanation: Highly practiced automatic information processing differs from attentional processing primarily in terms of speed, effort, and conscious awareness. Automatic

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processing refers to the effortless and rapid processing of information that occurs automatically, often as a result of extensive practice or learning. Once a task or skill becomes highly practiced, it can be executed with minimal conscious effort or awareness. Automatic processes are typically fast, efficient, and occur outside of conscious awareness, allowing individuals to perform tasks quickly and effortlessly.

44. c) Behavior reflects the influence of both attentional and automatic processing when they occur together.

Explanation: Attentional and automatic processing often interact and influence behavior in various ways. While they represent distinct cognitive processes, they can both play roles in shaping how individuals perceive, interpret, and respond to their environment. In many situations, behavior reflects the simultaneous influence of both attentional and automatic processing. For example, when driving a familiar route, automatic processes may handle routine tasks such as steering or changing gears, allowing attentional resources to focus on monitoring traffic conditions or responding to unexpected events. Similarly, in social interactions, automatic processes may govern nonverbal communication cues, while attentional processes direct focus toward important conversational content.

45. a) Selective attention

Explanation: William James referred to selective attention as the “searchlight of consciousness.” This metaphor suggests that selective attention functions like a spotlight, allowing individuals to focus their conscious awareness on specific stimuli or information while excluding or minimizing attention to others. Just as a searchlight can illuminate certain objects while leaving others in darkness, selective attention directs cognitive resources to relevant stimuli while ignoring distractions or irrelevant information.

46. c) Introduction of EEG machines

Explanation: The breakthrough in sleep research that occurred in the 1930s was the introduction of EEG (electroencephalogram) machines. EEG machines allowed researchers to measure and record electrical activity in the brain during sleep. This technological advancement enabled researchers to study the different stages of sleep and patterns of brain activity associated with each stage. EEG recordings revealed distinctive brain wave patterns corresponding to different stages of sleep, such as slow-wave sleep (SWS) and rapid eye movement (REM) sleep, laying the foundation for modern sleep research.

47. c) Stage 3

Explanation: Stage 3 of sleep, also known as slow-wave sleep (SWS) or deep sleep,

is characterized by the presence of delta waves in the EEG (electroencephalogram) recordings. Delta waves are high-amplitude, low-frequency brain waves that indicate a deep state of sleep. During Stage 3 sleep, the brain exhibits a predominance of delta wave activity, along with other slow-wave activity. This stage is associated with restorative functions, including physical and mental recovery, as well as memory consolidation.

48. d) Stage 4

Explanation: This stage is also known as REM sleep, typically happening about 90 minutes after falling asleep and recurring cyclically throughout the night. During REM sleep, brain activity resembles that of wakefulness, with intense neural firing. This stage is crucial for cognitive processes like memory consolidation and emotional regulation. REM sleep is associated with various physiological phenomena, including increased heart rate, irregular breathing, and heightened brain activity. The paralysis of skeletal muscles during REM sleep prevents individuals from physically acting out their dreams, ensuring safety during this mentally active phase of sleep. Dysfunction in REM sleep has been linked to sleep disorders such as REM sleep behavior disorder and certain psychiatric conditions.

49. a) Paradoxical sleep

Explanation: The term used to describe the sleep state in which the sleeper's brain and internal organs are highly activated, but the muscles are paralyzed, is "paradoxical sleep." This state is also known as rapid eye movement (REM) sleep. During paradoxical sleep, the brain exhibits high levels of activity, similar to wakefulness, while the body experiences muscle atonia, a temporary paralysis that prevents the sleeper from acting out their dreams. This combination of heightened brain activity and muscle paralysis is considered paradoxical because it contrasts with the deep relaxation typically associated with sleep.

50. c) It occurs just before waking.

Explanation: The last REM (rapid eye movement) period of the night is often the easiest to remember among dreams because it occurs just before waking. REM periods tend to become longer and more frequent as the night progresses, with the final REM period occurring closer to the waking state. As a result, individuals are more likely to wake up directly from REM sleep, making the dreams experienced during this period more accessible to conscious memory. Additionally, dreams occurring closer to awakening may be more vivid and emotionally salient, contributing to their easier recall.

51. a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Explanation: Assertion (A) is true because the "hidden observer" phenomenon, as described by the Hilgards, indeed suggests an altered state of consciousness in hypnosis.

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Reason (R) is also true because in the hidden observer state, hypnotized subjects are fully aware of their surroundings and may experience pain differently from their non-hypnotized state. This supports the assertion that the hidden observer phenomenon demonstrates an altered state of consciousness during hypnosis, as it reveals that hypnotized individuals can have separate streams of consciousness coexisting simultaneously. Therefore, (R) provides a correct explanation for (A).

52. d) Insomnia

Explanation: Insomnia is the most common sleep disorder characterized by a long-term inability to obtain adequate sleep. People with insomnia may have difficulty falling asleep, staying asleep, or both, leading to non-restorative sleep and daytime impairment. Insomnia can be caused by various factors, including stress, anxiety, depression, medical conditions, medications, or poor sleep habits. It is important to address insomnia because chronic sleep deprivation can negatively impact physical health, mental well-being, and overall quality of life.

53. d) The vivid visual images in dreams

Explanation: In the context of dreams, the “manifest content” according to Sigmund Freud refers to the actual events, actions, and images that occur in a dream. It is the surface-level storyline or narrative of the dream that is experienced by the dreamer. Freud contrasted manifest content with latent content, which he believed represented the hidden, symbolic meaning or unconscious wishes underlying the manifest content of dreams. Freud argued that by analyzing the manifest content of dreams, one could gain insight into the deeper, unconscious conflicts, desires, and motivations of the dreamer.

54. a) Activation-Synthesis Hypothesis

Explanation: The Activation-Synthesis Hypothesis, proposed by J. Allan Hobson and Robert McCarley, suggests that dreams are the result of random brain activation during REM (rapid eye movement) sleep. According to this hypothesis, the brainstem sends random neural signals to the cortex during REM sleep, leading to the activation of various brain regions. The cortex then attempts to make sense of these random activations by synthesizing them into coherent dream experiences. In other words, the brain creates a narrative or storyline to make sense of the chaotic neural activity occurring during REM sleep.

55. b) Circadian Rhythm

Explanation: The term for the concept that sleep patterns follow a natural rhythm based on the day-night cycle, which may have evolutionary significance, is “Circadian Rhythm.”

Circadian rhythms are biological processes that follow a roughly 24-hour cycle, influenced by environmental cues such as light and darkness. These rhythms regulate various physiological and behavioral processes, including sleep-wake cycles, hormone secretion, metabolism, and body temperature. The alignment of sleep patterns with the day-night cycle is crucial for optimal functioning and adaptation to the environment.

56. c) Repeated mental focus on an object or phrase

Explanation: One common element in various forms of meditation, such as Transcendental Meditation and the “Prayer of the Heart,” is the repeated mental focus on an object or phrase. This practice often involves directing attention inward and concentrating on a specific object, word, or phrase to achieve a state of mental clarity, relaxation, or spiritual connection. In Transcendental Meditation, practitioners typically repeat a mantra silently to themselves, while in the “Prayer of the Heart,” individuals may focus on a sacred phrase or prayer.

57. c) Mental devices for focus

Explanation: According to Herbert Benson’s research on meditation, one essential element in all forms of meditation is the use of mental devices for focus. Regardless of the specific technique or tradition, meditation typically involves directing attention inward and using mental tools or techniques to maintain focus and concentration. These mental devices may include mantras (repeated words or phrases), visualizations, breathing techniques, or mindfulness practices. The use of such mental devices helps individuals to anchor their attention and cultivate a state of mental calmness, clarity, and presence.

58. c) Intense fear and anxiety

Explanation: While meditation is often associated with psychological effects such as a sense of calmness, detachment, and even sensations of floating, intense fear and anxiety are not typically reported as common experiences during meditation. Instead, meditation practices are generally aimed at promoting relaxation, stress reduction, and emotional well-being. However, it’s essential to note that individual experiences with meditation can vary, and some individuals may encounter challenging emotions or sensations during meditation sessions, but these experiences are not considered typical or inherent to the practice itself.

59. (b) Behavioral Science

Explanation: In the field of Behavioral Science, meditation is used as a therapy for anxiety and stress-related disorders due to its effects on cognitive and emotional processes. Behavioral scientists study how meditation techniques can influence behavior, cognition,

Answer Key

and emotional regulation. Meditation practices such as mindfulness-based interventions have been extensively researched within Behavioral Science for their efficacy in reducing stress and anxiety symptoms by promoting present-moment awareness and adaptive coping strategies. Through empirical research and clinical trials, Behavioral Science contributes to understanding the psychological mechanisms underlying meditation's therapeutic effects and its integration into evidence-based treatment approaches for anxiety and stress-related disorders.

60. c) They can deeply involve themselves in imaginative activities.

Explanation: Subjects who are highly susceptible to hypnosis often exhibit a high capacity for imaginative involvement. They can deeply immerse themselves in imaginative activities and experiences, making them more responsive to hypnotic suggestions. This heightened ability to engage in imaginative processes can facilitate their responsiveness to hypnosis and enhance the effectiveness of hypnotic interventions. Additionally, individuals with high hypnotic susceptibility may experience vivid imagery, enhanced suggestibility, and alterations in perception and cognition during hypnotic states.

61. b) To make the subject susceptible to suggestions.

Explanation: The primary purpose of the hypnotic induction process is to induce a state of heightened suggestibility in the subject. During the induction phase, the hypnotist uses various techniques to guide the subject into a trance-like state, characterized by focused attention, relaxation, and increased receptivity to suggestions. Once the subject is in this state, they become more open to accepting and responding to the hypnotist's suggestions, which can be used for therapeutic purposes or to explore the subject's subconscious mind.

62. b) Positive hallucinations

Explanation: Positive hallucinations refer to the perception of stimuli that are not present in the external environment. In the context of hypnosis, positive hallucinations can occur when hypnotized subjects experience sensory perceptions, such as seeing, hearing, feeling, or smelling things that are not actually there. These hallucinations can be induced by suggestions given by the hypnotist during the hypnotic session. Positive hallucinations are one of the phenomena observed during hypnosis and can vary in intensity and content depending on the individual and the hypnotic suggestions given.

63. c) (A) is true, but (R) is false.

Explanation: Assertion (A) is true because spontaneous amnesia in hypnosis typically results in a temporary inability to retrieve memories, not a permanent loss of memories.

However, Reason (R) is false because it incorrectly states that hypnotic amnesia is a temporary inability to retrieve memories. In reality, hypnotic amnesia refers specifically to the temporary blocking or difficulty in recalling specific memories while under hypnosis, but these memories are not permanently lost. Therefore, Assertion (A) is true, but Reason (R) is false.

64. c) (A) is true, but (R) is false.

Explanation: Assertion (A) correctly states that hypnosis can lead to confabulated memories, which subjects often perceive as accurate. Confabulated memories are false memories that can be inadvertently created or suggested during hypnotic sessions.

Reason (R) is false. While hypnotized subjects may indeed experience confabulated memories, there isn't necessarily a strong ability to differentiate between true and confabulated memories. In fact, one of the risks of hypnosis is that subjects may accept confabulated memories as true due to the suggestibility and altered state of consciousness induced by hypnosis.

65. b) Nonstate theories focus on the distinct altered state of consciousness in hypnosis.

Explanation: State theories of hypnosis propose that hypnosis creates an altered state of consciousness in which individuals experience changes in perception, memory, and voluntary control. Nonstate theories, on the other hand, suggest that hypnotic phenomena can be explained without invoking an altered state of consciousness. Instead, they propose that hypnotic responses are the result of normal psychological processes such as social compliance, role-playing, and expectancy. Therefore, the key difference between state theories and nonstate theories lies in whether they attribute hypnosis to a unique altered state of consciousness or to more general psychological mechanisms.

66. c) An altered state of consciousness.

Explanation: State theorists propose that hypnosis induces an altered state of consciousness characterized by changes in perception, memory, and voluntary control. This altered state is believed to enable individuals to experience phenomena such as increased suggestibility, heightened focus, and altered sensory perceptions. Therefore, according to state theorists, hypnosis represents an altered state of consciousness rather than simply a form of imagination, an increase in motivation, or a lack of responsiveness.

67. c) They show a consistent delta wave pattern.

Answer Key

68. a) Motivation and imaginative ability.

Explanation: Nonstate theorists propose that factors such as motivation and imaginative ability account for hypnotic responsiveness rather than a distinct altered state of consciousness induced by hypnosis. According to this view, individuals who are highly motivated to comply with hypnotic suggestions and possess strong imaginative abilities are more likely to respond to hypnosis. This perspective emphasizes the role of individual differences and psychological factors in influencing hypnotic responsiveness.

69. c) (A) is true, but (R) is false.

Explanation: Assertion (A) is true because nonstate theories of hypnosis argue that factors like good imaginative abilities, expectation, and motivation to follow suggestions explain hypnotic responsiveness without invoking a special altered state of consciousness. Reason (R) is false because nonstate theorists do not believe that hypnosis involves a unique state of consciousness. Instead, they argue that hypnosis is a normal psychological process, not fundamentally different from ordinary states of consciousness.

70. c) Reducing anxiety and tension

Explanation: Sedatives such as benzodiazepines, barbiturates, and alcohol are primarily used to reduce anxiety and tension. They exert their effects by depressing the central nervous system, which leads to relaxation and a sense of calmness. These drugs are commonly prescribed for the management of anxiety disorders, insomnia, and certain medical conditions where relaxation is needed. However, they can also induce drowsiness, impair cognitive function, and cause addiction if used improperly. Therefore, they should only be used under the supervision of a healthcare professional and according to prescribed guidelines.

71. a) Potential for overdose

Explanation: Barbiturates, compared to benzodiazepines, have a higher potential for overdose. Barbiturates can depress the central nervous system significantly, leading to respiratory depression, coma, and even death if taken in excessive amounts. This risk is particularly concerning because barbiturate overdose can occur relatively easily, especially when combined with alcohol or other central nervous system depressants. Benzodiazepines, while also posing risks of overdose, generally have a wider safety margin and are less likely to result in severe respiratory depression compared to barbiturates.

72. b) Euphoria, increased alertness, and enhanced attention

Explanation: Stimulants typically produce euphoria, increased alertness, and enhanced

attention at low and moderate doses. These drugs stimulate the central nervous system, leading to heightened arousal, improved concentration, and feelings of pleasure or euphoria. Examples of stimulants include caffeine, nicotine, amphetamines, and cocaine. These effects can vary depending on the specific drug, dosage, and individual response. However, sedation, relaxation, depersonalization, loss of self-confidence, slurred speech, and cognitive impairment are more commonly associated with depressants or drugs that suppress central nervous system activity, rather than stimulants.

73. c) They produce striking changes in perception.

Explanation: At low doses, psychedelics produce striking changes in perception. These drugs alter sensory perception, leading to visual and auditory distortions, changes in the perception of time, and alterations in thought patterns. Users may experience vivid hallucinations, intensified colors, enhanced patterns, and heightened sensory experiences. These effects can vary widely depending on the specific psychedelic substance and individual factors such as dosage, set (mental state of the user), and setting (environment).

74. d) PCP

Explanation: PCP (phencyclidine), also known as “angel dust,” belongs to a drug category characterized by a mixture of sedative, psychedelic, and stimulant effects. It can induce a range of experiences, including feelings of numbness, dissociation from reality or self, and alterations in perception. Users may also report experiencing a sense of unity with the universe or feeling disconnected from their surroundings. PCP’s effects can be unpredictable and potentially dangerous, leading to erratic behavior, hallucinations, and violent tendencies. Additionally, PCP use can pose significant risks to physical and mental health, including addiction, cognitive impairment, and long-term psychological effects.

75. a) Consciousness

Explanation: Consciousness refers to the sum total of all external stimuli and internal mental events of which an individual is aware at any given time. It encompasses various aspects of mental experience, including perception, thoughts, feelings, and sensations. Consciousness is a fundamental aspect of human experience and plays a central role in cognition, behavior, and subjective experience.

76. b) William James

Explanation: William James, an influential American psychologist and philosopher, is credited with coining the term “stream of consciousness.” In his book “The Principles of Psychology” (1890), James described consciousness as a continuous flow of changing

Answer Key

sensations, thoughts, images, and events in our awareness, likening it to a stream. James's concept of the stream of consciousness has been highly influential in the fields of psychology and literature.

77. b) Selective attention

Explanation: The “cocktail party phenomenon” illustrates selective attention, which is the process of focusing awareness on a particular stimulus while ignoring other stimuli. This phenomenon refers to the ability to concentrate on one conversation in a noisy environment, such as a cocktail party, while filtering out other conversations. Selective attention allows individuals to prioritize certain stimuli for processing while disregarding irrelevant or less salient information.

78. b) Repeating or “shadowing” the shadowed message

Explanation: In a shadowing experiment, participants are instructed to repeat or “shadow” the message they hear in one ear while disregarding the message presented to the other ear. This task allows researchers to study selective attention by observing how individuals focus on and process one auditory stimulus while ignoring conflicting information from another source. It helps in understanding how attentional mechanisms operate in the presence of competing stimuli, shedding light on cognitive processes such as perception and comprehension.

79. d) Unconscious processing

Explanation: Unconscious processing refers to mental operations that occur without conscious awareness or intention. It involves automatic cognitive processes that operate outside of conscious control, influencing behavior, thoughts, and perceptions without individuals being aware of them. Unlike conscious processing, which involves deliberate attention and awareness, unconscious processing occurs subconsciously and involuntarily. Despite its hidden nature, unconscious processing plays a significant role in shaping human behavior and decision-making.

80. c) Extensive practice can make the transition to automatic processing faster and more efficient.

Explanation: Extensive practice can lead to the automation of tasks, where they become more ingrained and require less conscious attention to perform. With repeated practice, tasks that initially require conscious effort and attention gradually become more automatic, allowing individuals to execute them with minimal cognitive effort. This transition from attentional processing, which involves conscious awareness and deliberate

control, to automatic processing, which occurs without conscious effort, is facilitated by practice and repetition.

81. d) The invention of the electroencephalogram (EEG) machine.

Explanation: The significant development in sleep research that occurred in the 1930s was the invention of the electroencephalogram (EEG) machine. This device measures and records electrical activity in the brain, allowing researchers to observe and analyze brainwave patterns during sleep. The EEG provided researchers with a valuable tool to study sleep and dreams more effectively by providing insights into the different stages of sleep and the associated brain activity. While the discovery of rapid eye movement (REM) sleep and the introduction of polysomnography are also important milestones in sleep research, the invention of the EEG machine marked a crucial advancement that revolutionized the field of sleep science.

82. c) Eugene Aserinsky and Nathaniel Kleitman.

Explanation: Eugene Aserinsky and Nathaniel Kleitman were the researchers responsible for discovering the relationship between rapid eye movements (REM) and dreaming sleep in the 1950s. Their pioneering work, conducted at the University of Chicago, involved monitoring brain activity during sleep using electroencephalography (EEG) and observing the characteristic rapid eye movements associated with dreaming. This discovery revolutionized the understanding of sleep and led to significant advancements in sleep research.

83. d) They may have difficulty remembering their dreams upon waking.

Explanation: Despite experiencing REM sleep, some individuals believe they seldom dream because they may have difficulty remembering their dreams upon waking. While REM sleep is associated with vivid dreaming, the ability to recall dreams varies among individuals. Factors such as sleep depth, sleep environment, and individual differences in memory processes can influence dream recall. Therefore, even though these individuals experience REM sleep, they may not remember their dreams upon waking, leading them to believe they seldom dream.

84. c) The first REM period occurs after about 90 minutes of sleep.

Explanation: One important general finding about sleep patterns is that the first REM (rapid eye movement) period typically occurs after about 90 minutes of sleep. This pattern is consistent across most individuals and is known as the REM sleep onset latency. During this initial REM period, dreaming is more frequent and vivid, and subsequent REM periods

Answer Key

occur roughly every 90 minutes throughout the night.

85. c) (A) is true, but (R) is false.

Explanation: Assertion (A): This statement is true. When insomnia is caused by psychological disorders like anxiety or depression, addressing the underlying issue is often the most effective treatment approach. Therapy techniques like cognitive-behavioral therapy for insomnia (CBT-I) can help improve sleep patterns in such cases.

Reason (R): This statement is false. Psychoactive drugs can have an impact on sleep patterns, but the impact can be positive or negative depending on the medication. Sleeping pills: Medications like benzodiazepines or hypnotics can promote short-term sleep but may have side effects and are not typically recommended for long-term use.

Stimulants: While not typically used for insomnia treatment, stimulants can disrupt sleep if taken too close to bedtime.

86. c) Sleep apnea

Explanation: Sleep apnea is a sleep disorder characterized by repeated interruptions in breathing during sleep, leading to brief awakenings and disruptions in sleep patterns. These interruptions result in decreased oxygen levels in the blood and can lead to symptoms such as excessive daytime sleepiness, fatigue, and difficulty concentrating during the day. Treatment options for sleep apnea may include lifestyle changes, the use of continuous positive airway pressure (CPAP) devices, or surgery in severe cases.

87. b) Sudden, irresistible attacks of sleep during normal waking hours

Explanation: Narcolepsy is a neurological disorder characterized by excessive daytime sleepiness and sudden, uncontrollable episodes of falling asleep during the day, known as “sleep attacks.” People with narcolepsy may also experience other symptoms such as cataplexy (sudden loss of muscle tone), sleep paralysis, and hallucinations upon falling asleep or waking up. These symptoms can significantly impact daily functioning and quality of life. Treatment for narcolepsy typically involves medications to help manage symptoms and improve wakefulness during the day.

88. c) Random by-products of periodic brain activation.

Explanation: According to the activation-synthesis hypothesis proposed by Hobson and McCarley, dreams are considered to be the result of random neural activity in the brainstem. During REM sleep, the brainstem activates various brain regions, including those responsible for emotions, sensations, and memories. The cortex, which is responsible for higher-order

thinking and reasoning, attempts to make sense of these random signals by synthesizing them into a narrative, creating the experience of dreaming. This hypothesis suggests that dreams are not necessarily meaningful or purposeful reflections of the dreamer's psyche but rather the brain's attempt to make sense of spontaneous neural activity during sleep.

89. (b) Dreams are random and meaningless.

Explanation: According to T. Allan Hobson and Robert McCarley's activation-synthesis hypothesis, dreams are indeed considered to be random in the sense that they are generated by random neural activity originating from the brainstem during REM sleep. This random neural firing is then synthesized into dream content by higher brain regions, such as the cortex. However, while the content of dreams may appear random, Hobson and McCarley do not suggest that dreams are entirely meaningless. Instead, they propose that the brain attempts to make sense of this random activity by synthesizing it into a narrative or dream experience. Therefore, while dreams may involve random neural activity, they are not necessarily considered entirely meaningless according to the activation-synthesis hypothesis.

90. a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Explanation: Assertion (A) states that meditation is a method for voluntarily producing an altered state of consciousness that is distinct from both sleep and normal waking consciousness. This is accurate because meditation involves entering a unique mental state characterized by deep relaxation, heightened awareness, and focused attention, differing significantly from both the sleep state and the usual waking state.

Reason (R) explains that meditation involves focusing attention on a simple image, phrase, or sound, which helps reduce awareness of other stimuli. This process, often called "concentration meditation" or "focused attention meditation," is indeed a fundamental technique in many forms of meditation. By directing attention to a specific focal point, meditators can diminish the influence of extraneous thoughts and external distractions, thereby achieving an altered state of consciousness.

91. b) To enhance the subject's response to subsequent hypnotic suggestions

Explanation: The hypnotic procedure generally consists of two main segments: the hypnotic induction and the hypnotic suggestion. The primary purpose of the hypnotic induction is to prepare the subject for the hypnosis session by creating a state of focused attention, deep relaxation, and heightened suggestibility. This process often involves techniques such as guided relaxation, deep breathing, and concentrated attention on a

Answer Key

particular object or idea. By achieving this state, the subject becomes more responsive to subsequent hypnotic suggestions. During the hypnotic induction, the hypnotist aims to reduce distractions and increase the subject's mental receptivity, setting the stage for the effective delivery of hypnotic suggestions that follow.

92. c) Anton Mesmer

Explanation: Anton Mesmer, an 18th-century physician, is widely credited with bringing hypnosis to public and scientific attention. Mesmer developed a theory known as "animal magnetism," which posited that an invisible natural force possessed by all living beings could be harnessed to heal various ailments. His methods, which involved inducing trance-like states in his patients, laid the groundwork for what would later be known as hypnosis. Mesmer's practices became widely popular and controversial, leading to both acclaim and skepticism. His work sparked significant interest and debate within the scientific community and the general public.

93. b) Interest in hypnosis has been cyclical, with periods of high and low scientific attention.

Explanation: The historical perspective on hypnosis indeed reflects a cyclical pattern of interest and acceptance within the scientific community and public opinion. Hypnosis, as introduced by Anton Mesmer in the late eighteenth century through his theory of animal magnetism, initially garnered significant attention and popularity. However, Mesmer's theories faced substantial skepticism and were ultimately discredited by a scientific commission led by Benjamin Franklin. This led to a period of decline in interest. In the mid-19th century, James Braid reintroduced and redefined hypnosis, distancing it from Mesmer's mystical explanations and framing it in more scientific terms. This sparked renewed interest and further research, leading to advances in understanding the phenomenon and its applications, especially in the fields of medicine and psychology.

94. a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Explanation: Assertion (A) is true because in hypnosis, subjects often temporarily suspend critical thinking and reality testing, making them more likely to accept suggestions without questioning them.

Reason (R) is also true, as reality testing involves evaluating external information critically to ensure that perceptions align with reality. The suspension of this process in hypnosis explains why subjects accept suggestions more readily.

95. c) By transforming pain sensations into pressure or tingling

Explanation: Hypnosis can be an effective method for pain control by altering the perception of pain. Rather than eliminating pain sensations entirely, hypnosis often transforms how the individual experiences the pain. For example, a person under hypnosis might feel a sensation of pressure, tingling, or warmth instead of sharp pain. This transformation can make the pain more tolerable and less distressing. Hypnosis works by tapping into the brain's ability to modulate sensory inputs and alter the way these inputs are perceived. The hypnotist may use suggestions that redirect the individual's attention away from the pain or suggest that the pain is less intense or experienced differently.

96. c) They enhance the subject's response to hypnotic suggestions.

Explanation: Focused Attention: Hypnosis often involves focusing attention on the hypnotist's voice or instructions. This concentrated focus can make the subject more receptive to suggestions.

Reduced Reality Testing: As discussed previously, hypnosis can decrease a person's critical thinking and ability to question suggestions. This reduced mental filtering allows them to be more open to accepting the hypnotist's ideas.

Imaginative Involvement: Hypnosis frequently utilizes imagery and imagination. When a person becomes more involved in creating vivid mental experiences based on the suggestions, they are more likely to respond positively to them.

97. c) It is impaired

Explanation: During hypnosis, negative hallucinations can be induced by the hypnotist, causing the subject to be unable to perceive certain external stimuli that are actually present. This phenomenon occurs when the hypnotist suggests that the subject will not see or hear specific stimuli, effectively creating a blind spot in their perception.

Negative hallucinations contrast with positive hallucinations, where the subject perceives something that does not exist. In the case of negative hallucinations, the subject's perception is impaired because they fail to recognize or acknowledge stimuli that would normally be detected by their senses. This impairment is not due to any physical inability to perceive but rather a psychological block induced by the hypnotic suggestion.

98. c) Subjects can decide whether a suggestion is consistent with their ethical and moral standards

Explanation: Limited Control by Hypnotist: Research suggests that hypnosis doesn't lead to complete loss of control or a mindless following of suggestions. People under hypnosis can still exercise choice and critical thinking. Ethical Boundaries: Subjects typically don't lose their sense of right and wrong while hypnotized. They can reject suggestions that

Answer Key

violate their morals or ethical codes. Hypnosis does not erase a person's ethical and moral standards. Subjects under hypnosis retain the ability to evaluate suggestions and decide whether to accept or reject them based on their own moral and ethical judgments.

99. d) Post-hypnotic suggestions.

Explanation: Post-hypnotic suggestions are instructions or prompts given by a hypnotist during a hypnosis session that are intended to be carried out after the subject has come out of the hypnotic state. These suggestions can be used to influence a person's behavior or thought patterns in a beneficial way. For example, a hypnotist might suggest that a person will feel a strong aversion to smoking or will experience increased confidence in social situations after the session ends. This technique is particularly useful in helping individuals change harmful behaviors or adopt healthier habits because the suggestions can bypass the conscious mind's resistance and directly affect the subconscious, where many habits and behaviors are rooted.

100. b) Confabulation.

Explanation: Confabulation in hypnosis refers to the phenomenon where subjects provide detailed accounts of past events that they could not recall in their normal waking state. However, these recollections are often inaccurate or entirely fabricated. During hypnosis, the heightened state of suggestibility can lead individuals to unintentionally create false memories or distort existing ones, filling in gaps with plausible but incorrect details. This process is not intentional lying; rather, the subjects believe in the accuracy of their memories. Confabulation underscores the complexity of human memory and the influence of suggestion, highlighting why hypnotically retrieved memories are treated with caution in both therapeutic and legal contexts.

101. c) Hypnotized subjects are highly suggestible and likely to be biased by subtle cues from the hypnotist.

Explanation: One of the significant concerns regarding the use of hypnosis as an investigative method, especially in police investigations, is the high suggestibility of hypnotized subjects. While under hypnosis, individuals are more susceptible to influence from the hypnotist's suggestions, leading to the potential for the creation of false memories or the distortion of existing ones. This suggestibility can be problematic in legal settings, as it may lead to the unintentional fabrication or alteration of information. Moreover, the power dynamics between the hypnotist and the subject can introduce bias, with subtle cues from the hypnotist influencing the subject's responses. As a result, the reliability of information obtained through hypnosis for investigative purposes is questioned, and the potential for contamination of evidence is a significant consideration.

102. c) By conducting a hypnotic induction and observing the response to test suggestions.
Explanation: Hypnotic susceptibility is typically assessed using standardized procedures involving a hypnotic induction and the observation of responses to test suggestions. During a hypnotic induction, the hypnotist guides the individual into a relaxed and focused state of consciousness, commonly known as a trance. Once in this state, the hypnotist presents a series of test suggestions to evaluate the subject's level of susceptibility to hypnosis. These suggestions may involve suggestions for relaxation, imagery, or alterations in perception. The responses to these suggestions, such as changes in behavior or subjective experiences reported by the subject, are then observed and evaluated to determine the individual's level of hypnotic susceptibility.

103. c) Task-motivation group.

Explanation: In studies assessing hypnotic responsiveness, the task-motivation group typically performs equally well in response to suggestions as the hypnotic-induction group. This finding highlights the importance of motivation in influencing hypnotic responsiveness. The task-motivation group consists of individuals who are highly motivated to achieve a specific outcome or goal, which may include responding positively to hypnotic suggestions. Their motivation drives them to cooperate with the hypnotist and engage fully in the hypnotic process, resulting in comparable responses to those induced by formal hypnotic induction techniques used in the hypnotic-induction group. This suggests that motivation plays a significant role in determining the effectiveness of hypnosis, underscoring the importance of considering individual differences, such as motivation levels, when evaluating hypnotic responsiveness.

104. c) Dramatic actors.

Explanation: According to Theodore Sarbin's theory of hypnosis, he compares hypnotically susceptible subjects to dramatic actors. Sarbin's theory emphasizes the role of social context and interpersonal dynamics in shaping the hypnotic experience. He views hypnosis as a form of role enactment, where individuals adopt the role of being hypnotized in response to social cues and expectations from the hypnotist. In this framework, hypnotically susceptible subjects are likened to dramatic actors who willingly suspend disbelief and engage in the performance of their role. Like actors on a stage, hypnotic subjects enter into a state of heightened suggestibility and responsiveness to the hypnotist's suggestions, effectively playing the part of someone under hypnosis.

105. c) Hidden observer.

Explanation: According to the Hilgards, the term they use to describe the second,

Answer Key

non-hypnotized self that monitors the hypnotized self during a hypnotic experience is the “hidden observer.” This concept was proposed by Ernest Hilgard as part of his neodissociation theory of hypnosis. According to this theory, hypnosis involves a dissociation of consciousness, where the hypnotized individual experiences a split between different levels of awareness. The hidden observer represents a dissociated aspect of consciousness that remains vigilant and aware of the hypnotic experience, even while the individual is deeply hypnotized.

106. c) Psychoactive drugs are substances that alter consciousness by changing brain activity, and studying their effects helps understand both psychological and physical dimensions of consciousness.

Explanation: Psychoactive Drugs: These are substances that can affect the brain and our mental processes, leading to alterations in mood, perception, cognition, or behavior. Examples include caffeine, alcohol, nicotine, and many prescription medications.

Impact on Consciousness: Consciousness refers to our subjective state of awareness, including thoughts, feelings, sensations, and perceptions. Psychoactive drugs can significantly influence this state, highlighting the connection between brain chemistry and conscious experience.

Understanding Consciousness: By observing how psychoactive drugs affect consciousness, researchers gain insights into the underlying mechanisms of the brain. They can learn more about the neurotransmitters and brain regions involved in various aspects of consciousness, like alertness, mood regulation, or sensory processing.

107. c) To reduce pain and induce pleasurable, detached feelings

Explanation: Morphine and heroin: These are both powerful opioids, a class of drugs known primarily for their pain-relieving properties. They bind to opioid receptors in the nervous system, blocking pain signals and reducing pain perception. **Pleasurable Effects:** Opioids also produce feelings of euphoria, relaxation, and detachment. These effects can be highly reinforcing, leading to dependence and addiction.

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