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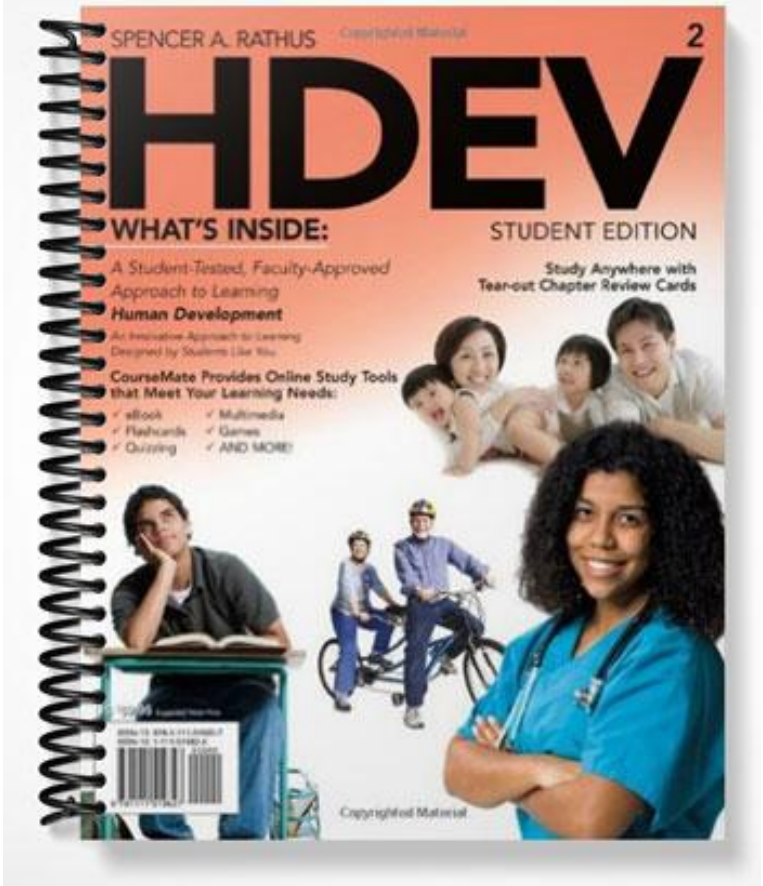
SPENCER A. RATHUS
2
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Chapter 2a: Heredity and Conception

MULTIPLE CHOICE

1. The study of heredity is called
   a. etiology.
   b. genetics.
   c. biology.
   d. eugenics.

   ANS: B PTS: 1 DIF: Easy REF: p. 23
   OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

2. Chromosomes contain thousands of segments called
   a. nuclei.
   b. genes.
   c. phosphates.
   d. cytosines.

   ANS: B PTS: 1 DIF: Easy REF: p. 24
   OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

3. What shape best describes chromosomes?
   a. cone
   b. rod
   c. circle
   d. octagon

   ANS: B PTS: 1 DIF: Easy REF: p. 24
   OBJ: 02-01 MSC: TYPE: Factual

4. A normal human cell contains _____ chromosomes organized into _____ pairs.
   a. 20; 10
   b. 32; 16
   c. 46; 23
   d. 48; 24

   ANS: C PTS: 1 DIF: Moderate REF: p. 24
   OBJ: 02-01 MSC: TYPE: Factual

5. Polygenic traits are
   a. transmitted by a single pair of genes.
   b. uncommon in humans.
   c. transmitted by the mother.
   d. determined by two or more pairs of genes.

   ANS: D PTS: 1 DIF: Difficult REF: p. 24
   OBJ: 02-01 MSC: TYPE: Conceptual

6. According to the International Genome Sequencing Consortium (2006), we have how many genes in every cell of our bodies?
   a. 1,000-1,500
   b. 10,000-20,000
   c. 20,000-25,000

d. an indeterminate number

ANS: C PTS: 1 DIF: Moderate REF: p. 24
OBJ: 02-01 MSC: TYPE: Factual

7. DNA takes the form of
   a. a twisting ladder.
   b. a straight ladder.
   c. an octagon.
   d. interlocking circles.

   ANS: A PTS: 1 DIF: Moderate REF: p. 24
   OBJ: 02-01 MSC: TYPE: Factual

8. In DNA, adenine is paired with
   a. thymine.
   b. guanine.
   c. cytosine.
   d. polynine.

   ANS: A PTS: 1 DIF: Moderate REF: p. 24
   OBJ: 02-01 MSC: TYPE: Factual

9. In DNA adenine is paired with _____ and cytosine with _____.
   a. thymine; simple sugar
   b. thymine; guanine
   c. guanine; simple sugar
   d. guanine; thymine

   ANS: B PTS: 1 DIF: Difficult REF: p. 24
   OBJ: 02-01 MSC: TYPE: Factual

10. Of the 46 chromosomes in a normal human cell, how many are contributed by the mother?
    a. all
    b. It depends upon the gender of the child.
    c. half
    d. none

    ANS: C PTS: 1 DIF: Moderate REF: p. 25
    OBJ: 02-01 MSC: TYPE: Application

11. Which of the following most accurately describes what genes do?
    a. They regulate the development of traits
    b. They determine the gender of the child
    c. They work together with lutein to influence development
    d. They hardwire people for certain levels of certain traits

    ANS: A PTS: 1 DIF: Easy REF: p. 26-27
    OBJ: 02-01 KEY: WWW MSC: TYPE: Conceptual

12. DNA stands for
    a. deoxyribonucleic acid.
    b. dionyotic acetate.
    c. diophosphate nucleic acetone.
    d. dionucleic acid.

ANS: A PTS: 1 DIF: Easy REF: p. 24
OBJ: 02-01 MSC: TYPE: Factual

13. Life begins with a single fertilized cell called a(n)
    a. embryo.
    b. ovum.
    c. sperm.
    d. zygote.

    ANS: D PTS: 1 DIF: Easy REF: p. 24
    OBJ: 02-01 MSC: TYPE: Factual

14. During mitosis,
    a. sperm and ova cells are created.
    b. 23 chromosomes are created.
    c. new cells with identical DNA are created.
    d. mutations are impossible.

    ANS: C PTS: 1 DIF: Moderate REF: p. 24
    OBJ: 02-01 MSC: TYPE: Factual

15. After undergoing mitosis, the cell split into two new cells. How could it be that their genetic code was not identical?
    a. A mutation must have occurred.
    b. Identical genetic codes only occur by chance, about half the time.
    c. Mitosis hardly ever results in cells with identical genetic codes.
    d. Only meiosis results in two cells with identical genetic codes.

    ANS: A PTS: 1 DIF: Easy REF: p. 24
    OBJ: 02-01 MSC: TYPE: Factual

16. "Reduction division" is another term for
    a. mitosis.
    b. cell death.
    c. meiosis.
    d. neural pruning.

    ANS: C PTS: 1 DIF: Moderate REF: p. 25
    OBJ: 02-01 MSC: TYPE: Factual

17. Which method of cell reproduction allows for more genetic "variability"?
    a. cloning
    b. meiosis
    c. cross-fertilization
    d. mitosis

    ANS: B PTS: 1 DIF: Difficult REF: p. 25
    OBJ: 02-01 KEY: WWW MSC: TYPE: Conceptual

18. Of the twenty-three pairs of chromosomes, twenty-two pairs look alike and possess genetic information concerning the same traits. These are called
    a. sex chromosomes.
    b. monochromosomes.
    c. autosomes.
    d. sperm cells.

ANS: C PTS: 1 DIF: Difficult REF: p. 25
OBJ: 02-01 MSC: TYPE: Factual

19. How many chromosomes does a cell created during meiosis contain?
    a. 23
    b. 25
    c. 43
    d. 46

    ANS: A PTS: 1 DIF: Moderate REF: p. 25
    OBJ: 02-01 MSC: TYPE: Factual

20. What factor determines the sex of a child?
    a. The presence or absence of teratogens at the time of conception.
    b. It depends on what time in the ovulation cycle conception occurs.
    c. The age of the mother.
    d. The sex chromosome received from the father.

    ANS: D PTS: 1 DIF: Easy REF: p. 25
    OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

21. The typical sex chromosome pattern for males is
    a. XX.
    b. XY.
    c. XYY.
    d. XXY.

    ANS: B PTS: 1 DIF: Easy REF: p. 25
    OBJ: 02-01 MSC: TYPE: Factual

22. The typical sex chromosome pattern for females is
    a. XX.
    b. XY.
    c. XYY.
    d. XXY.

    ANS: A PTS: 1 DIF: Easy REF: p. 25
    OBJ: 02-01 MSC: TYPE: Factual

23. A zygote that divides into two cells that separate results in
    a. monozygotic twins.
    b. dizygotic twins.
    c. cross-fertilization.
    d. mitosis.

    ANS: A PTS: 1 DIF: Difficult REF: p. 26
    OBJ: 02-01 MSC: TYPE: Conceptual

24. A woman who gives birth to dizygotic twins
    a. is most likely an Asian American.
    b. has a decreased chance of subsequent pregnancies.
    c. is likely to be a young mother.
    d. has an increased chance of giving birth to twins in future pregnancies.

    ANS: D PTS: 1 DIF: Easy REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

25. Each member of a pair of genes is referred to as a(n)
    a. homozygous trait.
    b. heterozygous trait.
    c. autosome.
    d. allele.

    ANS: D PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

26. When a person has two alleles that are the same for one trait, that person is said to be what for that trait?
    a. heterozygous
    b. dizygotic
    c. monozygotic
    d. homozygous

    ANS: D PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

27. If a child receives a dominant allele for "tallness" from one parent and a recessive allele for "shortness" from the other, what do we know?
    a. The child will be average in height.
    b. We cannot predict the potential height of the child based upon this information.
    c. The child will tend to be tall.
    d. The child is likely to be born male.

    ANS: C PTS: 1 DIF: Difficult REF: p. 26
    OBJ: 02-01 MSC: TYPE: Application

28. If a child receives an allele for blue eyes and an allele for brown eyes, then the child is
    a. going to have blue eyes.
    b. homozygous for that trait.
    c. heterozygous for that trait.
    d. exhibiting the law of dominance.

    ANS: C PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 KEY: WWW MSC: TYPE: Application

29. Someone with two alleles for brown eyes
    a. is said to be homozygous for that trait.
    b. has eye color as a co-dominant trait.
    c. is referred to as "atypical."
    d. might end up with blue eyes.

    ANS: A PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

30. Which of the following is true about dominant alleles?
    a. They will cause characteristics in individuals when paired with recessive alleles.
    b. They always come from the father of the developing child.
    c. They determine all physical characteristics.
    d. They always come from the mother of the developing child.

    ANS: A PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Application

31. Carriers of certain genetic characteristics can pass that characteristic on only if
    a. the other parent has a recessive gene for the same characteristic.
    b. characteristics in the environment activate it.
    c. they are male.
    d. they also have a dominant gene for the same characteristic.

    ANS: A PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Conceptual

32. When an individual receives a recessive allele for eye color from both parents, the
    a. individual's gender will determine if that trait is expressed.
    b. recessive trait will be expressed in the individual.
    c. trait will be expressed 50 percent of the time.
    d. trait will be turned off and the dominant trait will be expressed.

    ANS: B PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

33. People who bear one dominant and one recessive gene for a trait are
    a. going to automatically pass that characteristic on to their offspring.
    b. definitely going to develop that characteristic.
    c. called "carriers" of the recessive gene.
    d. not going to pass that characteristic on to their offspring.

    ANS: C PTS: 1 DIF: Easy REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

34. "Carriers" of traits carry _____ for a trait.
    a. two dominant genes
    b. two recessive genes
    c. co-dominant genes
    d. one recessive and one dominant gene

    ANS: D PTS: 1 DIF: Moderate REF: p. 26
    OBJ: 02-01 MSC: TYPE: Factual

35. Someone suffering from cystic fibrosis
    a. carries it as a recessive gene.
    b. did not have a dominant gene to cancel it out.
    c. has more than 23 chromosomal pairs.
    d. is likely to have a younger mother.

    ANS: B PTS: 1 DIF: Difficult REF: p. 26-27
    OBJ: 02-01 MSC: TYPE: Application

36. Which of the following is caused by a single pair of genes?
    a. cystic fibrosis
    b. diabetes
    c. epilepsy
    d. peptic ulcers

    ANS: A PTS: 1 DIF: Difficult REF: p. 26-27
    OBJ: 02-01 MSC: TYPE: Application

37. What do we know about Down syndrome?

a. It is caused by a defect on the sex chromosomes.
b. It is significantly more likely in boys than girls.
c. It is caused by a virus during pregnancy.
d. It is increasingly likely among individuals born to older parents.

ANS: D PTS: 1 DIF: Easy REF: p. 27
OBJ: 02-01 MSC: TYPE: Factual

38. Individuals with Down syndrome
a. do not typically suffer adjustment problems.
b. have few, if any, physical problems.
c. have moderate to severe cognitive impairments.
d. have chromosomal damage on the 8th chromosome.

ANS: C PTS: 1 DIF: Easy REF: p. 27
OBJ: 02-01 MSC: TYPE: Factual

39. Down syndrome is linked to
a. alcohol abuse by the father.
b. abnormalities of the 21st pair of chromosomes.
c. teen pregnancies.
d. alcohol abuse by the mother.

ANS: B PTS: 1 DIF: Moderate REF: p. 27
OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

40. "Supermales" is a term previously used to describe men with the following chromosomal structure:
a. XY.
b. XXY.
c. XYY.
d. Y.

ANS: C PTS: 1 DIF: Easy REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

41. Of every 1,000 males born, approximately how many are likely to have Klinefelter syndrome?
a. None. The disorder affects only females.
b. 2
c. 20
d. 200

ANS: B PTS: 1 DIF: Difficult REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

42. In comparison to the average male population, individuals with Klinefelter syndrome produce
a. more estrogen than normal.
b. less estrogen than normal.
c. more testosterone than normal.
d. less testosterone than normal.

ANS: D PTS: 1 DIF: Moderate REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

43. A man with enlarged breasts and mild mental retardation probably has
a. XXY sex chromosomes.
b. XYY sex chromosomes.

c. higher testosterone levels than normal.
d. more body hair than normal.

ANS: A PTS: 1 DIF: Difficult REF: p. 28
OBJ: 02-01 MSC: TYPE: Conceptual

44. Baby Steven was born with Klinefelter syndrome. Accordingly, he will most likely
a. not be treated for the condition, as there is nothing doctors can do about it.
b. never biologically father a child.
c. be treated with estrogen replacement therapy.
d. develop normal intelligence.

ANS: B PTS: 1 DIF: Difficult REF: p. 28
OBJ: 02-01 MSC: TYPE: Application

45. Girls with Turner syndrome
a. have visible physical abnormalities.
b. produce little estrogen.
c. produce more testosterone than normal.
d. are more likely to give birth to twins.

ANS: B PTS: 1 DIF: Easy REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

46. Klinefelter syndrome occurs when genetic
a. females have an extra X chromosome.
b. females have an extra Y chromosome.
c. males have an extra X chromosome.
d. males have an extra Y chromosome.

ANS: C PTS: 1 DIF: Easy REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

47. Compared to girls with "XX" sex chromosomes, girls with Turner syndrome
a. have an extra X chromosome.
b. have an extra Y chromosome.
c. perform better on verbal tests.
d. perform worse on math tests.

ANS: D PTS: 1 DIF: Moderate REF: p. 28
OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

48. Phenylketonuria is
a. an enzyme disorder.
b. transmitted by a dominant gene.
c. a condition that can be reversed up to one year after birth.
d. caused by alcohol consumption during pregnancy.

ANS: A PTS: 1 DIF: Difficult REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

49. Children with PKU
a. cannot eat fruits or vegetables.
b. have damage to the 21st pair of chromosomes.
c. should be placed on a special diet soon after birth.
d. usually live for only a few weeks.

ANS: C PTS: 1 DIF: Moderate REF: p. 28
OBJ: 02-01 MSC: TYPE: Factual

50. Children with PKU will develop normally if they are placed on a diet low in
    a. fat.
    b. carbohydrates.
    c. protein.
    d. an amino acid called phenylalanine.

    ANS: D PTS: 1 DIF: Difficult REF: p. 28
    OBJ: 02-01 MSC: TYPE: Application

51. The rarest among the following disorders is
    a. Huntington's disease.
    b. Down syndrome.
    c. Klinefelter syndrome.
    d. Turner syndrome.

    ANS: A PTS: 1 DIF: Difficult REF: p. 28-29
    OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

52. Which of the following is true about Huntington's disease?
    a. It is not always fatal.
    b. It causes physical and psychological symptoms.
    c. Those who carry the gene are infertile.
    d. It comes on in young adulthood or adolescence.

    ANS: B PTS: 1 DIF: Moderate REF: p. 28-29
    OBJ: 02-01 MSC: TYPE: Conceptual

53. Huntington’s disease is a _____ trait, which means that _____ percent of the offspring of the affected parent will also inherit the condition.
    a. dominant; 25
    b. dominant; 50
    c. recessive; 25
    d. recessive; 50

    ANS: B PTS: 1 DIF: Difficult REF: p. 28-29
    OBJ: 02-01 MSC: TYPE: Conceptual

54. The group that is most susceptible to sickle-cell anemia is
    a. Hispanic Americans.
    b. African Americans.
    c. Jewish Americans.
    d. Asian Americans.

    ANS: B PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

55. In sickle-cell anemia,
    a. white blood cells take on the shape of a sickle and clump together.
    b. red blood cells expand the blood vessels and increase the oxygen supply.
    c. red blood cells clump together and cause a decrease in the oxygen supply.
    d. there is a shortage of both red and white blood cells.

ANS: C PTS: 1 DIF: Moderate REF: p. 29
OBJ: 02-01 MSC: TYPE: Factual

56. Approximately what percentage of African Americans are carriers of sickle-cell anemia?
    a. 5 percent
    b. 10 percent
    c. 20 percent
    d. 50 percent

    ANS: B PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

57. Which of the following is true about Tay-Sachs disease?
    a. It affects the pancreas and the lungs.
    b. It is a fatal degenerative disease of the central nervous system.
    c. It is caused by a dominant gene.
    d. It is linked to the X chromosome.

    ANS: B PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

58. Tay-Sachs disease is most likely to affect which of the following groups?
    a. Middle Eastern Jews
    b. Eastern European Jews
    c. Irish Catholics
    d. Irish Protestants

    ANS: B PTS: 1 DIF: Difficult REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

59. Tay-Sachs disease results in
    a. death by approximately the age of 5.
    b. painful and swollen joints.
    c. thick mucus that clogs the pancreas and lungs.
    d. jaundice.

    ANS: A PTS: 1 DIF: Difficult REF: p. 29
    OBJ: 02-01 MSC: TYPE: Conceptual

60. Which of the following is true about cystic fibrosis?
    a. Most victims die by age 5.
    b. It is caused by an abnormality in the 21st pair of chromosomes.
    c. It is due to a recessive gene.
    d. It is a disease of the central nervous system.

    ANS: C PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

61. Hemophilia is
    a. a disease that only affects females.
    b. carried on the X chromosome.
    c. caused by damage to the 14th chromosomal pair.
    d. a disease with only male carriers.

    ANS: B PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Factual

62. In hemophilia,
    a. blood does not clot properly.
    b. an amino acid called phenylalanine builds up in the blood.
    c. red blood cells clump together.
    d. white blood cells clump together.

    ANS: A PTS: 1 DIF: Moderate REF: p. 29
    OBJ: 02-01 MSC: TYPE: Application

63. Sex-linked diseases are more likely to affect sons of female carriers because
    a. they are carried on the Y chromosome.
    b. they are carried on dominant genes.
    c. males only have one X chromosome, which they inherit from their mothers.
    d. males only have one X chromosome, which they inherit from their fathers.

    ANS: C PTS: 1 DIF: Difficult REF: p. 30
    OBJ: 02-01 MSC: TYPE: Conceptual

64. The primary purpose of genetic counseling is to
    a. advise couples to abort unborn children.
    b. encourage at-risk couples to adopt instead of having a biological child.
    c. assist would-be parents in making procreation decisions.
    d. outline the genetic risks of unprotected sex.

    ANS: C PTS: 1 DIF: Moderate REF: p. 30
    OBJ: 02-01 KEY: WWW MSC: TYPE: Conceptual

65. In the US, amniocentesis is now routine if a pregnant woman is at least how old?
    a. 28
    b. 30
    c. 35
    d. 40

    ANS: C PTS: 1 DIF: Moderate REF: p. 30
    OBJ: 02-01 MSC: TYPE: Application

66. What happens during amniocentesis?
    a. A biopsy is taken from the pregnant mother's spine.
    b. Fluid is tested from the "sac" containing the fetus.
    c. The father's sperm is tested for genetic abnormalities.
    d. The mother's eggs are tested for genetic abnormalities.

    ANS: B PTS: 1 DIF: Difficult REF: p. 30-31
    OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

67. Twenty-three-year-old Tiffany, who is 15 weeks pregnant, wants her doctor to do an amniocentesis so that she can find out the sex of her unborn child. Her doctor will probably refuse to do so because amniocentesis
    a. cannot reveal the sex of the unborn child.
    b. is not performed that late in the pregnancy.
    c. carries a miscarriage risk of 1 in 100 babies.
    d. is only performed on pregnant women who are older than 40.

    ANS: C PTS: 1 DIF: Moderate REF: p. 30-31
    OBJ: 02-01 KEY: WWW MSC: TYPE: Factual

68. Amniocentesis is performed on older pregnant women in order to detect _____ disorders, such as _____.
    a. chromosomal; Down syndrome
    b. chromosomal; Huntington's disease
    c. genetic; muscular dystrophy
    d. genetic; sickle-cell anemia

    ANS: A PTS: 1 DIF: Difficult REF: p. 30-31
    OBJ: 02-01 MSC: TYPE: Application

69. The earliest detection of fetal abnormalities is possible with the use of
    a. amniocentesis.
    b. ultrasound.
    c. chorionic villus sampling.
    d. fetoscopy.

    ANS: C PTS: 1 DIF: Easy REF: p. 31
    OBJ: 02-01 MSC: TYPE: Factual

70. CVS stands for
    a. cervical variability scan.
    b. chorionic villus sampling.
    c. chorionic variability synthesis.
    d. cervical villus surveying.

    ANS: B PTS: 1 DIF: Easy REF: p. 31
    OBJ: 02-01 MSC: TYPE: Factual

71. Which of the following is true regarding amniocentesis and CVS?
    a. The risks of each procedure are equivalent.
    b. Both amniocentesis and CVS are performed 14 to 16 weeks after conception.
    c. CVS is used less frequently than amniocentesis.
    d. Both amniocentesis and CVS involve the examination of villi from the membrane that envelops the amniotic sac and fetus.

    ANS: C PTS: 1 DIF: Moderate REF: p. 30-31
    OBJ: 02-01 MSC: TYPE: Conceptual

72. Wendy, who is in the third month of pregnancy, is scheduled for an ultrasound. Her friend Maya, who already had one, correctly informed her that the procedure
    a. involves taking an x-ray photograph of the unborn child.
    b. utilizes sound waves that she will be able to hear as a low hum.
    c. yields a picture called a "cat scan."
    d. bounces sound waves off of the fetus.

    ANS: D PTS: 1 DIF: Moderate REF: p. 31
    OBJ: 02-01 MSC: TYPE: Factual

73. A sonogram is produced by using
    a. ultrasound.
    b. fetoscopy.
    c. chorionic villus sampling.
    d. amniocentesis.

    ANS: A PTS: 1 DIF: Easy REF: p. 31

OBJ: 02-01 MSC: TYPE: Factual

74. Ultrasound can be used to detect
    a. Klinefelter syndrome.
    b. cystic fibrosis.
    c. PKU.
    d. the position of the fetus.

    ANS: D PTS: 1 DIF: Moderate REF: p. 31
    OBJ: 02-01 MSC: TYPE: Conceptual

75. Neural tube defects, such as spina bifida, can be detected with
    a. chorionic villus sampling.
    b. alpha-fetoprotein (AFP) assay.
    c. ultrasound.
    d. amniocentesis.

    ANS: B PTS: 1 DIF: Moderate REF: p. 31
    OBJ: 02-01 MSC: TYPE: Factual

76. Alpha-fetoprotein assay can be used to
    a. assess sex chromosome abnormalities.
    b. detect neural tube defects.
    c. assess the degree of mental retardation.
    d. measure enzyme levels in the fetus.

    ANS: B PTS: 1 DIF: Moderate REF: p. 31
    OBJ: 02-01 MSC: TYPE: Application

77. Of the following, the most accurate statement is:
    a. There is no risk associated with fetal testing.
    b. Although there is some risk with fetal testing, it is sometimes necessary.
    c. Because of risk, fetal testing should not be done.
    d. The risk in fetal testing is to the mother, not the fetus.

    ANS: B PTS: 1 DIF: Easy REF: p. 30-31
    OBJ: 02-01 MSC: TYPE: Conceptual

78. The traits we inherit from our parents are referred to as our
    a. phenotype.
    b. temperament.
    c. genotype.
    d. personality.

    ANS: C PTS: 1 DIF: Easy REF: p. 31-32
    OBJ: 02-02 MSC: TYPE: Factual

79. Our actual characteristics or traits are referred to as our
    a. phenotype.
    b. temperament.
    c. genotype.
    d. personality.

    ANS: A PTS: 1 DIF: Easy REF: p. 31-32
    OBJ: 02-02 MSC: TYPE: Factual

80. Which of the following is/are most influenced by the environment?
    a. our phenotype
    b. our genes
    c. our chromosomes
    d. our genotype

    ANS: A PTS: 1 DIF: Moderate REF: p. 32
    OBJ: 02-02 KEY: WWW MSC: TYPE: Application

81. Which of the following is true regarding parents and their biological children?
    a. They have almost none of their genetic material in common.
    b. They have about 25 percent of their genetic material in common.
    c. They have about 50 percent of their genetic material in common.
    d. They have close to 100 percent of their genetic material in common.

    ANS: C PTS: 1 DIF: Moderate REF: p. 32
    OBJ: 02-02 MSC: TYPE: Application

82. Monozygotic twins
    a. share 50 percent of their genetic material.
    b. are formed from two eggs but fertilized by the same sperm.
    c. are as different as typical siblings.
    d. will look very similar in physical appearance.

    ANS: D PTS: 1 DIF: Moderate REF: p. 32
    OBJ: 02-02 MSC: TYPE: Application

83. Which of the following would physically resemble each other the most?
    a. dizygotic female twins
    b. monozygotic male twins
    c. dizygotic male twins
    d. non-twin female siblings

    ANS: B PTS: 1 DIF: Easy REF: p. 32
    OBJ: 02-02 KEY: WWW MSC: TYPE: Application

84. Who has the most similar genetic material?
    a. dizygotic twins
    b. non-twin siblings
    c. cousins
    d. monozygotic twins

    ANS: D PTS: 1 DIF: Moderate REF: p. 32
    OBJ: 02-01 MSC: TYPE: Application

85. Monozygotic twins reared in separate environments
    a. share the same degree of genetic similarity as twins reared together.
    b. are less alike, genetically, than dizygotic twins reared together.
    c. are identical in genetics, behaviors and preferences.
    d. are no more alike in genetics, behaviors and preferences than regular siblings.

    ANS: A PTS: 1 DIF: Difficult REF: p. 32
    OBJ: 02-02 MSC: TYPE: Application

86. If an adopted child is more similar on a particular characteristic to his or her biological parents than to the adoptive parents, we can conclude that

a. the adoptive parents have not tried very hard to raise the child as their own.
b. heredity is solely responsible for who we become.
c. environment is solely responsible for who we become.
d. genetics play a role in the development of that particular characteristic.

ANS: D PTS: 1 DIF: Difficult REF: p. 32
OBJ: 02-02 KEY: WWW MSC: TYPE: Conceptual

87. At birth, the typical female's ovaries will contain
a. enough ova to be fertile for 10 years.
b. no ova, they only develop during puberty.
c. around 400,000 ova.
d. millions of ova.

ANS: C PTS: 1 DIF: Moderate REF: p. 33
OBJ: 02-03 MSC: TYPE: Factual

88. Which of the following happens during menstruation?
a. The female is at her most fertile.
b. The unfertilized egg is discharged.
c. The fertilized egg undergoes meiosis.
d. The fertilized egg undergoes mitosis.

ANS: B PTS: 1 DIF: Moderate REF: p. 33
OBJ: 02-03 MSC: TYPE: Factual

89. Before meiosis, the sperm cell
a. contains 46 chromosomes.
b. is significantly larger than the egg cell.
c. contains two X sex chromosomes.
d. contains 23 chromosomes.

ANS: A PTS: 1 DIF: Moderate REF: p. 33
OBJ: 02-03 MSC: TYPE: Factual

90. Which of the following is true about the sperm cell?
a. It is significantly larger than the egg cell.
b. It contains two Y sex chromosomes.
c. It does not determine the gender of the developing child.
d. It is one of the smallest types of cells in the body.

ANS: D PTS: 1 DIF: Easy REF: p. 33
OBJ: 02-03 KEY: WWW MSC: TYPE: Factual

91. The following can be said about male conception:
a. Fewer males are conceived, but more survive to birth.
b. More males are conceived and more survive to birth.
c. More males are conceived but fewer survive to birth.
d. About the same number of males and females are conceived.

ANS: C PTS: 1 DIF: Easy REF: p. 33
OBJ: 02-03 KEY: WWW MSC: TYPE: Application

92. A single ejaculate contains approximately how many sperm cells?
a. Around 1,500
b. Around 150,000

c. Around 1,500,000
d. Around 150,000,000

ANS: D PTS: 1 DIF: Easy REF: p. 33
OBJ: 02-03 MSC: TYPE: Factual

93. Only 1 in 1,000 sperm will ever arrive in the vicinity of an ovum. The one factor that MOST prevents them from doing so is
a. gravity.
b. vaginal acidity.
c. having to swim against the current of fluid from the cervix.
d. having to swim against currents generated by the cilia in the fallopian tube.

ANS: A PTS: 1 DIF: Moderate REF: p. 33
OBJ: 02-03 MSC: TYPE: Factual

94. Conception has occurred when the
a. egg cell is released from the ovary.
b. sperm cell is released from the testis.
c. chromosomes from the egg cell align with those from the sperm cell.
d. chromosomes combine to form 23 new pairs with a unique set of genetic instructions.

ANS: D PTS: 1 DIF: Easy REF: p. 32-33
OBJ: 02-03 MSC: TYPE: Factual

95. The term “infertility” is typically applied after a couple has failed to conceive after trying for
a. 3 months.
b. 6 months.
c. 9 months.
d. 1 year

ANS: D PTS: 1 DIF: Moderate REF: p. 34
OBJ: 02-03 KEY: WWW MSC: TYPE: Factual

96. In the US, how often does infertility occur?
a. approximately one in three couples
b. approximately one in six couples
c. approximately one in twelve couples
d. approximately one in twenty couples

ANS: B PTS: 1 DIF: Moderate REF: p. 34
OBJ: 02-03 MSC: TYPE: Factual

97. The most common cause of infertility problems in men is
a. low sperm count.
b. low testosterone levels.
c. prostate-related.
d. misshapen sperm.

ANS: A PTS: 1 DIF: Moderate REF: p. 35
OBJ: 02-03 MSC: TYPE: Factual

98. The sperm's ability to move is called
a. the backstroke.
b. propulsion.
c. evolution.

d. motility.

ANS: D PTS: 1 DIF: Easy REF: p. 34
OBJ: 02-03 MSC: TYPE: Factual

99. The most common infertility problem in women is
a. irregular, or lack of, ovulation.
b. endometriosis.
c. infection that scars the fallopian tubes.
d. pelvic inflammatory disease.

ANS: A PTS: 1 DIF: Moderate REF: p. 35
OBJ: 02-03 MSC: TYPE: Application

100. Which of the following describes the process by which sperm is injected into the uterus at the time of ovulation?
a. IVF
b. artificial insemination
c. donor IVF
d. surrogacy

ANS: B PTS: 1 DIF: Easy REF: p. 35
OBJ: 02-03 MSC: TYPE: Factual

101. Bethany does not ovulate but wants to become pregnant using her husband's sperm. Her doctor will likely advise her to try
a. artificial insemination.
b. donor in vitro fertilization.
c. preimplantation genetic diagnosis.
d. surrogacy.

ANS: B PTS: 1 DIF: Moderate REF: p. 35
OBJ: 02-03 MSC: TYPE: Application

102. Which of the following is true about surrogate mothers?
a. They provide eggs to be implanted into another woman.
b. They are allowed to keep the babies that they carry.
c. They do not get paid.
d. They carry newly conceived babies to term for other women.

ANS: D PTS: 1 DIF: Easy REF: p. 35
OBJ: 02-03 KEY: WWW MSC: TYPE: Factual

103. What are the initials for the process by which ova are fertilized in vitro, tested for sex chromosomal structure, and then embryos of the desired sex are implanted into the mother-to-be?
a. PID
b. PGD
c. IVF
d. STI

ANS: B PTS: 1 DIF: Difficult REF: p. 36
OBJ: 02-03 MSC: TYPE: Factual

104. Renee has five boys and wants to get pregnant again but only if she can be assured of giving birth to a girl. Her doctor will probably advise that she try
a. genetic counseling.

b. artificial insemination.
c. preimplantation genetic diagnosis.
d. surrogacy.

ANS: C PTS: 1 DIF: Moderate REF: p. 36
OBJ: 02-03 KEY: WWW MSC: TYPE: Application

105. Infertility is due to the male in about what percentage of cases?
a. 10 percent
b. 20 percent
c. 40 percent
d. 80 percent

ANS: C PTS: 1 DIF: Moderate REF: p. 35
OBJ: 02-03 MSC: TYPE: Factual

106. The three prenatal stages, in order, are
a. germinal, fetal, and embryonic.
b. meiotic, embryonic, and fetal.
c. germinal, embryonic, and fetal.
d. embryonic, fetal, and meiotic.

ANS: C PTS: 1 DIF: Moderate REF: p. 36
OBJ: 02-04 KEY: WWW MSC: TYPE: Factual

107. In nine months, the fetus develops from a nearly microscopic cell to a newborn of approximately how many inches long?
a. 10 inches
b. 15 inches
c. 20 inches
d. 30 inches

ANS: C PTS: 1 DIF: Moderate REF: p. 36
OBJ: 02-04 MSC: TYPE: Factual

108. Which is the stage of prenatal development when conception occurs, the zygote divides, and then implantation in the uterine wall occurs?
a. the fetal stage
b. the embryonic stage
c. the primary stage
d. the germinal stage

ANS: D PTS: 1 DIF: Moderate REF: p. 36
OBJ: 02-04 MSC: TYPE: Factual

109. The fluid-filled ball of cells that develops during the germinal stage of pregnancy is called a(n)
a. germin.
b. blastocyst.
c. fetus.
d. umbililcus.

ANS: B PTS: 1 DIF: Easy REF: p. 36
OBJ: 02-04 KEY: WWW MSC: TYPE: Factual

110. Which of the following is true about miscarriages?
a. They rarely occur during the first trimester of pregnancy.

b. They occur in about one-third of all pregnancies.
c. They are common when women who are pregnant bleed during implantation of the blastocyst into the uterine wall.
d. They most often involve a normally developing embryo.

ANS: B PTS: 1 DIF: Moderate REF: p. 37
OBJ: 02-04 MSC: TYPE: Factual

111. During which stage of prenatal development do the major organ systems differentiate?
a. the germinal stage
b. the embryonic stage
c. the fetal stage
d. the blastocystic stage

ANS: B PTS: 1 DIF: Easy REF: p. 37
OBJ: 02-04 KEY: WWW MSC: TYPE: Factual

112. What does the neural tube become during the prenatal period of development?
a. the central nervous system
b. the digestive system
c. the muscular system
d. the arm and leg buds

ANS: A PTS: 1 DIF: Moderate REF: p. 38
OBJ: 02-04 MSC: TYPE: Factual

113. The lungs and digestive system of the embryo develop from the
a. ectoderm.
b. endoderm.
c. mesoderm.
d. neural tube.

ANS: B PTS: 1 DIF: Moderate REF: p. 38
OBJ: 02-04 MSC: TYPE: Factual

114. Sexual differentiation occurs
a. towards the end of the germinal period.
b. at the moment of conception.
c. at the beginning of the fetal period.
d. during the embryonic period.

ANS: D PTS: 1 DIF: Moderate REF: p. 38
OBJ: 02-04 MSC: TYPE: Application

115. What is the role of the amniotic sac?
a. It contains the developing organism and amniotic fluid.
b. It permits the exchange of nutrients and waste with the mother.
c. It develops into the umbilical cord.
d. It protects the developing organism from harmful toxins.

ANS: A PTS: 1 DIF: Moderate REF: p. 38
OBJ: 02-04 MSC: TYPE: Factual

116. Which of the following is true about the placenta?
a. It develops from only the mother's tissue.
b. It acts as a filter that permits oxygen and nutrients to reach the embryo from the mother.

c. It is an impermeable barrier that protects the developing fetus from toxins.
d. It is reused for each pregnancy a woman has.

ANS: B PTS: 1 DIF: Moderate REF: p. 38
OBJ: 02-04 MSC: TYPE: Factual

117. By the end of which month is the organism one inch long and looking quite human?
a. By the end of the 1st month
b. By the end of the 2nd month
c. By the end of the 3rd month
d. By the end of the 4th month

ANS: B PTS: 1 DIF: Difficult REF: p. 38
OBJ: 02-03 MSC: TYPE: Factual

118. During which stage does the developing organism gain the most weight and length?
a. embryonic
b. fetal
c. placental
d. germinal

ANS: B PTS: 1 DIF: Easy REF: p. 39
OBJ: 02-04 MSC: TYPE: Factual

119. The fetus normally turns upside down in the uterus in preparation for a head first delivery during which month?
a. sixth
b. seventh
c. eighth
d. ninth

ANS: B PTS: 1 DIF: Moderate REF: p. 39
OBJ: 02-04 MSC: TYPE: Factual

120. Research on fetuses during the third trimester has shown that they
a. are unresponsive to outside stimuli.
b. respond to changes in loudness but not differences in pitch.
c. can learn to recognize the sounds of books being read to them.
d. respond to visual, but not auditory stimuli.

ANS: C PTS: 1 DIF: Moderate REF: p. 39
OBJ: 02-04 KEY: WWW MSC: TYPE: Factual

121. Which of the following is true regarding nutrition during pregnancy?
a. Pregnant women can eat and drink whatever they want, since their fetuses are not affected by what they consume.
b. Fetal overnutrition is more of a problem than fetal malnutrition.
c. Obese women tend to give birth to the healthiest babies.
d. Supplementing the (otherwise deficient) diets of pregnant women with calories and protein can positively affect their babies' motor development.

ANS: D PTS: 1 DIF: Easy REF: p. 40
OBJ: 02-04 MSC: TYPE: Factual

122. During pregnancy, women who do not restrict their diets will gain how many pounds?
a. 10-15

b. 15-25
c. 25-35
d. 35-45

ANS: C PTS: 1 DIF: Moderate REF: p. 40
OBJ: 02-04 MSC: TYPE: Factual

123. Which of the following is true about teratogens?
a. They include any environmental agents that can harm the embryo or fetus.
b. They are most damaging during the fetal period of development.
c. They are, by definition, only those substances that the mother's body produces.
d. They harm the fetus only when taken in extremely large doses.

ANS: A PTS: 1 DIF: Moderate REF: p. 40
OBJ: 02-04 MSC: TYPE: Factual

124. Which of the following is true concerning pregnant women who have syphilis?
a. The syphilis bacterium cannot get past the placenta, so they are unlikely to infect the unborn child.
b. The syphilis bacterium is not vulnerable to antibiotics, so their babies are likely to become infected.
c. They can be diagnosed by a routine blood test early in the pregnancy and then treated with antibiotics.
d. They should not be treated during pregnancy because the drugs can harm the unborn child.

ANS: C PTS: 1 DIF: Easy REF: p. 41
OBJ: 02-04 MSC: TYPE: Factual

125. If a pregnant woman has HIV/AIDS, when is her baby most likely to be infected by the virus?
a. The virus is most likely to be transmitted to the unborn child during the pregnancy.
b. The virus is most likely to infect the child after the birth when she is breastfeeding.
c. The virus is most likely to infect the child during childbirth.
d. The virus cannot be transmitted to the baby during childbirth, only before, during the pregnancy, or after, when she is breastfeeding.

ANS: C PTS: 1 DIF: Moderate REF: p. 41
OBJ: 02-04 MSC: TYPE: Factual

126. Rubella, or German measles
a. only causes a mild rash in newborns.
b. can cause deafness, mental retardation, heart disease, and blindness.
c. cannot be inoculated against during pregnancy.
d. is never seen in American children anymore.

ANS: B PTS: 1 DIF: Moderate REF: p. 42
OBJ: 02-04 MSC: TYPE: Factual

127. Which of the following is true about toxemia?
a. It is a condition of the unborn child.
b. It is characterized by low blood pressure.
c. It can cause maternal death.
d. It has clear causal factors.

ANS: C PTS: 1 DIF: Moderate REF: p. 42
OBJ: 02-04 MSC: TYPE: Factual

128. Ellen, who is pregnant with her first child, just found out that she is Rh negative. That means that
   a. the child she is carrying is at risk for anemia, mental deficiency, or death.
   b. the child she is carrying is also Rh negative.
   c. she should avoid getting pregnant again.
   d. if the baby is Rh positive, she'll need a shot of Rh immunoglobulin within three days of the baby's birth.

   ANS: D PTS: 1 DIF: Difficult REF: p. 42
   OBJ: 02-04 MSC: TYPE: Factual

129. Commonly used medications
   a. never harm a developing fetus.
   b. should be taken only after consultation with one's doctor.
   c. should never be taken during pregnancy.
   d. are perfectly safe after the second trimester.

   ANS: B PTS: 1 DIF: Moderate REF: p. 42
   OBJ: 02-04 MSC: TYPE: Factual

130. Which of the following drugs, used in treating insomnia and nausea in the 1960s, caused major birth defects?
   a. immunoglobulin
   b. progestin
   c. thalidomide
   d. DES

   ANS: C PTS: 1 DIF: Easy REF: p. 42
   OBJ: 02-04 MSC: TYPE: Factual

131. During pregnancy, some vitamins
   a. are as dangerous as heroin and methadone.
   b. need to be taken in higher dosages.
   c. are associated with heart defects for the fetus if taken in high doses.
   d. can trigger toxemia.

   ANS: C PTS: 1 DIF: Moderate REF: p. 43
   OBJ: 02-04 MSC: TYPE: Application

132. Research on marijuana use during pregnancy found
   a. definite physical and cognitive problems for the unborn child..
   b. definite physical problems for the unborn child but mixed results on cognitive problems.
   c. mixed results on physical problems but definite cognitive problems for the unborn child.
   d. mixed results on both physical and cognitive problems for the unborn child.

   ANS: B PTS: 1 DIF: Difficult REF: p. 43-44
   OBJ: 02-04 MSC: TYPE: Application

133. Alcohol consumption during pregnancy
   a. should be encouraged, since it relaxes the mother.
   b. may lead to cognitive deficits and physical malformations.
   c. is safe as long as limited to one or two drinks per day.
   d. is safe after the end of the second trimester.

   ANS: B PTS: 1 DIF: Moderate REF: p. 44
   OBJ: 02-04 MSC: TYPE: Application

134. Cigarette smoking during pregnancy
    a. has no long-term adverse effects.
    b. is not toxic to the developing fetus since nicotine cannot pass through the placenta.
    c. is associated with low-birth weight and increased risk of stillbirth and infant mortality.
    d. is only a problem if the woman smokes; the father's smoking will have no effect on the unborn child.

    ANS: C PTS: 1 DIF: Moderate REF: p. 44
    OBJ: 02-04 MSC: TYPE: Factual

135. Ronnie is two months pregnant. Her dentist wants to take some X-rays. Should she let him do so?
    a. No. Even low-level adiation has been shown to cause damage to the unborn child.
    b. No. Although only high-dose radiation has been shown to cause problems, it's wise to avoid any unnecessary exposure to radiation during pregnancy.
    c. Yes. Radiation does not pose any risk to the unborn child.
    d. Yes. Although high doses of radiation can cause problems, low dose X-rays, such as those given by a dentist, carry no risk.

    ANS: B PTS: 1 DIF: Moderate REF: p. 44-45
    OBJ: 02-04 MSC: TYPE: Factual

136. How is parents' age related to successful childbearing?
    a. Parents' age is unrelated to childbearing success.
    b. The optimal time for childbearing is during one's teens.
    c. Women in their 20s are at greater risk for miscarriage and inadequate prenatal care compared with teen and older mothers.
    d. There may be an optimal time for childbearing for both mothers and fathers.

    ANS: D PTS: 1 DIF: Moderate REF: p. 45
    OBJ: 02-04 KEY: WWW MSC: TYPE: Application