Leifer: Introduction to Maternity & Pediatric Nursing, 6th Edition

Chapter 03: Fetal Development

Test Bank

MULTIPLE CHOICE

1. The total number of chromosomes contained in a mature sperm or ovum is:
a. 22.
b. 23.
c. 44.
d. 46.

ANS: B
Gametes (sex chromosomes) contain 23 chromosomes.

DIF: Cognitive Level: Knowledge REF: p. 32 OBJ: 2
TOP: Gametogenesis KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

2. A pregnant woman states, "My husband hopes I will give him a boy because we have three girls." The nurse explains that:
a. the sex chromosome of the fertilized ovum determines the gender of the child.
b. when the sperm and ovum are united, there is a 75% chance the child will be a girl.
c. when the pH of the female reproductive tract is acidic, the child will be a girl.
d. if a sperm carrying a Y chromosome fertilizes an ovum, then a boy is produced.

ANS: D
When a Y-bearing sperm fertilizes an ovum, a male child is produced.

DIF: Cognitive Level: Comprehension REF: p. 33 OBJ: 3
TOP: Sex Determination KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

3. Using a diagram, the nurse points out the most common site for fertilization, which is the:
a. lower segment of the uterus.
b. outer third of the fallopian tube near the ovary.
c. upper portion of the uterus.
d. area of the fallopian tube farthest from the ovary.

ANS: B
Fertilization takes place in the outer third of the fallopian tube, which is closest to the ovary.

DIF: Cognitive Level: Knowledge REF: pp. 33-34 OBJ: 3
TOP: Fertilization KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

4. The embryo is termed a fetus at which stage of prenatal development?
a. 2 weeks
b. 4 weeks
c. 9 weeks
d. 16 weeks

ANS: C
The fetus (third stage of prenatal development) begins at the ninth week and continues until the 40th week of gestation or until birth.

DIF: Cognitive Level: Knowledge REF: p. 37 OBJ: 4
TOP: Prenatal Developmental Milestones KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

5. The nurse explains to a pregnant patient that blood is circulating through the placenta to the fetus by way of:
a. one umbilical vein.
b. two umbilical veins.
c. one umbilical artery.
d. two umbilical arteries.

ANS: A
The umbilical vein transports richly oxygenated blood from the placenta to the fetus.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: 7
TOP: Fetal Circulation KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

6. The nurse explains that the usual location for implantation of the zygote is the:
a. upper section of the posterior uterine wall.
b. lower portion of the uterus near the cervical os.
c. inner third of the fallopian tube near the uterus.
d. lateral aspect of the uterine wall.

ANS: A
The zygote usually implants in the upper section of the posterior uterine wall.

DIF: Cognitive Level: Knowledge REF: p. 34 OBJ: 3
TOP: Implantation KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

7. The embryonic membrane that contains fingerlike projections on its surface, which attach to the uterine wall, is the:
a. amnion.
b. yolk sac.
c. chorion.
d. decidua basalis.

ANS: C
The chorion is a thick membrane with fingerlike projections (villi) on its outermost surface.

DIF: Cognitive Level: Knowledge REF: pp. 34-35 OBJ: 4
TOP: Accessory Structures of Pregnancy KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

8. The nurse explains that the hormone responsible for converting the endometrium into decidual cells for implantation is:
a. estrogen.
b. human chorionic gonadotropin.
c. human placental lactogen.
d. progesterone.

ANS: D
At high levels, progesterone maintains the endometrial lining for implantation of the zygote.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: 6
TOP: Placenta KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

9. When the patient asks when her infant's heart will begin to pump blood, the nurse replies that blood circulation begins:
a. by the end of week 3.
b. beginning in week 8.
c. at the end of week 16.
d. beginning in week 24.

ANS: A
The fetal heart begins to pump by week 3 of gestation.

DIF: Cognitive Level: Knowledge REF: p. 36 OBJ: 5
TOP: Prenatal Development KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

10. In fetal circulation, the purpose of the ductus venosus is to bypass the:

a. liver.
b. heart.
c. lungs.
d. kidneys.

ANS: A
Fetal blood bypasses the liver through the ductus venosus by carrying blood directly to the inferior vena cava.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: 7
TOP: Prenatal Development KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

11. Untreated respiratory distress in the newborn could cause which complication?
a. Esophageal atresia
b. Gastric dilation
c. Cold stress
d. Reopening of the foramen ovale

ANS: D
Respiratory distress can cause increased pressure in the right ventricle, causing reopening of the foramen ovale.

DIF: Cognitive Level: Application REF: p. 40 OBJ: 7
TOP: Fetal Circulation KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

12. During an ultrasound, two amnions and two placentas are observed. The nurse is aware that this pregnancy will result in _____ twins.
a. dizygotic
b. monozygotic
c. conjoined
d. high birth-weight

ANS: A
Dizygotic twins always have two amnions and two chorions (placentas).

DIF: Cognitive Level: Analysis REF: p. 41 OBJ: 8
TOP: Multifetal Pregnancy KEY: Nursing Process Step: Assessment
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

13. A woman who is 25 weeks pregnant asks the nurse what her fetus looks like. The nurse explains that one physical characteristic present in a 25-week-old fetus is:

a. lanugo covering the body.
b. constant motion.
c. skin that is pink and smooth.
d. eyes that are closed.

ANS: A
By 25 weeks, the body of the fetus is covered with lanugo, the eyes are open, the skin is wrinkled, and the fetus has definite periods of movement and sleeping.

DIF: Cognitive Level: Application REF: p. 37, Table 3-1
OBJ: 5 TOP: Prenatal Development
KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

14. At what point in prenatal development do the lungs begin to produce surfactant?
a. 17 weeks
b. 20 weeks
c. 25 weeks
d. 30 weeks

ANS: C
During week 25, the alveoli begin to produce surfactant, which enables the alveoli to stay open for adequate lung oxygenation to occur.

DIF: Cognitive Level: Knowledge REF: p. 37, Table 3-1
OBJ: 5 TOP: Prenatal Development
KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

15. A woman missed her menstrual period 1 week ago and has come to the doctor's office for a pregnancy test. The nurse knows that the placental hormone measured in pregnancy tests is:
a. progesterone.
b. estrogen.
c. human chorionic gonadotropin.
d. human placental lactogen.

ANS: C
Human chorionic gonadotropin is the basis for most pregnancy tests. It is detectable in maternal blood as soon as implantation occurs, usually 7 to 9 days after fertilization.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: 6
TOP: Accessory Structures of Pregnancy KEY: Nursing Process Step: Assessment
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

16. When preparing to teach a class about prenatal development, the nurse would include information about folic acid supplementation because it is known to prevent:
a. congenital heart defects.
b. neural tube defects.
c. mental retardation.
d. premature birth.

ANS: B
It is now known that folic acid supplements can prevent neural tube defects such as spina bifida.

DIF: Cognitive Level: Comprehension REF: p. 37 OBJ: 5
TOP: Prenatal Development KEY: Nursing Process Step: Planning
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

17. The nurse informs a class of expectant parents that the fetus is first considered viable at the age of _____ weeks.
a. 14
b. 20
c. 25
d. 30

ANS: B
By 20 weeks of gestation, the lungs have matured enough for the fetus to survive outside the uterus (age of viability).

DIF: Cognitive Level: Knowledge REF: p. 37 OBJ: 5
TOP: Prenatal Developmental Milestones KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

18. The nurse explains that if one parent has a dominant gene and the other parent does not, the percentage of children carrying the dominant gene will be:
a. 10%.
b. 25%.
c. 50%.
d. 100%.

ANS: C
If one parent has a dominant trait and the other does not, then 50% of the children will inherit the trait.

DIF: Cognitive Level: Comprehension REF: p. 33 OBJ: 4
TOP: Dominant Traits KEY: Nursing Process Step: Implementation

MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

19. The nurse explains that monozygotic twins are frequently below average birth weight because of inadequate:
a. space in the uterus.
b. blood supply.
c. maternal health.
d. placental nutrition.

ANS: D
The single placenta may not be able to provide adequate nutrition to two fetuses.

DIF: Cognitive Level: Comprehension REF: p. 41 OBJ: 8
TOP: Low Birth-Weight Twins KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

20. The school nurse counseling a group of adolescent girls states that sperm ejaculated near the cervix:
a. are destroyed by the acidic pH of the vagina.
b. survive up to 5 days and can cause pregnancy.
c. lose their motility in about 12 hours after intercourse.
d. are usually pushed out of the vagina by the muscular action of the vaginal wall.

ANS: B
Sperm ejaculated near the cervix can survive up to 5 days and cause pregnancy even before ovulation.

DIF: Cognitive Level: Comprehension REF: p. 33 OBJ: Objective: 3
TOP: Fertilization KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

21. The nurse explains that survival of the X and Y bearing sperm after intercourse can be affected by the woman's:
a. age.
b. estrogen level.
c. body temperature.
d. level of feminine hygiene.

ANS: B
Estrogen levels and the pH of the female reproductive tract can affect the survival of the X- and Y-bearing sperm as well as their motility.

DIF: Cognitive Level: Knowledge REF: p. 33 OBJ: Objective: 3
TOP: Fertilization KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

22. The normal umbilical cord is comprised of:
a. 1 artery carrying blood to the fetus and 1 vein carrying blood away from the fetus.
b. 1 artery carrying blood to the fetus and 2 veins carrying blood away from the fetus.
c. 2 arteries carrying blood away from the fetus and 1 vein carrying blood to the fetus.
d. 2 arteries carrying blood to the fetus and 2 veins carrying blood away from the fetus.

ANS: C
The umbilical cord is comprised of 2 arteries carrying blood away from the fetus and 1 vein carrying blood to the fetus.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: Objective: 6
TOP: Fetal Circulation KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

MULTIPLE RESPONSE

23. A nurse is teaching a class on fetal development to a class of high school students and explains the primary germ layers. What are the germ layers? Select all that apply.
a. Ectoderm
b. Endoderm
c. Mesoderm
d. Plastoderm
e. Blastoderm

ANS: A, B, C
The zygote transforms its embryonic disc into three layers: the ectoderm, the mesoderm, and the endoderm.

DIF: Cognitive Level: Knowledge REF: p. 35, Box 3-1
OBJ: 4 TOP: Primary Germ Layers
KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

24. The amniotic fluid has several functions. What are they? Select all that apply.
a. Maintaining an even temperature
b. Impeding excessive fetal movement
c. Lubricating fetal skin
d. Acting as reservoir for nutrients
e. Acting as cushion for fetus

ANS: A, E

The amniotic fluid provides maintenance of even temperature; prevents amnion from adhering to fetal skin; allows buoyancy, symmetrical growth, and fetal movement; and acts as a cushion for the fetus. Although the fetus does swallow amniotic fluid, it has no nutritional value.

DIF: Cognitive Level: Knowledge REF: p. 35, Box 3-1
OBJ: 6 TOP: Amniotic Fluid
KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

COMPLETION

25. The nurse explains that prior to fertilization each cell is reduced from 46 chromosomes to 23 chromosomes. This is referred to as the _____ number.

ANS:
haploid
When each cell reduces its chromosomes from 46 to 23, it is called the haploid number.

DIF: Cognitive Level: Comprehension REF: p. 31 OBJ: 3
TOP: Haploid Number KEY: Nursing Process Step: Implementation
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

26. The component of development that programs the genetic code into the nucleus of the cell is _____.

ANS:
DNA
The DNA programs the genetic code to the nucleus of the cell to be replicated.

DIF: Cognitive Level: Knowledge REF: p. 31 OBJ: 4
TOP: DNA KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

27. The vessels comprising the umbilical cord are cushioned and protected by a substance called _____ _____.

ANS:
Wharton's jelly
Wharton's jelly is a substance in the umbilical cord that cushions and protects the vessels.

DIF: Cognitive Level: Knowledge REF: p. 39 OBJ: Objective: 1
TOP: Fetal Circulation KEY: Nursing Process Step: N/A

MSC: NCLEX: Health Promotion and Maintenance: Growth and Development

OTHER

28. Organize the developmental stages in the correct order.
a. Fetus
b. Zygote
c. Embryo
d. Blastocyst
e. Morula

ANS:
B, E, D, C, A
The development follows these stages: zygote, morula, blastocyst, embryo, and fetus.

DIF: Cognitive Level: Application REF: p. 36 OBJ: 4
TOP: Fetal Development KEY: Nursing Process Step: N/A
MSC: NCLEX: Health Promotion and Maintenance: Growth and Development