

PSYCHOLOGY ENTRANCE EXAMINATIONS

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

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Chapter 08

Child Development

Explanations

1. a) object permanence.

Explanation: Piaget referred to the child's ability to think of an object that is not immediately present as "object permanence." This concept describes the understanding that objects continue to exist even when they cannot be seen, heard, touched, or otherwise sensed. It typically emerges in infants around the age of 8 to 12 months old, marking a significant milestone in cognitive development. Prior to acquiring object permanence, infants may act as if objects cease to exist when they are out of sight, but as they develop this understanding, they begin to search for hidden objects and demonstrate more sophisticated behaviors indicating their awareness of objects' continued existence.

2. c) germinal, embryonic, fetal.

Explanation: The three stages of prenatal development occur in the following order:

Germinal stage: This is the initial stage of prenatal development, which begins at conception (fertilization) and lasts approximately two weeks. During this stage, the zygote (fertilized egg) undergoes rapid cell division as it travels down the fallopian tube and implants itself into the uterine wall.

Embryonic stage: Following implantation, the developing organism is referred to as an embryo. This stage spans from approximately the third week to the eighth week after conception.

Fetal stage: The fetal stage begins around the ninth week after conception and continues until birth. During this stage, the developing organism is known as a fetus.

3. b) cross-sectional.

Explanation: When a research study involves sampling individuals from different age groups at a single point in time, it is utilizing the cross-sectional method. This method allows researchers to examine and compare variables of interest across different age groups simultaneously, providing insights into age-related differences. Cross-sectional studies are often used to study

developmental trends, cognitive abilities, behaviors, and other phenomena across the lifespan. They are relatively quick and efficient compared to longitudinal studies, which track the same individuals over an extended period of time.

4. a) conservation.

Explanation: In Piaget's stage of concrete operational intelligence, which typically occurs between the ages of 7 and 11, children acquire an understanding of the principle of conservation. Conservation refers to the understanding that certain properties of objects, such as volume, mass, and number, remain the same even when their appearance or arrangement changes superficially. For example, a child at this stage understands that if liquid is poured from a tall, narrow glass into a short, wide glass, the amount of liquid remains the same despite the different appearances. This ability demonstrates a more advanced understanding of logical principles and marks an important milestone in cognitive development according to Piaget's theory.

5. b) normative development.

Explanation: When a psychologist is interested in age-related changes that occur in a consistent order in most individuals, they are focusing on normative development. This term refers to developmental changes that are typical and expected within a population. Normative development outlines the standard progression of physical, cognitive, and social milestones that most individuals experience as they age. This concept is distinct from stage theories of development, which propose that individuals pass through a series of qualitatively different stages as they grow. Individual development, on the other hand, refers to the unique course of growth and change that occurs in a person over their lifetime, taking into account personal experiences and genetic factors. Maturation is the process by which individuals grow and develop capabilities as a result of aging, but it does not necessarily imply a consistent order of changes across a population.

6. d) all of the above

Explanation: All of the options listed (coffee, alcohol, and cigarettes) can potentially pose problems during pregnancy:

a) Coffee: While moderate caffeine consumption is generally considered safe during pregnancy, excessive intake of caffeine, typically from coffee or energy drinks, may be associated with an increased risk of miscarriage or low birth weight.

b) Alcohol: Consuming alcohol during pregnancy can lead to a range of fetal alcohol spectrum disorders (FASDs), including fetal alcohol syndrome (FAS). FASDs can cause physical, behavioral, and cognitive impairments in the developing baby.

Answer Key

c) Cigarettes: Smoking during pregnancy is associated with numerous adverse outcomes, including increased risk of miscarriage, preterm birth, low birth weight, and sudden infant death syndrome (SIDS).

7. a) a cohort

Explanation: A cohort refers to a group of individuals who share a common characteristic or experience, typically defined by being born during the same period of historical time, such as a particular year or range of years. Cohorts are often used in research studies to examine how factors such as age, historical events, or cultural changes influence behavior, attitudes, and outcomes over the lifespan. In developmental psychology, studying cohorts allows researchers to investigate how different generations may differ in their experiences, beliefs, and values.

8. a) sensorimotor

Explanation: According to Jean Piaget's theory of cognitive development, object permanence is acquired during the sensorimotor stage, which occurs from birth to about 2 years of age. Object permanence is the understanding that objects continue to exist even when they are not visible or otherwise perceptible. In the early substage of the sensorimotor stage, infants initially lack this understanding and may act as though objects cease to exist when they are out of sight. However, as they develop, they begin to grasp the concept of object permanence, realizing that objects continue to exist even when they are hidden from view. This cognitive milestone is a significant achievement in the sensorimotor stage and lays the foundation for later cognitive development.

9. b) novel stimuli; familiar stimuli

Explanation: According to research in infant perception and attention, young infants typically show a preference for novel stimuli over familiar stimuli. This preference is often demonstrated by infants' tendency to look longer at new or unfamiliar objects, events, or patterns compared to those that are familiar or repetitive. This preference for novelty is believed to reflect infants' innate curiosity and their drive to explore and learn about their environment.

10. d) all of the above

Explanation: Smoking during pregnancy poses significant risks to both the mother and the developing fetus. Heavy smoking during pregnancy can increase the risk of various adverse outcomes, including

a) Increased chance of miscarriage: Smoking during pregnancy is associated with an

increased risk of miscarriage or spontaneous abortion.

b) Premature birth: Smoking is a known risk factor for preterm birth, which is the delivery of the baby before 37 weeks of gestation. Preterm birth can lead to various complications for the newborn, including respiratory problems, developmental delays, and long-term health issues.

c) Hyperactivity in the child: Research suggests that exposure to maternal smoking during pregnancy may increase the risk of behavioral problems, including hyperactivity, in children.

11. d) prenatal

Explanation: The prenatal period of development encompasses the time from conception to birth. During this period, the developing organism undergoes significant growth and differentiation, progressing through various stages such as the zygote, embryo, and fetus. The prenatal period is crucial for the formation of organ systems and the overall development of the fetus within the mother's womb. Therefore, "prenatal" accurately describes the developmental period from conception to birth.

12. b) their cheek is touched.

Explanation: The rooting reflex is an automatic response that helps newborns find the breast or bottle for feeding. When the corner of a baby's mouth is stroked or gently touched, they will turn their head and open their mouth to "root" in the direction of the touch. This reflex is crucial for a newborn's survival as it assists them in locating the source of nourishment. It's one of several reflexes that babies are born with to help them through the early stages of life. The rooting reflex typically lasts about 4 months but can vary from baby to baby.

13. d) All of the above are true.

Explanation: Infants tested shortly after birth often demonstrate several auditory preferences:

a) They typically show a preference for human speech over non-speech sounds, such as instrumental music. This indicates an early sensitivity to the linguistic cues present in human speech.

b) New-borns commonly display a preference for their own mother's voice compared to the voice of another woman. This preference suggests a recognition of the familiar and comforting quality of their mother's voice, possibly established during prenatal development.

Answer Key

c) Infants may exhibit a preference for a passage of prose that they were exposed to regularly during the last weeks of gestation compared to an unfamiliar passage. This finding suggests that infants have auditory memories from the prenatal period and can recognize familiar sounds or speech patterns shortly after birth.

14. b) rooting reflex.

Explanation: The rooting reflex is a natural response observed in newborns when their cheek or mouth area is touched. They turn their head towards the stimulus and open their mouth in search of a nipple or a source of nourishment. This reflex helps newborns find the breast or bottle for feeding, demonstrating an instinctive behavior crucial for survival in the early stages of life.

15. c) placenta

Explanation: The placenta is a vital organ that develops in the uterus during pregnancy. It attaches to the uterine wall and provides nutrients and oxygen to the baby through the umbilical cord. The placenta acts as a lifeline between the mother and the fetus, allowing for the exchange of nutrients, gases, and waste products. It also produces hormones that are essential for maintaining the pregnancy. The amniotic sac is a fluid-filled sac that surrounds and protects the fetus, the fallopian tube is a part of the female reproductive system that transports eggs from the ovaries to the uterus, and structuralism is a theoretical paradigm in psychology and other social sciences.

16. d) Erikson.

Explanation: Erik Erikson, a renowned developmental psychologist, proposed the theory of psychosocial development which includes the stage of trust vs. mistrust. According to Erikson, this stage is crucial as it shapes a child's view of the world and their overall personality. In this stage, if a child's needs are consistently met by caregivers, they develop a sense of trust and security in the world. This foundational trust is considered essential for healthy psychological development and influences the child's future relationships and social interactions. Piaget, Harlow, and Vygotsky made significant contributions to developmental psychology, but it was Erikson who specifically linked secure attachment in infancy to the development of basic trust.

17. a) overextension

Explanation: Overextension is a common linguistic phenomenon observed in early language development where children apply a word they know to a wider variety of contexts than is appropriate for the word's meaning. For example, a child might learn the word "kitty"

and start calling all four-legged animals “kitty,” regardless of whether they are cats, dogs, or even stuffed animals. This happens because the child is overgeneralizing the use of the word based on some shared characteristic, such as having four legs and fur. This is a normal part of language acquisition as children learn to categorize and label their world. Over time, with feedback and learning, children refine their use of words and their overextensions decrease as they develop a more precise understanding of word meanings and categories.

18. a) intersex conditions.

Explanation: The term “hermaphroditism” has fallen out of use in favor of more accurate and respectful language. “Intersex conditions” is the preferred term, referring to variations in sex characteristics, including chromosomes, gonads, or genitals, that don’t fit typical definitions of male or female. This term acknowledges the diversity of human biology and respects individuals’ identities.

19. d) cognitive.

Explanation: Jean Piaget is renowned for his theory of cognitive development, which focuses on how children construct their understanding of the world as they grow. His theory emphasizes the qualitative shifts in thinking that occur as children progress through stages, from sensorimotor (birth to 2 years) to preoperational (2 to 7 years), concrete operational (7 to 11 years), and formal operational (11 years and older).

20. c) obeys to avoid punishment or to gain concrete rewards.

Explanation: In preconventional morality, which is the first level of Kohlberg’s stages of moral development, individuals’ moral reasoning is primarily based on direct consequences to themselves. At this stage, typically seen in children, the person obeys rules to avoid punishment or to gain rewards, rather than out of a sense of social duty or conscience. This level of moral reasoning is characterized by a focus on self-interest and the desire to satisfy one’s own needs and desires. It’s a more egocentric viewpoint, where the concepts of right and wrong are not internalized but are instead based on external rewards and punishments.

21. a) lack of evidence for qualitatively different stages.

Explanation: Jean Piaget’s theory of cognitive development has been critiqued primarily for its stage-based approach. Critics argue that there is a lack of clear evidence supporting the existence of distinct, qualitatively different stages of cognitive development. Furthermore, researchers have found that cognitive development may be more continuous and less stage-like than Piaget proposed. Although Piaget’s theory also faces criticism regarding the

Answer Key

roles of the social environment and specifics of the change process, the primary critique often centers on the stage-based nature of his model.

22. a) attachment.

Explanation: Attachment refers to the deep emotional bond that develops between infants and their primary caregivers, typically their parents. This bond is crucial for the child's emotional and social development. John Bowlby, a pioneer in attachment theory, proposed that this bond is essential for survival, as it keeps the infant close to the caregiver for protection and care. Mary Ainsworth expanded on Bowlby's work through her "Strange Situation" study, demonstrating that securely attached infants show distress when separated from their caregivers and seek comfort upon their return. Attachment provides a foundation for healthy psychological and social development throughout life.

23. c) egocentrism.

Explanation: Egocentrism, a concept introduced by Jean Piaget in his theory of cognitive development, refers to an individual's inability to differentiate between their own perspective and that of others. This is most commonly observed in young children, particularly during the preoperational stage (approximately ages 2 to 7). Children in this stage often assume that others see, hear, and feel exactly as they do. This developmental phenomenon is not indicative of selfishness but rather reflects a normal stage of cognitive development where the child's thinking is centered on their own viewpoint. Over time, as children mature, they develop the ability to understand perspectives different from their own, which is a key aspect of social and cognitive growth.

24. c) menarche.

Explanation: Menarche is the term used to describe a girl's first menstrual period, which marks the onset of puberty and the beginning of reproductive capability. It typically occurs between the ages of 9 and 15, signaling that the girl's body is undergoing significant hormonal changes necessary for reproduction. This event is a major milestone in female development.

For boys, the first ejaculation, also known as spermarche, similarly marks the beginning of reproductive capability and is a significant milestone in male puberty. Both menarche and spermarche are key indicators of the transition from childhood to adolescence.

25. a) reach the formal-operational stage.

Explanation: In Piaget's theory of cognitive development, true logical thinking develops when children reach the formal-operational stage, which typically begins around age

11 and continues into adulthood. At this stage, children develop the ability to think abstractly, reason logically, and use deductive reasoning. They can consider hypothetical situations and reason through them systematically. This stage marks the emergence of scientific thinking and problem-solving skills that involve variables and abstract concepts, distinguishing it from earlier stages where thinking is more concrete and tied to immediate experiences and perceptions.

26. a) assimilation.

Explanation: Assimilation is a concept from Jean Piaget's theory of cognitive development. It refers to the process by which individuals incorporate new information into their existing cognitive structures or schemas. When encountering new information, a person tries to fit it into what they already know, maintaining their existing understanding of the world. This is in contrast to accommodation, where an individual's cognitive structures are altered to include new information that doesn't fit into their current understanding. Together, assimilation and accommodation help individuals adapt to new experiences and learn from them.

27. d) moral development.

Explanation: Lawrence Kohlberg is best known for his theory of moral development, which he proposed as an extension of Jean Piaget's work on moral reasoning. Kohlberg's theory outlines a series of stages through which individuals progress as they develop more sophisticated levels of moral reasoning. These stages are divided into three main levels: preconventional, conventional, and postconventional, each containing two distinct stages. Kohlberg's work has been influential in understanding how people's sense of justice and ethical behavior evolves over time.

28. a) compares people of different ages with one another.

Explanation: Cross-sectional research is a research method that involves comparing people of different ages at a single point in time. This approach allows researchers to identify age-related differences by examining and comparing the responses or characteristics of different age groups. It is particularly useful for identifying trends and patterns across different age cohorts without the time and resource commitments required for longitudinal studies, which follow the same group of individuals over an extended period.

29. b) preconventional.

Explanation: In Lawrence Kohlberg's theory of moral development, the preconventional level is the first level of moral reasoning. At this stage, children focus on the direct

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consequences of their actions. Their sense of right and wrong is primarily determined by the outcomes of their behavior, such as avoiding punishment or gaining rewards. This level of moral thinking is characterized by an egocentric viewpoint, where actions are judged based on how they directly affect the individual, rather than any broader social or ethical principles. For example, a child might think it is wrong to steal because they could be punished, rather than considering the impact of theft on others or societal rules.

30. d) post-conventional.

Explanation: During the post-conventional level of moral thinking, individuals develop their own set of moral principles that may or may not align with societal laws. They understand that rules and laws are not absolute and may conflict with personal ethical beliefs. Consequently, conflicts over what is moral and what is legal are likely to occur at this level. Individuals at this stage may choose to follow their own moral principles even if it means breaking the law. They prioritize abstract ethical principles such as justice, equality, and human rights over societal norms and conventions.

31. c) formal operational.

Explanation: According to Piaget's theory of cognitive development, hypothetico-deductive reasoning emerges during the formal operational stage, which typically occurs from adolescence onwards. In this stage, individuals can think abstractly and engage in hypothetical-deductive reasoning, allowing them to systematically test hypotheses and consider possible outcomes or solutions to problems. This ability is a hallmark of cognitive maturity and enables individuals to engage in more complex problem-solving and decision-making tasks.

32. b) G. Stanley Hall.

Explanation: He was a pioneering American psychologist and educator whose work focused on childhood development and evolutionary theory. Hall is often regarded as one of the founders of child psychology and educational psychology. One of his significant contributions to the field was the introduction of the questionnaire method for studying children's understanding of everyday concepts. This innovative approach allowed for a more systematic and empirical study of child development. Hall and his students created over 190 questionnaires, which played a crucial role in the burgeoning interest in child development studies.

33. b) Norms for physical and motor development in children.

Explanation: Gesell conducted extensive research on the physical and motor development

of children, aiming to establish norms and milestones for various aspects of child development. His studies involved observing and documenting children's growth patterns, motor skills, and developmental milestones, providing valuable insights into typical patterns of development from infancy through childhood. This research laid the foundation for understanding the progression of physical and motor skills in children and continues to inform assessments and interventions in child development today.

34. d) It results in improper brain cell development.

Explanation: Malnutrition can deprive the developing fetus of vital nutrients necessary for proper brain cell development. This deprivation can lead to structural and functional abnormalities in the brain, affecting various cognitive and neurological functions. Research indicates that maternal malnutrition, especially during critical periods of brain development in utero, can result in long-term consequences such as impaired cognitive abilities, learning difficulties, and behavioral problems in the offspring. Therefore, ensuring adequate maternal nutrition during pregnancy is crucial for promoting healthy brain development in the fetus.

35. c) Color blindness

Explanation: Color blindness is an example of a sex-linked characteristic. It is a condition that primarily affects males and is inherited through genes located on the sex chromosomes, particularly the X chromosome. The gene responsible for color blindness is recessive and carried on the X chromosome. Since males have only one X chromosome (XY), they are more likely to express the trait if they inherit the recessive gene. In contrast, females have two X chromosomes (XX), providing a higher chance of carrying at least one normal copy of the gene, which often masks the expression of color blindness. As a result, color blindness is more common in males than in females, making it a sex-linked characteristic.

36. b) Rapid growth

Explanation: A sensitive period in development is typically associated with rapid growth. It refers to a specific window of time during an organism's development when it is particularly sensitive to certain environmental influences or experiences. During these sensitive periods, the organism's development may be more susceptible to external factors, and it may exhibit heightened responsiveness to specific stimuli or experiences. These periods are characterized by rapid neural, cognitive, or physical growth, during which the organism is highly receptive to learning or acquiring particular skills. Sensitive periods often play a crucial role in shaping long-term outcomes and abilities in various domains of development.

Answer Key

37. c) Three stages

Explanation: The prenatal period is typically divided into three stages:

Germinal stage: This stage lasts from conception to about two weeks. It includes the fertilization of the egg by the sperm, the formation of the zygote, and its implantation into the uterine wall.

Embryonic stage: This stage lasts from about two weeks to eight weeks after conception. It is characterized by rapid cell division and differentiation, during which the basic structures of the embryo begin to form, including major organs and body systems.

Fetal stage: This stage begins around eight weeks after conception and lasts until birth. During this stage, the embryo is referred to as a fetus, and it undergoes further development and maturation of organs and systems.

38. b) The period of the embryo.

Explanation: This stage occurs from the third to the eighth week of development and is also known as the period of organogenesis. During this time, cell division is rapid, and cells begin to specialize into different types that will form various tissues and organs. The embryonic period is crucial for the initial formation of the body's structures. It's when the basic groundwork for the body's organs and systems is laid out. The cells differentiate and take on specific roles, leading to the development of the nervous system, heart, limbs, eyes, and other vital organs. This period is characterized by the formation of the major organ systems, and it is a time of critical development where the foundations for the rest of prenatal growth are established.

39. b) Fetal alcohol syndrome (FAS)

Explanation: Fetal alcohol syndrome (FAS) is the major birth disorder associated with alcohol consumption during pregnancy. It results from maternal alcohol consumption during pregnancy, leading to a range of physical, cognitive, and behavioral abnormalities in the newborn. These include facial abnormalities, growth deficiencies, central nervous system dysfunction, and cognitive impairments. FAS is preventable by avoiding alcohol consumption during pregnancy, highlighting the importance of maternal health behaviors during gestation for fetal development.

40. c) Period of the zygote.

Explanation: This stage encompasses the first two weeks after conception, a period characterized by cell division and initial differentiation. The fertilized egg, known as a zygote, begins to divide through mitosis, first into two cells, then four, eight, and so on. This process of cell division continues as the zygote makes its journey down the fallopian

tube to the uterus. During the zygote period, the cells not only multiply but also start to differentiate, taking on specific characteristics that will determine the type of cells they will become. The outer cells will eventually form the placenta, while the inner cells will develop into the embryo. The zygote period is critical as it sets the foundation for the next stages of prenatal development, leading to the formation of the blastocyst, which will implant in the uterus wall. This stage is followed by the embryonic period, where further specialization and organ formation occur.

41. b) The period from birth to age 2

Explanation: Infancy typically refers to the period from birth to age 2 in human development. It's characterized by significant growth and development across various domains, including physical, cognitive, and socio-emotional. During infancy, infants undergo rapid changes and milestones such as motor skill development, language acquisition, and the formation of early attachments with caregivers. This period lays the foundation for later development and is critical for shaping the individual's overall trajectory of growth and learning.

42. d) Formation of sex roles

Explanation: During childhood, one of the major outcomes is the formation of sex roles, which involve attitudes, beliefs, and behavior patterns associated with masculinity or femininity. These roles are influenced by various factors including socialization, cultural norms, and parental guidance. Children learn about gender roles through observation, interaction with peers and adults, and media exposure. The formation of sex roles contributes to the development of gender identity and influences how individuals perceive themselves and others in terms of gender.

43. c) Symbolic thought

Explanation: According to Piaget, symbolic thought refers to the ability to construct a mental representation of an object and manipulate it mentally as if it were the actual object. This ability allows individuals to use symbols, such as words or images, to represent objects, events, or ideas. Symbolic thought is a crucial cognitive skill that emerges during the preoperational stage of development, typically around ages 2 to 7, according to Piaget's theory of cognitive development. It enables children to engage in activities such as pretend play, drawing, and language use, which involve the use of symbols to represent objects or concepts.

44. c) Reversibility

Answer Key

Explanation: During the concrete operational stage of cognitive development, children acquire the cognitive skill of reversibility. Reversibility refers to the understanding that certain actions or operations can be reversed or undone, returning an object to its original state. This ability is fundamental to understanding conservation tasks, where children realize that changes in the appearance of an object, such as its shape or arrangement, do not necessarily change its fundamental properties, such as quantity, mass, or volume. Reversibility allows children to mentally manipulate objects and operations, enabling them to understand relationships between different aspects of the physical world more effectively.

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

Explanation: Assertion (A) is True: The sensorimotor stage, proposed by Jean Piaget, is a crucial period in cognitive development that lasts from birth to approximately 2 years old. During this time, infants are indeed primarily focused on exploring their own bodies and the world around them through their senses and motor actions. They learn about objects and their properties by touching, mouthing, manipulating them, and observing the effects of their actions.

Reason (R) is False: While the sensorimotor period lays the foundation for future cognitive development, the focus is not on refining complex cognitive skills. Infants are still developing basic sensory and motor skills, object permanence (understanding objects exist even when not seen), and cause-and-effect relationships.

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

Explanation: Assertion (A) is True: Rocha Gelman's research challenged the idea that preoperational children (ages 2-7 years) are incapable of conservation tasks. Her studies showed that with proper training, these children could successfully conserve number, length, and quantity.

Reason (R) is True and Explains (A): Gelman's training strategy focused on redirecting children's attention to the relevant aspects of the conservation problem. For example, in a number conservation task, she might train children to focus on the number of items before and after a transformation, rather than being misled by changes in the way the items were spread out (irrelevant dimension). This shift in attention allowed children to grasp the underlying principle of conservation that the quantity remains the same even if the appearance changes.

47. a) Charles Darwin.

Explanation: He is known for publishing one of the earliest baby biographies in the field of psychology. Darwin's detailed observations of his own children, especially his infant son William, were meticulously recorded and later published. These observations contributed significantly to the understanding of child development at the time. Darwin's work in this area was pioneering because it applied scientific principles to the study of child development. His approach was systematic and empirical, marking a departure from the anecdotal and casual observations that were common before his time. The baby biography he published provided valuable insights into the developmental stages of infancy and laid the groundwork for future research in developmental psychology.

48. d) The twentieth century.

Explanation: The first research center for child development at Yale University was established in 1911 as the Yale Clinic of Child Development, which later became known as the Yale Child Study Center. This center has been instrumental in advancing the understanding of child development and neuropsychiatric disorders through research and clinical work conducted by its faculty. The establishment of the Yale Child Study Center marked a significant milestone in the field of child psychology and developmental research. It was founded by Arnold Gesell, who is considered the father of child development in the United States. Gesell's meticulous observations and research, including his use of cinema-analysis to document developmental milestones, have had a lasting impact on the field. The center's work over the past century has contributed to the improvement of mental health in children and families and has fostered a deeper understanding of their psychological and developmental needs.

49. b) Genotype refers to genetic potential, and phenotype refers to observable behaviors.

Explanation: Genotype refers to an organism's genetic makeup, including the alleles inherited from its parents. It represents the genetic potential or blueprint of an individual. Phenotype, on the other hand, encompasses the observable traits or characteristics of an organism, such as its physical appearance, behavior, and physiological functions. These traits result from the interaction between the genotype and environmental factors. While genotype provides the foundation for phenotype, the actual expression of traits is influenced by both genetic and environmental factors. Therefore, genotype and phenotype are distinct concepts in genetics, with genotype representing the genetic potential and phenotype representing the observable manifestation of that potential.

50. c) From the moment of conception.

Answer Key

Explanation: The interaction between heredity and environment in human development begins at conception. The genetic instructions a child inherits from their parents provide a blueprint for development, while the environment influences how these genetic directions are expressed, shaped, or even silenced. From the earliest moments of life, this dynamic interaction works to shape who children are and who they will become. The environment can impact many aspects of development, including physical growth, intellectual abilities, and personality traits. It's a continuous interplay where both heredity and environment are essential in the development of the individual.

51. c) Infancy.

Explanation: This term refers to the period following birth, typically considered to be the first two years of life. During infancy, rapid physical changes occur, and infants develop their ability to use their limbs to explore the environment. This is a time of significant growth and development, where infants learn to control their motor skills, both fine and gross. They begin to interact with their surroundings, reach for objects, crawl, and eventually walk. Infancy is marked by rapid cognitive and social development as well, as infants start to understand communication and form attachments with caregivers.

52. c) To allow the zygote to become implanted in the uterine wall

Explanation: The fallopian tubes, also known as oviducts, play a crucial role in prenatal development by facilitating the journey of the fertilized egg (zygote) from the ovary to the uterus. After ovulation, the egg is released into the fallopian tube, where it may encounter sperm for fertilization. Once fertilization occurs, the zygote undergoes several cell divisions as it travels down the fallopian tube toward the uterus. The fallopian tube provides an optimal environment for early embryonic development and ultimately allows the zygote to become implanted in the uterine wall, where it can continue to grow and develop throughout pregnancy.

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

Explanation: Assertion (A) Prenatal Development Stages: The prenatal period, from conception to birth, is indeed divided into three distinct stages. Germinal stage (first 2 weeks) this stage involves rapid cell division, fertilization, and implantation of the blastocyst (ball of cells) in the uterus. Embryonic stage (weeks 3-8) during this critical period, the major organs and body systems begin to form from the dividing cells. This is when the embryo takes shape. Fetal stage (week 9 to birth) the organs and systems formed earlier continue to develop and mature, preparing the fetus for life outside the womb. Reason (R) accurately describes a key feature of the embryonic stage. Rapid cell division

continues throughout this period, but more importantly, these cells also start to differentiate and specialize, forming the building blocks of various organs and tissues. Both assertion reason are true and reason provide accurate explanation of assertion (A).

54. b) Control, demands for maturity, clarity of communication, nurturance.

Explanation: According to Diana Baumrind's research on child rearing, Control, demands for maturity, clarity of communication, nurturance. These dimensions represent key aspects of parenting styles. Control refers to the level of discipline and supervision, demands for maturity indicate the expectations parents have for their children's behavior, clarity of communication involves how effectively rules and expectations are communicated, and nurturance reflects the emotional support and warmth provided by parents. These dimensions help classify parenting styles into authoritative, authoritarian, permissive, and neglectful, which can significantly impact children's development and behavior.

55. c) Social isolation results in extreme aggression and unmanageable behavior.

Explanation: Harry Harlow's studies with rhesus monkeys demonstrated the severe psychological impact of social isolation. Monkeys reared in isolation from their mothers and peers exhibited abnormal behaviors, such as extreme aggression, anxiety, and difficulties with social interactions when introduced to other monkeys. Harlow's experiments involved separating infant monkeys from their biological mothers and providing them with surrogate mothers made of wire or cloth. The studies showed that the monkeys formed an attachment to the cloth mothers, seeking comfort from them rather than the wire mothers that provided food. This highlighted the importance of comfort and contact over mere sustenance.

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

Explanation: Assertion (A) is True: Social learning theory, as pointed out, emphasizes learning through observation and imitation of role models. Children can pick up on gender-related behaviors by watching adults and other children. While comprehending the concepts of male and female could potentially influence their behavior later, it's not necessarily a prerequisite for initial adoption of these behaviors.

Reason (R) is False: Social learning theory doesn't claim that cognitive development is the primary factor. It highlights the role of observing and imitating models, regardless of a child's full understanding of gender concepts. Children can start to exhibit gender-typed behaviours even before they have a fully developed cognitive grasp of masculinity and femininity.

Answer Key

57. b) Age 4.

Explanation: According to Kohlberg's cognitive developmental theory of gender, children typically acquire gender stability around the age of 4. This is the stage when children begin to understand that their gender is fixed and will not change over time. They recognize that they will remain male or female as they grow older, which is a crucial aspect of their gender identity development. Before reaching gender stability, children go through the stage of gender identity, usually around age 2, where they can label themselves and others as male or female. After gender stability, the next stage is gender constancy, which is typically achieved between ages 5 and 7. At this stage, children understand that gender remains the same regardless of superficial changes in appearance or behavior.

58. b) Nurture

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

Explanation: Assertion (A) might be true: Children with a strong sense of their gender identity may not be swayed by the gender of the toy in the commercial and choose the toy based on its features, regardless of gender stereotypes.

Reason (R) is false: There's no evidence that a poorly developed sense of gender leads to a preference for gender-neutral toys. Children who are still figuring out their gender identity might gravitate towards toys associated with either gender or both.

60. c) Play and exploration of the environment

Explanation: Peer groups in North America typically focus on play and exploration of the environment. While learning and academics are important, especially in school settings, peer groups often provide opportunities for socialization through play, which includes activities such as games, sports, and imaginative play. While obedience and cooperation with authority figures may be encouraged in certain contexts, they are not typically the primary focus of peer groups. Following traditional gender roles may influence interactions within peer groups, but it is not the sole focus.

61. d) They feel positive about both their job and family life.

Explanation: Working mothers whose husbands support their desire to work typically feel positive about both their job and family life. This support can alleviate some of the stress associated with balancing work and family responsibilities, leading to greater satisfaction in both domains. While challenges may still exist, such as managing time effectively and dealing with societal expectations, overall, they tend to feel fulfilled in their roles at work and at home.

62. b) Education for children became compulsory in all states.

Explanation: In the late nineteenth century, a significant development in the United States regarding education for children was the establishment of compulsory education laws in all states. These laws mandated that children attend school for a certain number of years, aiming to ensure that all children received at least a basic education. This marked a shift towards making education more widely accessible and standardized across the country, laying the foundation for the modern educational system.

63. b) Development is the result of coincidences.

Explanation: Development is not the result of coincidences; rather, it is influenced by a complex interplay of genetic, biological, environmental, and experiential factors. Developmental processes are generally understood to be systematic and patterned, not random or based solely on chance events. While there may be chance occurrences in life, the overall trajectory of development is shaped by a range of factors and follows predictable patterns, albeit with individual differences.

64. b) Developmental psychology

Explanation: As psychologists began to study how behavior changes during childhood and throughout the lifespan, the discipline of developmental psychology emerged. Developmental psychology focuses on understanding how people grow, develop, and change physically, cognitively, emotionally, and socially across their lifespan. It encompasses research on infancy, childhood, adolescence, adulthood, and old age, exploring various aspects of human development such as cognitive development, social development, emotional development, and moral development.

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

Explanation: The assertion (A) is true. The study of life-span development indeed emerged as a new discipline focusing on how behavior changes throughout different stages of life, not just childhood.

However, the reason (R) is false because child psychology is not entirely separate from the study of life-span development. In fact, child psychology is often considered a foundational component within life-span development studies, as it provides insights into early developmental stages that contribute to understanding behavior changes across the life span.

66. b) Meiosis

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Explanation: Meiosis is the process through which germ cells (sperm and ovum) undergo chromosome splitting and rearrangement to form reproductive cells. Unlike mitosis, which produces two identical daughter cells, meiosis results in four non-identical daughter cells, each with half the number of chromosomes of the parent cell. This reduction in chromosome number is crucial for sexual reproduction, ensuring that when sperm and ovum fuse during fertilization, the resulting zygote has the correct number of chromosomes. Meiosis involves two rounds of cell division, resulting in the production of four haploid cells, each with a unique combination of genetic material.

67. d) Sex-influenced characteristic

Explanation: Sex-influenced characteristics are determined by genes located predominantly on autosomes but are influenced by other biological factors like hormones. These characteristics are expressed differently depending on the sex of the individual due to hormonal differences. An example of a sex-influenced characteristic is male pattern baldness, which is influenced by genetic factors but is more commonly expressed in males due to hormonal differences between males and females.

68. b) Phenotype

Explanation: Phenotype refers to the observable traits or characteristics of an organism, including its physical appearance, behavior, and other observable features. These traits result from the interaction between an organism's genetic makeup (genotype) and environmental influences. While genotype provides the genetic instructions inherited from parents, phenotype reflects how those instructions are expressed in the individual's observable traits. Factors such as nutrition, exposure to environmental conditions, and lifestyle choices can all impact the development of an organism's phenotype. Therefore, phenotype represents the outward manifestation of both genetic and environmental influences on an organism's traits.

69. d) Intelligence

Explanation: Intelligence is an example of a characteristic subject to modification by the environment. While genes play a significant role in determining an individual's potential intelligence, environmental factors such as access to education, quality of early childhood experiences, socioeconomic status, nutrition, and exposure to stimulating or enriching environments can profoundly influence the development and expression of intelligence. Therefore, intelligence is not solely determined by genetic factors but is also shaped by environmental influences throughout life. This highlights the complex interplay between genetic predispositions and environmental experiences in shaping an individual's cognitive abilities.

70. d) Umbilical cord.

Explanation: The umbilical cord links the mother and fetus during prenatal development and allows nutrients to reach the growing fetus. It is a tubular structure that attaches the fetus to the placenta and transports oxygenated blood and nutrients from the placenta to the fetus. The umbilical cord contains one vein that carries oxygenated, nutrient-rich blood to the fetus, and two arteries that carry deoxygenated, nutrient-depleted blood away. It develops from the fifth week of development and functions throughout pregnancy to protect the vessels that travel between the fetus and the placenta.

71. c) Knowing and understanding

Explanation: In psychology, the term “cognition” refers to the mental processes involved in acquiring, storing, retrieving, and using knowledge. It encompasses various aspects of thinking, such as perception, memory, attention, language, problem-solving, and decision-making. Cognition involves the ability to process information from the environment, make sense of it, and use that understanding to guide behavior. It plays a crucial role in shaping human behavior and is essential for learning, communication, and adaptive functioning in everyday life.

72. b) Sensorimotor, preoperational, concrete operational, and formal operational

Explanation: Jean Piaget proposed four distinct stages of cognitive development:

Sensorimotor Stage: Birth to about 2 years old, characterized by the development of object permanence and the coordination of sensory experiences with motor actions.

Preoperational Stage: About 2 to 7 years old, characterized by egocentric thinking, symbolic representation, and language development, but with limitations in logical reasoning.

Concrete Operational Stage: About 7 to 11 years old, characterized by the ability to think logically about concrete events and understand conservation, but with difficulty reasoning abstractly.

Formal Operational Stage: Around age 11 and onward, characterized by the ability to think logically about abstract concepts and hypothetical situations and engage in systematic problem-solving.

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

Explanation: Assertion (A) is true as infants indeed progress from physically exploring objects to pretending that one object is another during their early development. This progression reflects their cognitive development, particularly in terms of symbolic representation and imaginative play.

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However, Reason (R) is false because cognitive development in infancy is not solely focused on language acquisition. While language development is a significant aspect of cognitive growth during infancy, it is not the only focus. Infants also undergo substantial development in various cognitive domains, including sensorimotor skills, object permanence, problem-solving, and social cognition.

74. c) By measuring physiological responses like heart rate and body movements

Explanation: Since newborns cannot communicate verbally or follow directions, psychologists often rely on indirect measures to study their perceptual abilities. One common approach is to observe physiological responses such as changes in heart rate, body movements, or eye movements in response to different stimuli. These physiological responses can provide valuable insights into newborns' perceptual capabilities and preferences without requiring verbal or motor responses.

75. (b) 4 months

Explanation: Around 4 months of age, infants start to exhibit more systematic responses in operant conditioning tasks and demonstrate the ability to solve more complex problems. This developmental milestone signifies an advancement in their cognitive abilities and understanding of cause and effect relationships.

76. c) Object permanence.

Explanation: Object permanence is the understanding that objects continue to exist even when they are no longer visible or perceptible to the infant. This concept typically emerges around 8 to 12 months of age, according to Jean Piaget's theory of cognitive development. Infants who have acquired object permanence will actively search for hidden objects, indicating an understanding that the object still exists even when it's not within their immediate sensory perception. This cognitive milestone marks a significant advancement in the infant's understanding of the physical world and their ability to mentally represent objects.

77. c) Strategic memory.

Explanation: Strategic memory development plays a crucial role in advancing cognition in childhood. This type of memory involves the deliberate and planned use of memory strategies to enhance storage and retrieval of information. As children grow, they become more adept at employing various mnemonic techniques, organization strategies, and rehearsal methods to encode, store, and recall information more effectively. This advancement in strategic memory contributes significantly to improvements in learning,

problem-solving, and overall cognitive abilities during childhood.

78. c) Developing conservation skills.

Explanation: According to Piaget's theory of cognitive development, the primary focus of the concrete operational period is developing conservation skills. During this stage, typically occurring between the ages of 7 and 11, children become capable of understanding conservation tasks, where they realize that certain properties of objects remain the same despite changes in their appearance. Conservation tasks involve concepts like volume, number, mass, and weight. This stage marks a significant milestone in cognitive development as children transition from preoperational thinking to more logical and concrete reasoning abilities.

79. b) Knowledge about memory and memory strategies.

Explanation: Metamemory refers to an individual's awareness and understanding of their own memory processes, including knowledge about memory functioning, memory strategies, and the ability to monitor and control one's own memory performance. It involves understanding how memory works, recognizing factors that influence memory performance, and employing appropriate memory strategies to enhance learning and recall. Metamemory plays a crucial role in effective learning, problem-solving, and academic achievement.

80. a) Visualization.

Explanation: One practical memory strategy for improving memory is visualization. This involves creating mental images or visual representations of information you want to remember. Visualization can help enhance memory by making the information more vivid, memorable, and easier to recall. By picturing the details of what you want to remember, you engage multiple sensory channels, which can strengthen memory encoding and retrieval processes. This technique is particularly effective for remembering spatial relationships, sequences, and complex information.

81. d) Mothers exhibit stronger tendencies to caress their infants.

Explanation: The extended-contact hypothesis suggests that extensive contact between mothers and infants in the first few days following birth leads to various positive effects, including increased maternal responsiveness and affectionate behaviors towards the infant. Research indicates that mothers who have prolonged skin-to-skin contact or engage in frequent physical contact, such as caressing, with their infants soon after birth tend to develop stronger emotional bonds and demonstrate higher levels of caregiving

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behaviors. These behaviors contribute to the establishment of secure attachment between the mother and infant, promoting the infant's emotional well-being and development.

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

Explanation: Assertion (A) is true because research shows there is little difference in the way children form attachments to their mothers and fathers. While the attachment relationships with each parent may have distinct characteristics, children typically use both mothers and fathers as secure bases.

However, Reason (R) is false. The differences in play styles between mothers and fathers (e.g. mothers preferring verbal games, fathers engaging in more physical play) are not the main reasons for the similarities in attachment formation. Rather, the development of secure attachments with both parents is believed to be a result of parental sensitivity, responsiveness, and involvement, which can manifest differently for mothers and fathers.

83. b) Warm and affectionate parenting.

Explanation: According to Baumrind's research, the parenting style associated with self-reliant and socially competent children is characterized by warmth and affection combined with appropriate levels of control and supervision. This style is often referred to as authoritative parenting. Authoritative parents set clear and reasonable expectations for their children while also being responsive to their needs, offering support and guidance, and encouraging independence. This combination of warmth, support, and structure fosters positive outcomes in children, including self-reliance, social competence, and emotional well-being.

84. c) The type of alternate-care arrangements

Explanation: When the mother works, one of the most crucial factors affecting the family's adjustment is the type of alternate-care arrangements made for the children. The quality and nature of childcare significantly impact the well-being of both the children and the family as a whole. Factors such as the reliability, affordability, and suitability of childcare services, as well as the compatibility of the arrangements with the family's needs and values, can greatly influence how well the family adjusts to the mother's employment. Additionally, the child's age, the father's career, and the mother's job satisfaction are also important factors but may not be as directly impactful on the family's adjustment as the type of childcare arrangements.

85. a) Low child-to-staff ratio

Explanation: For day-care centers to provide positive outcomes for children, maintaining a low child-to-staff ratio is essential. A low child-to-staff ratio allows caregivers to provide individualized attention, support, and supervision to each child, fostering a safe and nurturing environment. With fewer children to oversee, caregivers can better address the needs of each child, promote healthy social interactions, and facilitate meaningful learning experiences. In contrast, a high child-to-staff ratio can lead to overcrowding, reduced supervision, and limited opportunities for personalized care, which may negatively impact children's development and well-being. Additionally, staff members should be trained and qualified to ensure the quality of care provided to children.

86. c) Parent and child

Explanation: During peer interactions in early childhood, children often prefigure roles related to caregiving and family dynamics, such as the roles of parent and child. This can involve imitating behaviors they observe in their own families or in other caregiving contexts. Through role-playing, children explore social roles, learn about relationships, and develop empathy and understanding of others' perspectives. These early experiences with peer interactions and role-playing lay the foundation for social and emotional development, as children navigate various social roles and dynamics within their peer groups. While other roles like doctor and lawyer may also be explored during play, the parent-child role is particularly common and significant in early childhood peer interactions.

87. c) Parents and adults

Explanation: According to the social learning perspective, the development of sex roles in children is influenced by observing and imitating the behaviors, attitudes, and expectations of parents and other adults in their environment. Children learn gender-specific behaviors and roles through socialization processes, where they are rewarded for conforming to gender norms and punished or discouraged for behaviors that deviate from these norms. Parents and other significant adults serve as primary models for children, shaping their understanding of gender roles through their interactions, expectations, and reinforcement of gender-stereotypical behaviors. Peer relationships, cognitive development, and genetic factors may also play roles in the development of sex roles, but the social learning perspective emphasizes the importance of parental and adult influences in this process.

88. c) Child development

Explanation: Child development refers to the physical, cognitive, and social changes that occur from birth through adolescence. It encompasses a broad range of processes

Answer Key

and milestones, including growth in physical size, motor skills, language development, cognitive abilities, social interactions, and emotional regulation. Child development is influenced by a combination of genetic factors, environmental influences, social experiences, and cultural contexts. It is a dynamic and complex process that unfolds over time, with each stage building upon earlier experiences and laying the foundation for subsequent development.

89. c) Social and emotional growth

Explanation: Erik Erikson's theory of psychosocial development primarily focuses on social and emotional growth. According to Erikson, individuals progress through eight stages of development across the lifespan, with each stage characterized by a specific psychosocial crisis or conflict that must be resolved for healthy development to occur. These stages span from infancy to old age and encompass the challenges and experiences individuals face in various social contexts. Erikson emphasized the importance of social relationships, identity formation, and the development of a sense of competence and purpose in navigating the challenges of each stage.

90. b) Emotional intelligence

Explanation: Emotional intelligence refers to a child's understanding of the emotions of others and their ability to respond appropriately to them. It involves recognizing, understanding, and managing one's own emotions, as well as being aware of and sensitive to the emotions of others. Emotional intelligence encompasses skills such as empathy, emotional regulation, social awareness, and interpersonal communication. This ability to understand and navigate emotions is crucial for building positive relationships, resolving conflicts, and functioning effectively in social contexts. While cognitive development, moral reasoning, and behaviorism are related to aspects of human behavior and development, emotional intelligence specifically focuses on emotional awareness and social interaction skills.

91. b) Preoperational

Explanation: The preoperational stage, according to Jean Piaget's cognitive development theory, is characterized by the use of symbolic thinking, language development, and egocentrism. During this stage, which typically occurs between the ages of 2 and 7 years, children develop the ability to use symbols to represent objects and ideas, engage in imaginative play, and use language to express their thoughts and feelings. However, they still struggle with understanding the perspectives of others (egocentrism) and may have difficulty with tasks requiring logical reasoning or understanding of conservation principles.

92. b) Peer relationships

Explanation: While peer relationships certainly play a significant role in child development, they are not considered one of the primary influences on child development. The other options listed genetics, socioeconomic status, and ethnicity are widely recognized as key factors that can significantly impact various aspects of child development. Genetics influence traits and predispositions that children inherit from their biological parents, while socioeconomic status and ethnicity can affect access to resources, opportunities, and experiences that shape children's development. Peer relationships become increasingly important as children grow older, but they are not typically considered as fundamental as genetics, socioeconomic status, and ethnicity in shaping overall child development.

93. c) Promoting social and cognitive development

Explanation: The primary purpose of early childhood education is to promote social and cognitive development in young children. Early childhood education programs are designed to provide a nurturing and stimulating environment where children can engage in age-appropriate activities that support their overall development. These programs focus on fostering social skills such as cooperation, communication, and empathy, as well as cognitive skills such as language development, problem-solving, and critical thinking. While early childhood education may incorporate elements of play and provide opportunities for children to explore and interact with their environment, its main goal is to facilitate learning and development in various domains to prepare children for future success in school and life.

94. b) Anxious-avoidant attachment

Explanation: Anxious-avoidant attachment is characterized by distress when a caregiver leaves but difficulty seeking comfort upon their return. Children with this attachment style may appear indifferent or avoidant when the caregiver returns after a separation. They may not seek proximity or comfort from the caregiver and may even actively avoid contact. This behavior often stems from experiences where the caregiver has been inconsistently responsive to the child's needs, leading the child to develop a coping strategy of minimizing their attachment-related distress and distancing themselves from the caregiver to protect themselves from further disappointment or rejection.

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

Explanation:

Assertion (A): "The first 6 months of an infant's life are crucial for attachment

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development.” This is true, as attachment theory suggests that early interactions during this period are vital for forming strong emotional bonds with caregivers.

Reason (R): “Smiling and crying are the primary infant responses that promote attachment.” This is also true, as these behaviors help infants engage with caregivers, eliciting care and attention, which strengthens the attachment bond. Therefore, the reason correctly explains the assertion.

96. b) Smiling is an effective way to strengthen the attachment.

Explanation: Smiling plays a significant role in promoting attachment between parents and infants. When infants smile, it is often interpreted as a sign of positive emotion and contentment. In response to their smiles, caregivers typically reciprocate with smiles and positive attention, which reinforces the bond between them. This mutual exchange of smiles and positive interactions helps to build trust, communication, and emotional connection between parents and infants, thus strengthening the attachment relationship. Smiling is a form of social communication that facilitates bonding and nurturing interactions, laying the foundation for a secure attachment between infants and their caregivers.

97. b) Renaissance

98. c) Arnold Gesell

Explanation: Arnold Gesell began to chart norms for physical and motor development, including crawling and walking. Gesell was a pioneering developmental psychologist who conducted extensive research on child development in the early 20th century. He is known for his work in documenting and describing the typical patterns of development in children, including physical, motor, cognitive, and social-emotional milestones. Gesell’s observations and findings laid the foundation for our understanding of developmental norms and provided valuable insights into the progression of child development.

99. c) Total genetic inheritance

Explanation: The genotype refers to the total genetic inheritance of an individual, encompassing all of the genetic information stored in an organism’s DNA. It represents the genetic blueprint or code that determines an organism’s traits, characteristics, and potential developmental outcomes. While observable behaviors and physical characteristics are influenced by both genetic and environmental factors, the genotype specifically refers to the genetic makeup inherited from an individual’s parents. Environmental influences, on the other hand, encompass the various external factors that can impact gene expression and contribute to the development of traits and behaviors.

100. c) Genes establish potential ranges of reactions, while the environment specifies which behavior patterns develop.

Explanation: Genes and environment interact dynamically in shaping development.

Genes provide the biological framework and potential ranges of reactions, influencing the predispositions and tendencies that individuals may have. However, the environment plays a crucial role in determining which specific behavior patterns actually develop. Environmental factors such as family, culture, education, and life experiences can modify gene expression, trigger certain behaviors, and shape how genetic predispositions manifest in behavior. This interaction between genes and environment is often described as a complex interplay, where both factors contribute to the multifaceted nature of human development.

101. c) At conception

Explanation: The interaction of heredity and environment begins at conception. At the moment of conception, a unique combination of genetic material from the mother and father forms the genetic blueprint for the developing embryo. This genetic makeup provides the foundation for the individual's physical characteristics, traits, and potential developmental outcomes. However, from the earliest stages of development, environmental factors also play a role in shaping the expression of genes and influencing the development of the embryo. Environmental influences continue to interact with genetic predispositions throughout the lifespan, but the initial interaction between heredity and environment begins at conception.

102. d) (A) is false, but (R) is true.

Explanation: Assertion (A) is false: Changes in physical stature during infancy directly influence motor development. As infants grow taller and stronger, their developing muscles and bones allow them to achieve new motor skills like rolling over, sitting, crawling, and eventually walking.

Reason (R) is true: Weight and height changes are indeed factors influencing motor development. Increased muscle mass and stronger bones enable infants to move with greater control and explore their environment more effectively.

103. b) Sudden and discontinuous changes

Explanation: According to stage theories of development, development is portrayed as involving sudden and discontinuous changes, rather than continuous and gradual changes. Stage theories propose that individuals progress through a series of qualitatively distinct stages, each characterized by unique patterns of behavior, cognition, and emotional

Answer Key

functioning. These transitions between stages are often marked by significant shifts in thinking, perception, and behavior, rather than a smooth and gradual progression. Stage theories suggest that development occurs in distinct phases or stages, with each stage building upon earlier experiences and laying the foundation for subsequent stages. This perspective contrasts with theories that depict development as a continuous and gradual process of incremental change.

104. c) Compares individuals of various ages at one point in time

Explanation: The cross-sectional method in child development research involves comparing individuals of different ages at one specific point in time. Researchers using this method typically gather data from participants representing different age groups simultaneously, allowing them to examine age-related differences in behavior, cognition, or other developmental outcomes. Unlike longitudinal studies that follow the same individuals over an extended period, the cross-sectional method provides a snapshot of development across different age groups at a single moment in time. This approach allows researchers to study developmental trends and differences across age cohorts efficiently, although it does not provide information about individual changes over time.

105. b) Rocking and warmth

Explanation: According to Harlow's research with infant monkeys, besides nourishment, they also require rocking and warmth. Harlow conducted a series of experiments in the mid-20th century that investigated the importance of contact comfort and maternal care in infant attachment and development. In his studies, infant monkeys showed a strong preference for surrogate mothers that provided warmth and comfort, even when those surrogates did not provide nourishment. This demonstrated the critical role of physical contact, warmth, and comfort in fostering attachment and emotional well-being in infants, highlighting the importance of nurturing care in early development.

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

Explanation: Assertion (A) is true because authoritative parenting style is indeed characterized by high expectations, open communication, and consistent discipline as highlighted in the sources. Authoritative parents set clear rules and boundaries while being responsive to their children's needs and emotions, which fosters a positive and nurturing environment for children to grow and thrive in.

Reason (R) is false. Children of authoritative parents do not tend to be impulsive, immature, and lack respect for others. In fact, research and studies consistently show that children

raised in authoritative households tend to have better social skills, higher self-esteem, and are more likely to succeed academically, while also exhibiting positive psychological outcomes and better mental health. These children develop a strong sense of attachment security, independence, self-concept, and confidence, contributing to their overall well-being and success.

107. b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

Explanation: Assertion (A) accurately describes the patterned sequence of language development in infants. It begins with cooing (around 2-3 months), followed by babbling (around 6-9 months), and eventually progresses to saying meaningful words around their first birthday. This sequence reflects the typical milestones of language development in infancy.

Reason (R) states that by the age of three, the typical child has a vocabulary of 3,000 words. This statement is generally true; however, it does not directly explain or provide evidence for the patterned sequence of language development described in Assertion (A). While it highlights a developmental milestone in language acquisition, it does not serve as a direct explanation of the sequence of cooing, babbling, and meaningful word production outlined in Assertion (A).

108. b) Distinct pronunciation of simplified words.

Explanation: Parentese, also known as “baby talk” or “motherese,” is characterized by a distinct pronunciation of simplified words. It involves using a higher pitch, exaggerated intonation, repetitive phrases, and simplified language structures when speaking to infants and young children. Parentese serves several functions, including capturing the attention of infants, facilitating language acquisition, and promoting social bonding between caregivers and children. While parentese may involve simple and repetitive language, it is not characterized by complex vocabulary or the use of formal language. Additionally, it is not synonymous with ignoring language development; rather, it is a natural and adaptive form of communication that supports infants’ early language learning.

109. b) Egocentric language.

Explanation: During the Preoperational stage, children often exhibit egocentric language. This stage, according to Piaget’s theory of cognitive development, typically occurs between the ages of 2 and 7 years. Egocentric language refers to the tendency of children to focus on their own perspective and experiences when communicating, often failing to consider the viewpoints of others. Children in this stage may use “I,” “me,” and “mine” excessively and

Answer Key

may struggle to understand that others have different thoughts, beliefs, and perspectives. While children in the Preoperational stage may demonstrate some logical reasoning abilities, their thinking is generally characterized by limitations such as centration, irreversibility, and egocentrism.

110. c) Subtle but important changes.

Explanation: Changes in visual perception during later infancy involve subtle but important changes. As infants grow and their visual system continues to mature, they experience improvements in visual acuity, depth perception, color discrimination, and the ability to track moving objects. These changes are gradual and ongoing throughout infancy and early childhood, reflecting the development of neural pathways and synaptic connections in the visual cortex of the brain. While some aspects of visual perception may appear relatively stable, careful observation and research reveal subtle shifts and refinements in infants' visual abilities over time.

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