1. The threadlike structures in the nucleus of a cell that contain genetic material are called
   a. chromosomes.
   b. germ discs.
   c. ectoderms.
   d. phenotypes.

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

2. The first ____ pairs of chromosomes are called autosomes and the ____ pair is called sex chromosomes.
   a. 2; 3rd
   b. 10; 11th
   c. 22; 23rd
   d. 46; 47th

ANSWER: c
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

3. Dino is approached by a mad geneticist who says he will pay Dino either R1 000 for each pair of his autosomes or R5 000 for each pair of his sex chromosomes. Assuming Dino wants to make as much money as possible, which offer should he take?
   a. R1 000 for each pair of autosomes
   b. R5 000 for each pair of sex chromosomes
   c. Either one, because Dino will make the same amount with both offers
   d. Neither one, because humans have neither autosomes nor sex chromosomes

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

4. When looking through a microscope at an entire set of human male chromosomes, how would you be able to differentiate an autosome pair from a sex chromosome pair?
   a. The sex chromosome pair would be about 10 times larger than the autosome pair.
   b. The circular-shaped cells would be the autosomes and the square shapes would be the sex chromosomes.
   c. There would be three cells in the autosome 'pair' and two cells in the sex chromosome 'pair'.
   d. The shape of the sex chromosomes would differ, whereas each autosome pair would look identical.

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Thinking critically

5. A sperm cell contains a total of 22
   a. genes.
   b. chromosomes.
   c. autosomes.
   d. sex cells.

ANSWER: c

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Understand

6. What combination would result in a boy?
   a. A 17th pair of chromosomes with one X and one Y
   b. A 23rd pair of chromosomes with one X and one Y
   c. A 17th pair of chromosomes with two Xs
   d. A 23rd pair of chromosomes with two Xs

ANSWER: b

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Understand

7. The functional units of heredity are
   a. genes.
   b. neurotransmitters produced in the brain.
   c. phenotypes.
   d. basic chemical compounds that form the single helix of a DNA molecule.

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Understand

8. Human DNA is composed of a total of ____ different nucleotide bases.
   a. 4
   b. 23
   c. 444
   d. 30,000

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

9. Genes provide the cell with a specific set of ____ instructions.
   a. hormonal
   b. biochemical
   c. in vitro
   d. bioelectric

ANSWER: b
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

10. The average child has approximately ____ genes.
   a. 25
   b. 25 000
   c. 25 000 000
   d. 25 000 000 000

ANSWER: b
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

11. Siyabonga is 1.8 metres tall, plays tennis, and is an all-around nice person. This is a description of Siyabonga's
   a. allele.
   b. genotype.
   c. homozygosity.
   d. phenotype.

ANSWER: d
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

12. Genotype is to phenotype as
   a. homozygous is to heterozygous.
   b. nurture is to nature.

c. DNA is to deoxyribonucleic acid.

d. chromosome pattern is to physical, behavioural, and psychological features.

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Thinking critically

13. Which process can best be explained by alleles?

a. The fact that phenotypes produce genotypes

b. The formation of identical twins through the splitting of a fertilised egg

c. The instructions for hair colour come from two sources on the chromosome

d. The teratogenic effects associated with foetal alcohol spectrum disorder (FASD)

ANSWER: c

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Thinking critically

14. Keshia has one allele for curly hair and another for straight hair. Keshia's alleles are

a. polyzygotic.

b. dizygotic.

c. homozygous.

d. heterozygous.

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Apply

15. How would you create an individual who will definitely have blue eyes?

a. Make sure he has a pair of homozygous chromosomes for blue eyes.

b. Make sure he has a pair of heterozygous chromosomes for eye colour.

c. Make sure he has a pair of alleles for eye colour.

d. Make sure he has one recessive gene for blue eyes.

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Apply

16. Moegsien is heterozygous for cheek dimples but is born with big dimples in both cheeks. Apparently, the allele for cheek dimples is

a. dominant.
b. sex-linked.
c. recessive.
d. polygenetic.

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

17. If tallness is dominant and designated as 'T', and shortness is recessive and designated as 's', who would likely be short?
a. Bongi, who is 'sT'
b. Adam, who is 'Ts'
c. Anele, who is 'ss'
d. Meera, who is 'TT'

ANSWER: c
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

18. Which best exemplifies the concept of incomplete dominance?
a. An individual with two alleles for baldness who has long hair
b. An individual with two alleles for shyness who is shy
c. An individual with one allele for obesity and another for thinness who is of average weight
d. An individual with a single allele for aggression who is violent

ANSWER: c
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

19. Which statement concerning the sickle-cell trait is true?
a. Individuals with the trait have the dominant phenotype but possess the recessive genotype.
b. Individuals with the trait have both a dominant and recessive allele for the disorder.
c. Individuals with the trait are genetically predisposed to the disorder but cannot display any symptoms.
d. Individuals with the trait tend to have the most severe form of the disease.

ANSWER: b
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Understand

20. Dr Sithole has just been informed that his son has sickle-cell trait. As a knowledgeable doctor, Dr Sithole would realise that his son's body is most likely to experience

a. excess levels of body fat.
b. serious oxygen deprivation.
c. decreased lung capacity.
d. blindness.

ANSWER: b
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Apply

21. Bonolo's two-year-old daughter has developmental delays due, in part, to a diet that included fish, bread, and dairy products. The most likely diagnosis for Bonolo's daughter is that she has

a. Turner's syndrome.
b. Huntington's disease.
c. Tay Sachs disease.
d. Phenylketonuria (PKU).

ANSWER: d
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.
KEYWORDS: Bloom's: Apply

22. Huntington's disease is an unusual genetic disorder in that it is a fatal disease caused by dominant alleles that

a. impact late enough in life so that the individual can reproduce.
b. are controllable through diet.
c. both must come from the mother.
d. strike only males.

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.
KEYWORDS: Bloom's: Thinking critically

23. Which physical characteristic is most indicative of an individual with Down syndrome?

a. An enlarged head
b. A fold of skin over each eyelid
c. A long neck
d. A larger nose than same-age peers

ANSWER: b
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.
KEYWORDS: Bloom's: Understand

24. As a geneticist, you found that a foetus has 47 chromosomes. What would be the most likely conclusion drawn from this information?
    a. The child has Down syndrome.
    b. The child has sickle-cell anaemia.
    c. The child has phenylketonuria (PKU).
    d. This is a normal number of chromosomes.

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.
KEYWORDS: Bloom's: Apply

25. Because of his accurate knowledge of genetics and disorders, Bandile knows that his newborn son has no chance of having
    a. Turner's syndrome.
    b. Kleinfelter's syndrome.
    c. Huntington's disease.
    d. Down syndrome.

ANSWER: a
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.
KEYWORDS: Bloom's: Apply

26. As a behavioural geneticist, Jan would most likely be studying
    a. the maze-learning behaviour of rats.
    b. the evolution of eyesight over the life span.
    c. the inheritance of behavioural and psychological traits.
    d. the physiological structure of a gene.

ANSWER: c
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.
KEYWORDS: Bloom's: Apply

27. Which statement best describes the basic premise of behavioural genetics?
    a. 'Your personality is all in your genes.'

b. ‘Your personality is all in your environment.’

c. ‘People are either very open to new experiences or avoid new experiences at all costs.’

d. ‘Openness to new experience is not an either/or proposition, but represents a wide range of reactions.’

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children’s heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom’s: Thinking critically

28. If a doctor informed you that your speech disorder was the result of problems on chromosomes 4, 7, and 15, you would rightly conclude that the disorder is always classifiable as

a. recessive.

b. polygenetic.

c. dominant.

d. sex-linked.

ANSWER: b

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children’s heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom’s: Apply

29. Sipho and Siya have the exact same genes. This indicates that they must be

a. dizygotic twins.

b. monozygotic twins.

c. heterozygous.

d. co-dominant.

ANSWER: b

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children’s heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom’s: Apply

30. As dizygotic twins, Maya and Miriam

a. are genetically identical.

b. must have come from the same fertilised egg.

c. share all phenotypes.

d. share about half of their genes.

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children’s heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom’s: Apply

31. Blessing, who was adopted at birth, is found to have personality characteristics more similar to his biological mom than to his adoptive mom. How should you interpret this data?

a. Personality appears to be a polygenetic characteristic.

b. Personality characteristics are learned.

c. Personality characteristics are influenced by genes.

d. Personality characteristics appear to be recessive.

ANSWER: c

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Apply

32. Which result would *not* support the idea that genes play a significant role in behaviour?

a. Finding dizygotic twins to be more similar than monozygotic twins

b. Finding children to be more similar to their biological parents than to their adoptive parents

c. Finding similarities between biological siblings

d. Finding monozygotic twins to be more similar than pairs of unrelated individuals

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Thinking critically

33. The concept that genotypes are not the only things that control traits involves the fact that

a. dizygotic twins are virtually genetically identical.

b. each genotype can produce a variety of phenotypes.

c. recessive genes are more commonly expressed than dominant genes.

d. the environment has little impact on behaviour.

ANSWER: b

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Thinking critically

34. After creating a child's DNA profile, behavioural geneticists can then look to see

a. if the genotype is associated with behaviour phenotypes.

b. if the DNA links the child to a certain geographic location.

c. if the child is going to be cared for by adoptive parents.

d. if the child ranks high or low eugenically.

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they

grow up.

KEYWORDS: Bloom's: Apply

35. Heredity and environment

a. interact dynamically throughout development.

b. act independently throughout development.

c. interact dynamically in childhood and independently in adulthood.

d. act independently in childhood and interact dynamically in adulthood.

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Thinking critically

36. As a behavioural geneticist, Professor Ngcobo is most likely to calculate the extent to which depression is inherited using a ____ coefficient.

a. nonshared

b. DNA

c. polygenetic

d. heritability

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Apply

37. A heritability coefficient of ____ means about 50 per cent of the difference between people on a specific characteristic is the result of heredity.

a. 0.5

b. 5

c. 50

d. 500

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Understand

38. _____ occurs when an individual intentionally seeks out an environment that matches characteristics driven by his or her genes.

a. Passive gene-environment interactions

b. Incomplete dominance

c. Niche-picking

d. Polygenetic inheritance

ANSWER: c

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Understand

39. Which individual with a genetic predisposition toward being extroverted is demonstrating successful niche-picking?

a. Buhle, who is a game-show host

b. Bandile, who is a horse trainer

c. Bonolo, who is a hermit who lives in a cave by herself

d. Bontle, who spends a lot of time studying in the library

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Apply

40. Nonshared environmental influences involve forces that make siblings

a. act in virtually identical ways.

b. homozygous.

c. dizygotic twins.

d. different from one another.

ANSWER: d

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Thinking critically

41. Jack and Jill are twins. Because he is a boy, Jack's parents encourage him to run. However, they discourage Jill from engaging in athletic activity. As a result, Jack is much faster at running up a hill than Jill. The difference in Jack and Jill's behaviour is best explained by

a. nonshared environmental influences.

b. active gene-environment relations.

c. polygenetic effects.

d. niche-picking.

ANSWER: a

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Apply

42. Which period is *not* considered part of prenatal development?
    a. Period of the foetus
    b. Period of the zygote
    c. Period of the neonate
    d. Period of the embryo

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

43. Prenatal development begins
    a. with sperm production.
    b. with ovulation.
    c. at conception.
    d. at implantation into the uterus.

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

44. The period of the ____ lasts for approximately two weeks.
    a. embryo
    b. zygote
    c. foetus
    d. neonate

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

45. The uniting of the egg and sperm (conception) typically takes place in the
    a. uterus.
    b. testes.
    c. fallopian tube.
    d. ovary.

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

46. If Enzokuhle found out that she was conceived through in vitro fertilisation, she would know for certain that
    a. she was conceived in a Petri dish.

b. she was conceived inside a fallopian tube.
c. her biological parents were not the same as the parents who reared her.
d. the woman who carried her as a foetus was not the woman who reared her.

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Apply

47. Which event occurs following in vitro fertilisation?
a. A fertilised egg is placed directly into the uterus.
b. A sperm is injected directly into the fallopian tube.
c. A fertilised egg is directly placed in the ovary.
d. A single sperm is injected directly into a fertilised egg.

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Thinking critically

48. Which statement concerning preimplantation genetic screening (PGS) is *false*?
a. It is usually used with couples known to be at risk for genetic disorders.
b. It cannot be used to determine if a child-to-be is male or female.
c. If parents are not pleased with the test results, they can have a fertilised egg discarded.
d. It can be used to determine a child-to-be's hair colour.

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

49. Whose behaviour best exemplifies eugenics?
a. Dr Dlamini, who uses an in vitro fertilisation technique
b. Dr Mkhize, who allows only certain individuals to mate
c. Dr Mokoena, who studies the effects of thalidomide on prenatal development
d. Dr Govender, who closely monitors the nutrition of expectant mothers

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Apply

50. A developing human that is traveling from a fallopian tube to the uterus would most accurately be described as a(n)
a. embryo.
b. foetus.

c. zygote.
d. amnion.

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

51. What began as a single fertilised egg has just separated into two distinct eggs. This indicates the formation of ____ twins that has occurred during the ____ period of development.
a. fraternal; zygotic
b. fraternal; embryonic
c. identical; zygotic
d. identical; embryonic

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Apply

52. The point at which a zygote burrows into the uterine wall is referred to as
a. fertilisation.
b. implantation.
c. niche-picking.
d. dilation.

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

53. A doctor has just informed pregnant Misha that the human organism developing inside of her has just begun to show differentiation of its cells. As a knowledgeable student, you would know that such an organism is technically called a(n)
a. embryo.
b. zygote.
c. foetus.
d. neonate.

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Apply

54. Mi Lei is pregnant and her body is currently experiencing the event that triggers hormonal changes that will prevent further menstruation. This event is called
a. implantation.

b. conception.
c. dilation.
d. effacement.

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Apply

55. The ____ is the cluster of cells in the centre of the zygote that will eventually develop into the baby.
a. amnion
b. stem cell
c. germ disc
d. placenta

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

56. The ____ is the structure through which a mother and an embryo exchange waste and nutrients.
a. amnion
b. stem cell
c. germ disc
d. placenta

ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Understand

57. The developing human organism that has just become completely embedded in the wall of the uterus is called the
a. amnion.
b. foetus.
c. zygote.
d. embryo.

ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

58. At five weeks after conception, a developing human is most accurately called a(n)
a. embryo.

b. zygote.
c. foetus.
d. neonate.

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

59. Hair and the nervous system develop during the embryonic period from cells contained in the ____ layer.
a. mesoderm
b. endoderm
c. placenta
d. ectoderm

ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

60. Damage to cells in the embryo's ____ layer would be most likely to result in the development of a defective digestive system.
a. endoderm
b. placenta
c. ectoderm
d. mesoderm

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

61. Dr du Plessis tells Saleema that her developing embryo is showing distortions in the development of its circulatory system. As a knowledgeable student of human development, Saleema should realise that the problem is within cells of the ____ layer.
a. placenta
b. mesoderm
c. ectoderm
d. endoderm

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.

KEYWORDS: Bloom's: Apply

62. Ectoderm is to endoderm as
    a. heterozygous is to homozygous.
    b. fraternal is to identical.
    c. outer is to inner.
    d. bone is to muscle.

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

63. While observing a special monitor, a doctor tells an expectant mother, 'As you can see, the legs and arms have just begun to emerge.' From this description, you should realise that the two are looking at a(n)
    a. zygote.
    b. foetus.
    c. embryo.
    d. germ disc.

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Apply

64. The sac in which the embryo is found is called the
    a. ectoderm.
    b. amnion.
    c. germ disc.
    d. placenta.

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

65. One key purpose of the amniotic fluid is to
    a. provide the embryo with nutrients.
    b. stimulate development of neurotransmitters.
    c. screen the flow of blood between mother and embryo.
    d. maintain a constant temperature for the embryo.

ANSWER: d

REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

66. The ____ contains the blood vessels that join the embryo and its mother.
    a. umbilical cord
    b. amnion
    c. germ disc
    d. mesoderm

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

67. The placenta
    a. directly connects the bloodstream of the embryo to the bloodstream of the mother.
    b. contains amniotic fluid.
    c. helps the foetus to maintain a constant temperature.
    d. allows for an exchange of nutrients and waste.

ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Understand

68. The fact that the embryonic head develops before the body illustrates the ____ principle.
    a. cephalocaudal
    b. incomplete dominance
    c. proximodistal
    d. niche-picking

ANSWER: a
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

69. A doctor could best illustrate the proximodistal principle by discussing the fact that
    a. male foetuses develop faster than female foetuses.
    b. identical twins tend to be smaller than fraternal twins.
    c. the outside portion of the amniotic sac is thicker than the inside portion.
    d. a baby can control its shoulder before it can control its fingers.

ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Apply

70. During prenatal development, the arm develops before the fingers. This most illustrates the ____ principle.
a. Premack
b. coefficient
c. cephalocaudal
d. proximodistal
ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

71. Which organism can truthfully state, 'It is during my time that all body parts and organs are first put into place?'
a. The neonate
b. The zygote
c. The foetus
d. The embryo
ANSWER: d
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Thinking critically

72. Estelle's doctor informs her that her child is just entering the longest period of prenatal development. About how long has Estelle been carrying her unborn child?
a. 1 day
b. 3 weeks
c. 9 weeks
d. 28 weeks
ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Apply

73. Which event is characteristic of the period of the foetus?
a. The first beat of the heart
b. The first neural activity in the neocortex

c. The significant growth in the cerebral cortex
d. The attachment of the umbilical cord to the placenta

ANSWER: c
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Understand

74. The thick, greasy substance that covers the foetus around five to six months after conception is called
a. placenta.
b. vernix.
c. amnion.
d. endoderm.

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Understand

75. Currently, the earliest 'age of viability' occurs around ____ weeks after conception.
a. 14
b. 22
c. 30
d. 38

ANSWER: b
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Understand

76. Just after the birth of her son Neo, mom Naledi is informed that little Neo's neural tube did not properly close during his prenatal development. This would mean that Neo will be diagnosed with
a. spina bifida.
b. muscular dystrophy.
c. cerebral palsy.
d. sickle-cell anaemia.

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Apply

77. A knowledgeable nutritionist would tell a pregnant mother that, in order to reduce the risk of having a baby born with spina bifida, mom needs to make sure that she is ingesting an adequate amount of
a. vitamin A.

b. iron.
c. vitamin E.
d. folic acid.

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Understand

78. Maternal stress is most likely to negatively affect a developing embryo/foetus when that stress is
a. intermittent and extreme.
b. intermittent and moderate.
c. prolonged and extreme.
d. chronic and moderate.

ANSWER: c
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Thinking critically

79. The main reason for why teenage mothers tend to give birth to less healthy infants than mothers in their 20s is that they
a. tend not to receive good prenatal care.
b. take too many vitamins.
c. have more genetically defective eggs.
d. are more likely to smoke while pregnant.

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Understand

80. Hlengiwe is 40 years old and she and her daughter Sadie, 20, are both currently pregnant. Which statement with regard to these two mothers is most accurate?
a. Sadie has a greater risk of giving birth to a baby with sickle-cell anaemia.
b. Hlengiwe is twice as fertile as Sadie.
c. Sadie's chances of having a baby with Down syndrome are three times higher than Hlengiwe's.
d. Hlengiwe has a greater risk of having a miscarriage.

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Apply

81. A teratogen is any agent that
    a. results in abnormal prenatal development.
    b. enhances the flow of oxygen across the placental barrier.
    c. decreases the chances of having a child with a genetic disorder.
    d. inhibits the impact of drugs on the developing embryo.

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Understand

82. Whose mother most likely took thalidomide while pregnant?
    a. Dumi, who has a heart defect
    b. Rethabile, who has deformed arms and legs
    c. Mpho, who is deaf
    d. Johan, who has severe barriers to learning

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Apply

83. How many of the following are potential teratogens: aspirin, nicotine, cocaine, and caffeine?
    a. one
    b. two
    c. three
    d. four

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Apply

84. What effect is *not* associated with foetal alcohol spectrum disorder (FASD)?
    a. Slow growth
    b. Slowed intellectual growth
    c. Blindness
    d. Misshapen face

ANSWER: c
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.

KEYWORDS: Bloom's: Understand

85. Bryan's teacher notices that Bryan has unusual facial features (e.g., short nose and wide-set eyes) and shows signs of developmental delays. Due to her training in developmental psychology, Bryan's teacher realises that Bryan's mom likely ____ while she was pregnant.

a. consumed alcohol
b. injected heroin
c. smoked marijuana
d. consumed an excessive amount of caffeine

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Apply

86. A pregnant woman who consumes alcohol ____ has the greatest risk of giving birth to a baby with foetal alcohol spectrum disorder (FASD).

a. lightly and sporadically
b. moderately and sporadically
c. lightly and consistently
d. moderately and consistently

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Understand

87. Both AIDS and genital herpes

a. can be passed along to an infant as it passes through the birth canal.
b. typically result in blindness.
c. cannot be transmitted to a foetus through the placenta.
d. can be eliminated by maternal inoculation.

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Understand

88. Which statement concerning teratogens is *false*?

a. They affect different genotypes differently.
b. They affect specific aspects of development.
c. Their effects may not emerge until later in life.
d. Their effects are the same regardless of the time when the individual is exposed.

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Thinking critically

89. The key lesson learned by the fact that thalidomide showed no impact when tested on prenatal rabbits but led to birth defects in prenatal humans is that
a. teratogens impact different genotypes differently.
b. teratogens impact specific aspects of development.
c. teratogen effects may not emerge until later in life.
d. teratogen effects are the same regardless of the time when the individual is exposed.
ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Thinking critically

90. What was the most critical lesson about teratogens learned from studies on the use of the drug diethylstilbestrol (DES) by pregnant women?
a. Sometimes what appear to be teratogens actually are harmless drugs.
b. Infants in the late foetal period appear to be the most at risk for impact from drug-related teratogens.
c. Sometimes the effects of teratogens are not apparent until long after exposure.
d. Females appear to be at much greater risk from teratogens.
ANSWER: c
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: State general principles that affect the ways that prenatal development can be harmed.
KEYWORDS: Bloom's: Thinking critically

91. Exposure to a teratogen during the ____ period is most likely to result in a spontaneous abortion.
a. implantation
b. zygotic
c. embryonic
d. foetal
ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: State general principles that affect the ways that prenatal development can be harmed.
KEYWORDS: Bloom's: Understand

92. As there is a history of hereditary disease in the families of Tumi and Faith, they have arranged a meeting with a specialist, when they will draw up a family tree concerning the odds of them having a child with a birth

defect. This event would most accurately be described as

a. amniocentesis.
b. chorionic villus sampling.
c. teratogenic.
d. genetic counselling.

ANSWER: d
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Apply

93. Zola is very concerned about the prebirth position of the child she is carrying. Which technique would be the best for determining whether Zola's concerns are warranted?

a. Genetic counselling
b. Ultrasound
c. Chorionic villus sampling
d. Amniocentesis

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Apply

94. Which prenatal assessment technique results in a picture of the foetus?

a. Genetic screening
b. Ultrasound
c. Chorionic villus sampling
d. Amniocentesis

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Understand

95. The sample taken during an amniocentesis comes from

a. the lining of the uterus.
b. inside the body of the foetus.
c. the fluid surrounding the foetus.
d. the umbilical cord.

ANSWER: c
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.

KEYWORDS: Bloom's: Understand

96. Thando is a medical student who is learning a procedure in which foetal cells are sampled from the mother's bloodstream. What technique is she most likely learning?

a. Amniocentesis
b. Noninvasive prenatal testing (NIPT)
c. Chorionic villus sampling
d. Ultrasound

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Apply

97. Lesedi and her doctor need to know as quickly as possible (hopefully within 24 hours) whether the child she has been carrying for only nine weeks possesses any genetic abnormalities. Which technique is Lesedi's doctor most likely to employ?

a. Chorionic villus sampling
b. Ultrasound
c. Amniocentesis
d. Genetic counselling

ANSWER: a
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Apply

98. Thabo is very interested in the field of foetal therapy. Given this, he would most likely be fascinated by a book titled

a. *Afterbirth care and you.*
b. *The benefits of healthy eating before pregnancy.*
c. *Fixing birth defects before birth.*
d. *The importance of childhood vaccinations.*

ANSWER: c
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Apply

99. Doctors are currently able to correct spina bifida at around the seventh or eighth month of pregnancy using

a. genetic engineering.
b. foetal surgery.
c. chorionic villus sampling.

d. ultrasound.

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Understand

100. The experimental CRISPR process, in which the genome is edited by replacing alleles, is an example of work in which field?

a. Amnio engineering.
b. Genetic engineering
c. Audio engineering
d. Niche engineering

ANSWER: b
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Understand

101. Because it involves prolonged physical effort, the process of childbirth is often referred to as involving stages of

a. labour.
b. parturition.
c. crowning.
d. pursuit.

ANSWER: a
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Identify the different phases of labour and delivery.
KEYWORDS: Bloom's: Thinking critically

102. By the time Lindiwe arrived at the hospital to deliver her child, the child had entered the vaginal opening. This means that Lindiwe was in the ____ stage of labour.

a. first
b. second
c. third
d. fourth

ANSWER: b
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Identify the different phases of labour and delivery.
KEYWORDS: Bloom's: Apply

103. When her doctor mentions the term 'crowning', Angie, who is giving birth, should realise the term 'crowning' means that her

a. cervix has just fully dilated.
b. uterine contractions are about to start.
c. baby's head has just reached the vaginal opening.
d. placenta is about to be delivered.

ANSWER: c
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Identify the different phases of labour and delivery.
KEYWORDS: Bloom's: Apply
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104. What is expelled during afterbirth?
a. Foetus
b. Placenta
c. Cervix
d. Ova

ANSWER: b
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Identify the different phases of labour and delivery.
KEYWORDS: Bloom's: Understand

105. Ayanda is afraid of the pain involved in delivering her baby. Are prepared childbirth classes likely to help her?
a. Yes, because women who take these courses report experiencing less pain than women who do not.
b. Yes, because women who take these courses qualify for painkilling medications they would not usually receive.
c. No, because childbirth courses only make people more knowledgeable about the birthing process and can have no effect on pain.
d. No, because individuals who know most about the birthing process experience the most pain.

ANSWER: a
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some 'natural' ways of coping with the pain of childbirth, and evaluate whether childbirth at home is safe.
KEYWORDS: Bloom's: Apply

106. Which is *not* a typical childbirth class technique for reducing the pain associated with delivery?
a. Teach deep breathing to reduce muscle tension.
b. Teach visual imagery focusing on pleasant scenes or experiences.
c. Teach a 'coach' to attend to the mother and help her cope with pain.
d. Teach that medications are the first form of pain intervention in the delivery room.

ANSWER: d
REFERENCES: 2.4 Labour and delivery

LEARNING OBJECTIVES: Describe some 'natural' ways of coping with the pain of childbirth, and evaluate whether childbirth at home is safe.
KEYWORDS: Bloom's: Thinking critically

107. For healthy pregnant women, when a trained healthcare professional is present to assist,
a. home delivery can feel more relaxing than hospital delivery.
b. hospital delivery is much safer than home delivery.
c. home delivery is safer than hospital delivery.
d. the home delivery versus hospital delivery risk factors are unknown.
ANSWER: a
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some 'natural' ways of coping with the pain of childbirth, and evaluate whether childbirth at home is safe.
KEYWORDS: Bloom's: Understand

108. Postpartum depression
a. occurs in about 50 per cent of new mothers.
b. is more common following planned pregnancies than unplanned pregnancies.
c. is a purely psychological phenomenon (i.e., has no physiological basis).
d. may be reduced via breast-feeding.
ANSWER: d
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Discuss the adjustments that parents face after a baby's birth..
KEYWORDS: Bloom's: Understand

109. After learning that his newborn son's birth involved hypoxia, Kgatello (a knowledgeable paramedic) would most probably ask,
a. 'How long until my wife's scar heals?'
b. 'How long was the baby not receiving adequate oxygen during the birthing process?'
c. 'Did the cervix ever dilate?'
d. 'Is such a premature birth normal?'
ANSWER: b
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Apply

110. A Caesarean section is best thought of as
a. vaginal childbirth.
b. a technique for determining possible birth defects in an embryo.
c. a common form of teratogen.
d. the surgical removal of a foetus.
ANSWER: d

REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Understand

111. Luthando has decided to have a Caesarean section rather than a vaginal delivery. While this decision will reduce some risks, it will increase the risk of

a. hypoxia.
b. spina bifida.
c. maternal infection.
d. low birth weight.

ANSWER: c
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Apply

112. By definition, premature infants are born before ____ weeks after conception.

a. 42
b. 40
c. 38
d. 36

ANSWER: d
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Understand

113. The cutoff between normal and low birth weight is about ____ kilograms.

a. 1.5
b. 2.5
c. 3.5
d. 4.5

ANSWER: b
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Understand

114. Because her birth weight was 1200 grams, Dikeledi would be correctly classified as having a(n) ____ birth weight.

a. normal
b. low
c. very low
d. extremely low

ANSWER: c

REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Apply

115. Born 39 weeks after conception, Sonto weighs in at around 1 kilogram. Given this information, Sonto is best defined as
a. full-term and normal birth weight.
b. preterm and normal birth weight.
c. preterm and very low birth weight.
d. full-term and extremely low birth weight.
ANSWER: d
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Apply

116. Tendai was born 34 weeks after he was conceived and weighed 2.7 kilograms. Tendai is best described as
a. full-term and normal birth weight.
b. preterm and normal birth weight.
c. full-term and low birth weight.
d. preterm and low birth weight.
ANSWER: b
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Apply

117. Longitudinal research on Hawaiian children indicated that problems associated with low birth weight
a. were typically lifelong.
b. had no impact on social or cognitive abilities.
c. were only found in males.
d. could be overcome if the child was raised in a stable family environment.
ANSWER: d
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Understand

118. Infant mortality rate is defined as the percentage of infants who die
a. before birth.
b. during birth.
c. before their first birthday.
d. before their second birthday.
ANSWER: c
REFERENCES: 2.4 Labour and delivery

LEARNING OBJECTIVES: Explain the factors that contribute to infant mortality in developed and least developed countries.
KEYWORDS: Bloom's: Understand

119. Which parent should most realistically fear her child dying before reaching their first birthday?
a. Alfie, who is in Afghanistan
b. Charlene, who is in the Czech Republic
c. Fran, who is in Finland
d. Jen, who is in Japan
ANSWER: a
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Explain the factors that contribute to infant mortality in developed and least developed countries.
KEYWORDS: Bloom's: Apply

120. Low birth weight can most effectively be prevented through
a. regular prenatal care.
b. avoiding teratogens.
c. maternal inoculations.
d. chorionic villus sampling.
ANSWER: a
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Explain the factors that contribute to infant mortality in developed and least developed countries.
KEYWORDS: Bloom's: Understand

121. A typical fertilised egg contains a total of 22 pairs of chromosomes.
a. True
b. False
ANSWER: False
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Remember

122. Your phenotype includes physical, psychological, and behavioural features.
a. True
b. False
ANSWER: True
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Remember

123. When the chromosomes in a pair are the same, they are said to be heterozygous.

a. True

b. False

ANSWER: False

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Remember

124. While characterised as a progressive and fatal disorder, symptoms of Huntington's disease can be eliminated through a special diet.

a. True

b. False

ANSWER: False

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.

KEYWORDS: Bloom's: Remember

125. Monozygotic twins come from a single egg.

a. True

b. False

ANSWER: True

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Remember

126. A heritability coefficient is used to calculate the extent to which a characteristic is the result of genetics.

a. True

b. False

ANSWER: True

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Remember

127. Nonshared environmental influences tend to make siblings in a family more similar to each other.

a. True

b. False

ANSWER: False

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.
KEYWORDS: Bloom's: Remember

128. The correct order of prenatal development is zygote to embryo to foetus.
a. True
b. False
ANSWER: True
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Remember

129. Implantation occurs when the zygote burrows into the placenta.
a. True
b. False
ANSWER: False
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Remember

130. Hair and skin originally develops in the ectoderm layer of a zygote.
a. True
b. False
ANSWER: True
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.
KEYWORDS: Bloom's: Remember

131. The embryo is connected to the uterus by the fallopian tube.
a. True
b. False
ANSWER: False
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development.
KEYWORDS: Bloom's: Remember

132. The period of the foetus is the longest period of prenatal development.
a. True
b. False
ANSWER: True
REFERENCES: 2.2 From conception to birth

LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Remember

133. The modern age of viability begins at 16 weeks.
a. True
b. False
ANSWER: False
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: State when body systems begin to function well enough to support life.
KEYWORDS: Bloom's: Remember

134. Pregnant women who fail to consume enough vitamin A are at risk for giving birth to a baby with spina bifida.
a. True
b. False
ANSWER: False
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.
KEYWORDS: Bloom's: Remember

135. Common symptoms of s spectrum disorder (FASD) include facial deformities, deafness, and intellectual disability.
a. True
b. False
ANSWER: False
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.
KEYWORDS: Bloom's: Remember

136. Damage from teratogens is sometimes not evident until later in life.
a. True
b. False
ANSWER: True
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: State general principles that affect the ways that prenatal development can be harmed.
KEYWORDS: Bloom's: Remember

137. An ultrasound uses sound waves to create an image of a foetus.
a. True
b. False

ANSWER: True
REFERENCES: 2.3 Influences on prenatal development
LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.
KEYWORDS: Bloom's: Remember

138. Research has demonstrated that childbirth techniques designed to reduce pain during labour do not work.
a. True
b. False
ANSWER: False
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some 'natural' ways of coping with the pain of childbirth, and evaluate whether childbirth at home is safe.
KEYWORDS: Bloom's: Remember

139. The condition of hypoxia involves a reduction in the flow of oxygen to the brain.
a. True
b. False
ANSWER: True
REFERENCES: 2.4 Labour and delivery
LEARNING OBJECTIVES: Describe some complications that can occur during birth.
KEYWORDS: Bloom's: Remember

140. Cephalocaudal development proceeds from your extremities toward your body.
a. True
b. False
ANSWER: False
REFERENCES: 2.2 From conception to birth
LEARNING OBJECTIVES: Identify when body structures and internal organs emerge in prenatal development
KEYWORDS: Bloom's: Remember

141. The first 22 pairs of chromosomes are called _____.
ANSWER: autosomes
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.
KEYWORDS: Bloom's: Understand

142. DNA is short for _____ acid.
ANSWER: deoxyribonucleic
REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes
LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary

information from one generation to the next.

KEYWORDS: Bloom's: Understand

143. A(n) _____ allele is ignored when it is combined with a dominant allele.

ANSWER: recessive

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Describe chromosomes and genes and explain how they carry hereditary information from one generation to the next.

KEYWORDS: Bloom's: Understand

144. An individual with phenylketonuria is born without a key _____ enzyme required for normal development.

ANSWER: liver

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.

KEYWORDS: Bloom's: Understand

145. A new genetic disorder called 'HARID disease' is found to involve heterozygous alleles, is recessive, and is characterised by incomplete dominance. Discuss the implications of this description concerning the inheritance of this disorder.

ANSWER: Heterozygous alleles occur when the alleles in a pair of chromosomes differ from each other. In this case, the individual will have one non-HARID disease allele and one allele for HARID disease. A recessive allele's instructions are ignored in the presence of a dominant allele. In incomplete dominance, one allele does not dominate another completely. In incomplete dominance, the phenotype that results often falls between the phenotype associated with either allele. Individuals with two recessive alleles (one from each parent) are likely to inherit this disease. Individuals with at least one dominant allele are unlikely to develop the disease.

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.

KEYWORDS: Bloom's: Thinking critically

146. Discuss the relationship between genotype and phenotype. Provide an example of each to support your analysis.

ANSWER: The complete set of genes makes up a person's heredity and is known as the person's genotype. Example: Hair or eye colour. Genetic instructions, in conjunction with environmental influences, produce a phenotype, an individual's physical, behavioural, and psychological features. Example: A child has tall parents but because of malnutrition the child does not grow as tall as they might have become with good nutrition.

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Explain how children's heredity is influenced by the environment in which they grow up.

KEYWORDS: Bloom's: Thinking critically

147. Down syndrome and Turner's syndrome are two genetic disorders that involve abnormal chromosomes. Identify the exact chromosomal aberration and the impact of the aberration on development for each syndrome.

ANSWER: Down syndrome is caused by an extra 21st chromosome that is usually provided by the egg. People with Down syndrome have almond-shaped eyes and a fold over the eyelid. Their head, neck, and nose are usually smaller than normal. They also have cognitive and social impairments. Turner's syndrome is caused by having a single X sex chromosome. People with Turner's syndromes are short, have limited development of secondary sex characteristics, and problems perceiving spatial relations.

REFERENCES: 2.1 In the beginning: 23 pairs of chromosomes

LEARNING OBJECTIVES: Identify common problems involving chromosomes, and describe their consequences.

KEYWORDS: Bloom's: Thinking critically

148. Rethabile is 20 years old, pregnant, and eats well, but she is under a lot of prolonged, extreme stress. Her friend Maria, who is also pregnant, is 42 years old and has a very poor diet, but is under little stress. What prediction could you make concerning the postbirth health of each of these women's babies?

ANSWER: Prolonged, extreme stress during pregnancy can lead to attention and behavioural problems in children. Rethabile's prenatal stress can also affect her child's physical, cognitive, and language development. However, Maria's age puts her child at risk of low birth weight and Down syndrome. Her poor diet during prenatal development can lead to problems in attention, memory, and intelligence. Also, if Maria has not consumed adequate amounts of folic acid, her baby is at risk for spina bifida.

REFERENCES: 2.3 Influences on prenatal development

LEARNING OBJECTIVES: Describe how prenatal development is influenced by a pregnant woman's age, her nutrition, and the stress she experiences while pregnant.

KEYWORDS: Bloom's: Thinking critically

149. Identify one disease, one drug, and one environmental hazard that is known to negatively affect prenatal development. Be sure to describe the specific impact of each teratogen.

ANSWER: When a woman contracts chicken pox during pregnancy, it can cause spontaneous abortion, developmental delays, or intellectual disabilities. Thalidomide is a drug that causes abnormal prenatal development. Exposure leads to deformed arms, legs, hands, or fingers. Prenatal exposure to mercury can cause delayed growth, intellectual disabilities, or cerebral palsy.

REFERENCES: 2.3 Influences on prenatal development

LEARNING OBJECTIVES: Explain how diseases, drugs, and environmental hazards sometimes affect prenatal development.

KEYWORDS: Bloom's: Thinking critically

150. Alisha is in for a routine prenatal check-up. Her gynaecologist is going over some potential environmental threats to her baby. Describe any three principles the doctor might discuss with Alisha that govern how teratogens could affect her baby's development.

ANSWER: (1) The impact of a teratogen depends on the genotype of the organism. Heredity makes some individuals more susceptible to a teratogen. (2) The impact of teratogens changes over the course of prenatal development. The timing of exposure to a teratogen during the zygote, embryo, or foetus stage typically has different effects. (3) Each teratogen affects a specific aspect of prenatal development. Teratogens produce selective damage. (4) The impact of teratogens depends on the dose. More exposure creates more risk of damage. (5) Damage from teratogens is not always evident at birth but may appear later in life. The impact of a teratogen may be delayed.

REFERENCES: 2.3 Influences on prenatal development

LEARNING OBJECTIVES: State general principles that affect the ways that prenatal development can be harmed.

KEYWORDS: Bloom's: Thinking critically

151. Bontle is 12 weeks pregnant and concerned that her foetus may have a genetic disorder. Describe two techniques that a doctor could use to determine whether Bontle's concerns are warranted. Also, discuss how foetal therapy could be used to deal with a disorder if one is identified.

ANSWER: Amniocentesis is a prenatal diagnostic technique that uses a syringe to withdraw a sample of amniotic fluid throughout the mother's abdomen. Chorionic villus sampling is a prenatal diagnostic technique that involves taking a sample of tissue from the chorion. Noninvasive prenatal testing (NIPT) involves the analysis of foetal genetic material obtained from a routine sample of blood from a pregnant woman. Foetal therapy can be used to treat prenatal problems before birth. Disorders can be treated by administering drugs or hormones to the foetus, foetal surgery, or genetic engineering.

REFERENCES: 2.3 Influences on prenatal development

LEARNING OBJECTIVES: Explain how prenatal development can be monitored, and whether abnormal prenatal development can be corrected.

KEYWORDS: Bloom's: Thinking critically

152. Describe the three basic stages of childbirth in terms of time, purpose, and symptoms.

ANSWER: During stage 1, which may last from 12 to 24 hours for a first birth, the uterus starts to contract. As the contractions become stronger, the cervix is enlarged to approximately 10 centimetres. Stage 2 lasts about an hour and consists of the baby passing through the cervix and into the vagina. The mother helps push the baby along by contracting muscles in her abdomen. Crowning occurs when the top of the baby's head appears. Stage 3 lasts only minutes and consists of the mother expelling the placenta.

REFERENCES: 2.4 Labour and delivery

LEARNING OBJECTIVES: Identify the different phases of labour and delivery.

KEYWORDS: Bloom's: Thinking critically

153. Your friend Thando is currently pregnant and attempting to learn about common birth complications and/or whether or not homebirth is a good option for her. She is 25 years old, in good health, and expecting her first child. Help her by first describing two birth complications and then discussing why a home delivery may be a viable option in her case.

ANSWER: Cephalopelvic disproportion: the infant's head is larger than the pelvis, making it

impossible for the baby to pass through the birth canal. Irregular position: in shoulder presentation, the baby is lying crosswise in the uterus and the shoulder appears first; in breech presentation, the buttocks appear first. Preeclampsia: a pregnant woman has high blood pressure, protein in her urine, and swelling in her extremities (due to fluid retention). Prolapsed umbilical cord: the umbilical cord precedes the baby through the birth canal and is squeezed shut, cutting off oxygen to the baby. Hypoxia is a birth complication in which umbilical blood flow is disrupted and the infant does not receive adequate oxygen. Women can consider home delivery when they are healthy, their pregnancy has been problem-free, a trained health care professional is present to assist, and comprehensive medical care is readily available should the need arise.

REFERENCES: 2.4 Labour and delivery

LEARNING OBJECTIVES: Describe some 'natural' ways of coping with the pain of childbirth, and evaluate whether childbirth at home is safe. Describe some complications that can occur during birth.

KEYWORDS: Bloom's: Thinking critically

154. Length of gestation (i.e., number of weeks in utero) and weight at birth are both related to birth risk. Demonstrate your awareness of key related concepts by discussing the concepts of prematurity, low birth weight, and extremely low birth weight.

ANSWER: Prematurity describes babies born before the 36th week after conception. Low birth weight describes newborns who weigh less than 1 500 grams. Extremely low birth weight describes newborns who weigh less than 1 000 grams.

REFERENCES: 2.4 Labour and delivery

LEARNING OBJECTIVES: Describe some complications that can occur during birth.

KEYWORDS: Bloom's: Thinking critically

155. Describe why in vitro fertilisation and eugenics represent controversial issues in human development.

ANSWER: In vitro fertilisation involves conception outside of the body (e.g., in a Petri dish). Ethical concerns include a parent's right to select specific traits and the high costs, which tend to not be covered by medical aid. Eugenics is an effort to improve humans by allowing only certain individuals to mate and pass along genes.

REFERENCES: 2.2 From conception to birth

LEARNING OBJECTIVES: Describe what happens to a fertilised egg in the first two weeks after conception.

KEYWORDS: Bloom's: Thinking critically