16.1 Multiple Choice Part I Questions

Using Figure 16.1, identify the following:

1) The testis is indicated by ________.
   A) Label L
   B) Label J
   C) Label I
   D) Label K
   E) Label C
   Answer: D
   Page Ref: 540
   Bloom's: 1) Knowledge
2) The epididymis is indicated by ________.
A) Label J
B) Label K
C) Label L
D) Label A
E) Label B
Answer: A
Page Ref: 540
Bloom's: 1) Knowledge

3) The prostate gland is indicated by ________.
A) Label E
B) Label D
C) Label A
D) Label B
E) Label G
Answer: C
Page Ref: 540
Bloom's: 1) Knowledge

4) The ejaculatory duct is indicated by ________.
A) Label L
B) Label F
C) Label H
D) Label C
E) Label G
Answer: E
Page Ref: 540
Bloom's: 1) Knowledge

5) The urethra is indicated by ________.
A) Label C
B) Label D
C) Label B
D) Label A
E) Label F
Answer: A
Page Ref: 540
Bloom's: 1) Knowledge
Using Figure 16.2, identify the following:

6) The uterine (fallopian) tube is indicated by _______.
   A) Label B  
   B) Label D  
   C) Label H  
   D) Label E  
   E) Label J  
   Answer:  D  
   Page Ref: 549  
   Bloom's:  1) Knowledge

7) The ovary is indicated by _______.
   A) Label J  
   B) Label H  
   C) Label I  
   D) Label A  
   E) Label B  
   Answer:  E  
   Page Ref: 549  
   Bloom's:  1) Knowledge
8) The clitoris is indicated by _______.
   A) Label C
   B) Label I
   C) Label G
   D) Label F
   E) Label H
   Answer: E
   Page Ref: 549
   Bloom's: 1) Knowledge

9) The vaginal orifice is indicated by _______.
   A) Label I
   B) Label J
   C) Label G
   D) Label F
   E) Label D
   Answer: A
   Page Ref: 549
   Bloom's: 1) Knowledge

10) The myometrium of the uterus is indicated by _______.
    A) Label C
    B) Label I
    C) Label H
    D) Label G
    E) Label F
    Answer: D
    Page Ref: 549
    Bloom's: 1) Knowledge

11) The gonads produce sex cells, also known as _______.
    A) zygotes
    B) interstitial cells
    C) gametes
    D) spermatids
    Answer: C
    Page Ref: 538
    Bloom's: 1) Knowledge
12) Sperm are formed in tightly coiled tubes called seminiferous tubules that are found within each ________.
A) spermatic cord
B) testis
C) ductus (vas) deferens
D) epididymis
Answer: B
Page Ref: 539
Bloom's: 1) Knowledge

13) The glands that produce a thick, yellowish secretion which nourishes and activates sperm are the ________.
A) bulbo-urethral glands
B) prostate
C) seminal glands (vesicles)
D) ejaculatory duct
Answer: C
Page Ref: 541
Bloom's: 1) Knowledge

14) The ________ gland surrounds the upper portion of the urethra just below the junction with the urinary bladder.
A) ejaculatory
B) seminal
C) bulbo-urethral
D) prostate
Answer: D
Page Ref: 541
Bloom's: 1) Knowledge

15) The enlarged tip of the penis is called the ________.
A) glans penis
B) shaft
C) scrotum
D) prepuce (foreskin)
Answer: A
Page Ref: 542
Bloom's: 1) Knowledge

16) The male external genitalia include the ________ and the ________.
A) testes; ductus (vas) deferens
B) spermatic cord; glans penis
C) penis; scrotum
D) seminal glands (vesicles); ejaculatory duct
Answer: C
Page Ref: 542
Bloom's: 1) Knowledge
17) The helmet-like region of the sperm that is similar to a large lysosome and assists penetration of the egg is called the ________.
A) flagellum
B) midpiece
C) spermatid
D) acrosome
Answer: D
Page Ref: 544
Bloom's: 1) Knowledge

18) The process that streamlines spermatids into sperm is known as ________.
A) mitosis
B) spermiogenesis
C) oogenesis
D) spermatogenesis
Answer: B
Page Ref: 544
Bloom's: 1) Knowledge

19) The hormone testosterone is produced by the ________ cells of the testes.
A) spermatogonia
B) oogonia
C) seminiferous
D) interstitial
Answer: D
Page Ref: 539, 545
Bloom's: 1) Knowledge

20) The female reproductive organs, known as ________, produce both eggs (ova) and hormones such as estrogen and progesterone.
A) follicles
B) uterine (fallopian) tubes
C) testes
D) ovaries
Answer: D
Page Ref: 547
Bloom's: 1) Knowledge

21) A mature ovarian follicle that is ready to be ejected from an ovary is called a ________.
A) primary oocyte
B) vesicular (Graafian) follicle
C) ovum
D) corpus luteum
Answer: B
Page Ref: 547
Bloom's: 1) Knowledge
22) The ducts or tubes responsible for receiving the ovulated oocyte and providing the site for fertilization are the ________.
A) uterine (fallopian) tubes  
B) vagina  
C) ductus (vas) deferens  
D) uterus
Answer: A
Page Ref: 547
Bloom's: 1) Knowledge

23) An oocyte is viable up to ________ hours after ovulation.
A) 2  
B) 24  
C) 48  
D) 104
Answer: B
Page Ref: 548
Bloom's: 1) Knowledge

24) The narrow outlet of the uterus that protrudes into the vagina is the ________.
A) infundibulum  
B) cervix  
C) hymen  
D) ampulla
Answer: B
Page Ref: 550
Bloom's: 1) Knowledge

25) The ligament that anchors the anterior portion of the uterus is called the ________.
A) suspensory ligament  
B) ovarian ligament  
C) broad ligament  
D) round ligament
Answer: D
Page Ref: 549
Bloom's: 1) Knowledge

26) The innermost mucosa layer of the uterus is called the ________.
A) endometrium  
B) perimetrium  
C) myometrium  
D) epimetrium
Answer: A
Page Ref: 550
Bloom's: 1) Knowledge
27) Burrowing of the fertilized egg into the endometrium lining of the uterus is called ________.
A) ovulation  
B) implantation  
C) cleavage  
D) fertilization  
Answer:  B  
Page Ref: 550  
Bloom's:  1) Knowledge  

28) The fatty, rounded area overlying the pubic symphysis of a female is the ________.
A) vestibule  
B) perineum  
C) mons pubis  
D) vulva  
Answer:  C  
Page Ref: 550  
Bloom's:  1) Knowledge  

29) The external genitalia of a female are also known as the ________.
A) clitoris  
B) vestibule  
C) vulva  
D) perineum  
Answer:  C  
Page Ref: 550  
Bloom's:  1) Knowledge  

30) The process of creating female gametes is called ________.
A) spermatogenesis  
B) oogenesis  
C) spermiogenesis  
D) cleavage  
Answer:  B  
Page Ref: 551  
Bloom's:  1) Knowledge  

31) The hormone that promotes a small number of primary follicles within the ovary to grow and mature each month is ________.
A) luteinizing hormone (LH)  
B) estrogen  
C) follicle-stimulating hormone (FSH)  
D) testosterone  
Answer:  C  
Page Ref: 551  
Bloom's:  1) Knowledge
32) Ovulation occurs in response to the release of an anterior pituitary hormone known as ________ hormone.
   A) antidiuretic
   B) thyroid-stimulating
   C) luteinizing
   D) follicle-stimulating
   Answer:  C
   Page Ref: 552
   Bloom's:  1) Knowledge

33) The follicle-cell capsule surrounding an ovulated secondary oocyte is called the ________.
   A) corona radiata
   B) morula
   C) polar body
   D) blastocyst
   Answer:  A
   Page Ref: 552
   Bloom's:  1) Knowledge

34) The hormone produced by the corpus luteum that helps maintain pregnancy is called ________.
   A) estrogen
   B) testosterone
   C) progesterone
   D) relaxin
   Answer:  C
   Page Ref: 555
   Bloom's:  1) Knowledge

35) Days 6-14 of the uterine (menstrual) cycle are known as the ________ phase. This phase concludes with ovulation.
   A) secretory
   B) luteal
   C) proliferative
   D) menstrual
   Answer:  C
   Page Ref: 555
   Bloom's:  1) Knowledge

36) The pigmented area of a female's breast that surrounds the nipple is the ________.
   A) areola
   B) lactiferous sinus
   C) lactiferous duct
   D) lobule
   Answer:  A
   Page Ref: 556
   Bloom's:  1) Knowledge
37) The process by which the acrosome membranes of sperm break down is known as ________.
A) the acrosomal reaction
B) cleavage
C) ovulation
D) implantation
Answer: A
Page Ref: 558
Bloom's: 1) Knowledge

38) A fertilized egg, which represents the first cell of a new individual, is called a ________.
A) blastocyst
B) zygote
C) fetus
D) embryo
Answer: B
Page Ref: 559
Bloom's: 1) Knowledge

39) The early stage of embryonic development during which rapid mitotic cell divisions occur as the zygote travels down the uterine (fallopian) tube is called ________.
A) the acrosomal reaction
B) cleavage
C) fertilization
D) implantation
Answer: B
Page Ref: 559
Bloom's: 1) Knowledge

40) Of the two functional areas of the blastocyst, the three primary germ layers form from the ________.
A) amnion
B) morula
C) inner cell mass
D) trophoblast
Answer: C
Page Ref: 559
Bloom's: 1) Knowledge
41) The hormone that causes pelvic ligaments and the pubic symphysis to relax, widen, and become more flexible during pregnancy is called ________.
   A) estrogen
   B) progesterone
   C) relaxin
   D) luteinizing hormone (LH)
   Answer: C
   Page Ref: 563
   Bloom's: 1) Knowledge

42) The series of events that expel the infant from the uterus are referred to collectively as ________.
   A) labor
   B) menarche
   C) menstruation
   D) menopause
   Answer: A
   Page Ref: 565
   Bloom's: 1) Knowledge

43) The infant is delivered during the second stage of labor known as the ________ stage.
   A) dilation
   B) parturition
   C) placental
   D) expulsion
   Answer: D
   Page Ref: 566
   Bloom's: 1) Knowledge

44) The placenta and its attached fetal membranes, expelled from the uterus during the placental stage of labor, are collectively referred to as ________.
   A) the vertex position
   B) the afterbirth
   C) dystocia
   D) parturition
   Answer: B
   Page Ref: 567
   Bloom's: 1) Knowledge

45) Failure of the testes to descend into the scrotum is a condition known as ________.
   A) phimosis
   B) cryptorchidism
   C) hermaphroditism
   D) orchiditis
   Answer: B
   Page Ref: 570
   Bloom's: 1) Knowledge
46) The period of life between 10 and 15 years of age is known as ________. It is during this time that the reproductive organs grow to their adult size and become functional under the influence of hormones.
A) adulthood
B) menarche
C) puberty
D) menopause
Answer: C
Page Ref: 570
Bloom's: 1) Knowledge

16.2 Multiple Choice Part II Questions

1) The male gonads have both sperm-producing and testosterone-producing functions and are called ________.
A) testes
B) sperm
C) ovaries
D) ovum
E) gametes
Answer: A
Page Ref: 539
Bloom's: 1) Knowledge

2) Which of the following is NOT a part of a male's testis?
A) seminiferous tubule
B) ejaculatory duct
C) interstitial cells
D) rete testis
E) lobules
Answer: B
Page Ref: 539
Bloom's: 1) Knowledge

3) The exocrine function of the testes is ________.
A) testosterone production
B) ovum fertilization
C) sperm production
D) embryo nutrition
E) estrogen production
Answer: C
Page Ref: 539
Bloom's: 1) Knowledge
4) Trace the pathway of sperm through the duct system during ejaculation ________.
A) epididymis, ductus (vas) deferens, ejaculatory duct, urethra
B) epididymis, ductus (vas) deferens, seminaliferous tubules, ejaculatory duct
C) seminaliferous tubule, ductus (vas) deferens, epididymis, ejaculatory duct, urethra
D) epididymis, seminal glands (vesicles), ductus (vas) deferens, ejaculatory duct, urethra
E) ductus (vas) deferens, epididymis, seminaliferous tubule, urethra, seminal vesicles
Answer:  A
Page Ref: 539
Bloom's: 4) Analysis

5) Androgens such as testosterone are produced by the ________.
A) seminaliferous tubules of the testis
B) interstitial cells of the testis
C) epididymis
D) bulbo-urethral glands
E) prostate
Answer:  B
Page Ref: 539
Bloom's: 1) Knowledge

6) Peristaltic waves squeeze sperm from the epididymis along to the outside of the male's body during ________.
A) vasectomy
B) circumcision
C) spermatogenesis
D) ejaculation
E) erection
Answer:  D
Page Ref: 540
Bloom's: 1) Knowledge

7) Maturing sperm gain their ability to swim while in the ________.
A) seminaliferous tubules
B) epididymis
C) ductus deferens
D) ejaculatory duct
E) urethra
Answer:  B
Page Ref: 539, 544
Bloom's: 1) Knowledge
8) The spermatic cord houses the _______.
A) urethra
B) ejaculatory duct
C) ductus (vas) deferens
D) epididymis
E) seminal glands (vesicles)
Answer: C
Page Ref: 540
Bloom's: 1) Knowledge

9) The distal portion of the male urethra that runs the length of the penis is the _______.
A) prostatic urethra
B) membranous urethra
C) spongy urethra
D) intermediate urethra
E) bulbo-urethra
Answer: C
Page Ref: 541
Bloom's: 1) Knowledge

10) Which one of the following is NOT a component of semen?
A) sperm
B) seminal fluid
C) prostatic fluid
D) bulbo-urethral fluid
E) epididymal fluid
Answer: E
Page Ref: 542
Bloom's: 1) Knowledge

11) Thick, clear mucus that cleanses the urethra of acidic urine is produced by the _______.
A) testes
B) seminal glands (vesicles)
C) prostate
D) bulbo-urethral glands
E) epididymis
Answer: D
Page Ref: 542
Bloom's: 1) Knowledge
12) Milky-colored fluids secreted from the prostate ________.
   A) nourish sperm  
   B) activate sperm  
   C) cleanse the urethra  
   D) neutralize urine  
   E) are endocrine only  
   Answer: B  
   Page Ref: 541  
   Bloom's: 1) Knowledge

13) The spongy tissue of the penis fills with blood during sexual excitement and causes the penis to enlarge and become rigid during ________.
   A) erection  
   B) circumcision  
   C) ejaculation  
   D) emission  
   E) parturition  
   Answer: A  
   Page Ref: 543  
   Bloom's: 1) Knowledge

14) Circumcision for males removes the ________.
   A) glans penis  
   B) shaft of the penis  
   C) scrotum  
   D) prepuce  
   E) ductus (vas) deferens  
   Answer: D  
   Page Ref: 542  
   Bloom's: 1) Knowledge

15) What effect does follicle-stimulating hormone (FSH) have on males?
   A) Male testes are not influenced by FSH.  
   B) FSH functions solely in females.  
   C) FSH stimulates sperm production in males.  
   D) FSH causes the testes to enlarge in size.  
   E) FSH stimulates estrogen production in males.  
   Answer: C  
   Page Ref: 543, 545  
   Bloom's: 2) Comprehension
16) The primitive stem cell of spermatogenesis, which is found on the periphery of each seminiferous tubule, is called a ________.
A) spermatogonium
B) spermatid
C) primary spermatocyte
D) secondary spermatocyte
E) sperm
Answer: A
Page Ref: 543
Bloom's: 1) Knowledge

17) Which statement regarding meiosis is correct?
A) Meiosis produces four gametes.
B) Meiosis consists of one nuclear division only.
C) Meiosis produces two daughter cells.
D) Meiosis occurs in all cells of the body.
E) Meiosis produces cells genetically identical to the parent cell.
Answer: A
Page Ref: 543, 544
Bloom's: 1) Knowledge

18) What results from spermiogenesis?
A) four spermatogonia
B) four spermatids
C) two sperm
D) two spermatids
E) four sperm
Answer: E
Page Ref: 544
Bloom's: 1) Knowledge

19) Each spermatid and each ovum have ________.
A) 23 pairs of chromosomes
B) 23 chromosomes
C) 46 pairs of chromosomes
D) 46 chromosomes
E) 2n chromosomes
Answer: B
Page Ref: 544
Bloom's: 1) Knowledge
20) The process in which sperm are streamlined into a head, midpiece, and tail is called ________.
A) spermatogenesis  
B) acrosomal reaction  
C) oogenesis  
D) spermiogenesis  
E) ovulation  
Answer: D  
Page Ref: 544  
Bloom's: 1) Knowledge

21) The entire process of spermatogenesis takes approximately ________.
A) 25-50 days  
B) 64-72 days  
C) 120 days  
D) 1 year  
E) 15 years  
Answer: B  
Page Ref: 544  
Bloom's: 1) Knowledge

22) Which one of the following is NOT one of the secondary sex characteristics typical of males?
A) deepening voice  
B) increased growth of body hair  
C) enlargement of skeletal muscle mass  
D) development of breast tissue  
E) thickening of bones  
Answer: D  
Page Ref: 545, 547  
Bloom's: 1) Knowledge

23) Fertilization usually occurs in the ________.
A) ovary  
B) vesicular (Graafian) follicle  
C) uterine (fallopian) tubes  
D) uterus  
E) vagina  
Answer: C  
Page Ref: 547  
Bloom's: 1) Knowledge
24) The process by which a mature egg is ejected from the ovary is called ________.
A) emission  
B) menses  
C) fertilization  
D) ovulation  
E) parturition  
Answer: D  
Page Ref: 547  
Bloom's: 1) Knowledge

25) On which day of the female's uterine (menstrual) cycle does ovulation typically occur?
A) day 7  
B) day 14  
C) day 21  
D) day 24  
E) day 28  
Answer: B  
Page Ref: 552, 553  
Bloom's: 1) Knowledge

26) The superior rounded region of the uterus above the entrance of the uterine (fallopian) tubes is called the ________.
A) body  
B) fundus  
C) cervix  
D) corpus  
E) mons pubis  
Answer: B  
Page Ref: 550  
Bloom's: 1) Knowledge

27) Which layer of the uterus serves as the site of implantation?
A) fundus  
B) cervix  
C) myometrium  
D) endometrium  
E) perimetrium  
Answer: D  
Page Ref: 550  
Bloom's: 1) Knowledge
28) What is NOT a true statement concerning the vagina?
A) The vagina serves as the birth canal.
B) The distal end of the vagina is partially enclosed by the hymen.
C) The vagina is the female organ of copulation.
D) The innermost lining of the vagina sloughs off periodically.
E) The vagina is situated between the rectum and urinary bladder.
Answer: D
Page Ref: 550
Bloom's: 1) Knowledge

29) During oogenesis, an oogonium directly gives rise to ________.
A) an ovum
B) a primary oocyte
C) a secondary oocyte
D) a first polar body
E) a second polar body
Answer: B
Page Ref: 551
Bloom's: 1) Knowledge

30) The inner mucosal layer of the uterus that is sloughed off approximately every 28 days is called the ________.
A) endometrium
B) myometrium
C) perimetrium
D) epimetrium
E) hypometrium
Answer: A
Page Ref: 555
Bloom's: 1) Knowledge

31) What effect does luteinizing hormone (LH) have on a female?
A) LH promotes enlargement of the female's breasts.
B) LH has no effect on a female.
C) LH causes secondary sex characteristics to develop in a female.
D) LH stimulates primary follicles in a female's ovary to grow each month.
E) LH triggers ovulation in a female.
Answer: E
Page Ref: 555
Bloom's: 1) Knowledge
32) Which of the following cells could be fertilized?
A) polar body
B) primary oocyte
C) secondary oocyte
D) oogonium
E) corpus luteum
Answer: C
Page Ref: 553, 558
Bloom's: 1) Knowledge

33) The hormone(s) responsible for secondary sex characteristics in females is/are ________.
A) estrogens
B) progesterone
C) follicle-stimulating hormone
D) human chorionic gonadotropin
E) testosterone
Answer: A
Page Ref: 555
Bloom's: 1) Knowledge

34) How long are the typical female's ovarian and uterine (menstrual) cycles?
A) 7 days
B) 14 days
C) 28 days
D) 40 days
E) 60 days
Answer: C
Page Ref: 553
Bloom's: 1) Knowledge

35) Days 15-28 of the uterine (menstrual) cycle are known as ________.
A) the menstrual phase
B) the secretory phase
C) menses
D) the proliferative phase
E) implantation
Answer: B
Page Ref: 555
Bloom's: 1) Knowledge
36) What hormone(s) stimulates the growth of the endometrium during the proliferative phase of the uterine (menstrual) cycle?
A) estrogens  
B) progesterones 
C) insulin  
D) testosterone  
E) parathyroid hormone
Answer: A
Page Ref: 555
Bloom's: 1) Knowledge

37) Which one of the following is NOT one of the secondary sex characteristics seen in young women?
A) enlargement of the accessory organs of reproduction  
B) breast development  
C) appearance of axillary and pubic hair  
D) decreased fat deposits beneath the skin  
E) widening and lightening of the pelvis
Answer: D
Page Ref: 555
Bloom's: 1) Knowledge

38) The corpus luteum is a special glandular structure of the ovaries that primarily produces ________.
A) estrogen 
B) progesterone  
C) testosterone  
D) interstitial cell-stimulating hormone  
E) luteinizing hormone
Answer: B
Page Ref: 555
Bloom's: 1) Knowledge

39) The mammary glands are modified ________.
A) ceruminous glands  
B) sebaceous glands 
C) areolar glands  
D) lacrimal glands 
E) sweat glands
Answer: E
Page Ref: 556
Bloom's: 1) Knowledge
40) The clusters of specific glands that produce milk when a woman is lactating are called ________.
   A) lactiferous ducts
   B) areolar glands
   C) mammary glands
   D) alveolar glands
   E) lactating glands
   Answer:  D
   Page Ref: 556
   Bloom's:  1) Knowledge

41) From fertilization to week 8 of pregnancy, the conceptus is called ________.
   A) a fetus
   B) an embryo
   C) a baby
   D) a zygote
   E) a morula
   Answer:  B
   Page Ref: 557
   Bloom's:  1) Knowledge

42) For fertilization to be accomplished, sperm release enzymes to break down the corona radiata from their ________.
   A) mitochondria
   B) acrosomes
   C) flagella
   D) DNA
   E) cytoplasm
   Answer:  B
   Page Ref: 558
   Bloom's:  1) Knowledge

43) A fertilized egg is known as a ________.
   A) primary oocyte
   B) zygote
   C) morula
   D) blastocyst
   E) secondary oocyte
   Answer:  B
   Page Ref: 559
   Bloom's:  1) Knowledge
44) The tiny ball of 16 cells found freely floating in the uterine cavity is called a ________.
A) blastocyst  
B) zygote  
C) morula  
D) placenta  
E) trophoblast  
Answer:  C  
Page Ref: 559  
Bloom's:  1) Knowledge

45) The primary germ layer that gives rise to the mucosae and associated glands is the ________.
A) ectoderm  
B) blastocyst  
C) mesoderm  
D) endoderm  
E) morula  
Answer:  D  
Page Ref: 559  
Bloom's:  1) Knowledge

46) The fluid-filled sac surrounding the fetus is the ________.
A) amnion  
B) placenta  
C) chorionic villi  
D) umbilical cord  
E) mesoderm  
Answer:  A  
Page Ref: 559  
Bloom's:  1) Knowledge

47) The placenta is usually functioning to deliver nutrients and oxygen to, and remove waste from, the embryonic blood by the ________ week of pregnancy.
A) first  
B) second  
C) third  
D) fourth  
E) fifth  
Answer:  C  
Page Ref: 559  
Bloom's:  1) Knowledge
48) An embryo is known as a fetus by the ______ week of pregnancy.
A) first
B) second
C) fourth
D) ninth
E) twelfth
Answer: D
Page Ref: 557-558
Bloom's: 1) Knowledge

49) The hormone produced by the placenta that causes the pelvic ligaments and pubic symphysis to relax, widen, and become more flexible to ease birth passage is called ______.
A) renin
B) relaxin
C) progesterone
D) chorion
E) gonadotropin
Answer: B
Page Ref: 563
Bloom's: 1) Knowledge

50) Parturition is another term for ______.
A) menopause
B) menses
C) fertilization
D) menstruation
E) childbirth
Answer: E
Page Ref: 565
Bloom's: 1) Knowledge

51) Parturition occurs approximately how many days after a woman's last menstrual cycle ______.
A) 180 days
B) 240 days
C) 280 days
D) 315 days
E) 330 days
Answer: C
Page Ref: 565
Bloom's: 1) Knowledge
52) The presence of more oxytocin receptors in the uterus leads to weak, irregular contractions known as ________.
   A) dystocia
   B) Braxton Hicks
   C) menopause
   D) cryptorchidism
   E) C-section
   Answer: B
   Page Ref: 565
   Bloom's: 1) Knowledge

53) What is the effect of oxytocin during parturition?
   A) Oxytocin increases contractions of the uterus.
   B) Oxytocin inhibits contractions of the uterus.
   C) Oxytocin causes pelvic ligaments and the pubic symphysis to relax.
   D) Oxytocin promotes lordosis of the lumbar curvature.
   E) Oxytocin causes difficulty breathing (dyspnea).
   Answer: A
   Page Ref: 565
   Bloom's: 1) Knowledge

54) The stage of labor that involves the delivery of the infant is the ________.
   A) dilation stage
   B) expulsion stage
   C) secretory phase
   D) placental stage
   E) postpartum stage
   Answer: B
   Page Ref: 566
   Bloom's: 1) Knowledge

55) Male sex chromosomes are represented as ________.
   A) XX
   B) XO
   C) XY
   D) XZ
   E) YY
   Answer: C
   Page Ref: 567
   Bloom's: 1) Knowledge
56) The first menstrual period, which usually occurs at approximately age 13, is called

_________.
A) menses
B) menstruation
C) menopause
D) menarche
E) menogen
Answer:  D
Page Ref: 570
Bloom's:  1) Knowledge

57) Menopause, which ends childbirth ability, is considered to have occurred when a woman

_________.
A) misses her first period
B) misses two periods in a row
C) turns 50
D) has gone a year without menstruation
E) has had a hysterectomy
Answer:  D
Page Ref: 570
Bloom's:  1) Knowledge

16.3 True/False Questions

1) The interstitial cells of the testes produce androgens such as testosterone.
Answer:  TRUE
Page Ref: 539
Bloom's:  1) Knowledge

2) Sperm are matured and ejaculated from the epididymis and ductus (vas) deferens, which are the terminal portions of the male duct system.
Answer:  FALSE
Page Ref: 539
Bloom's:  1) Knowledge

3) The ejaculatory duct passes through the prostate gland.
Answer:  TRUE
Page Ref: 540
Bloom's:  1) Knowledge

4) During ejaculation, peristalsis moves sperm from the epididymis and ductus (vas) deferens into the urethra.
Answer:  TRUE
Page Ref: 540
Bloom's:  1) Knowledge
5) The portion of the male urethra that is surrounded by the prostate is called the intermediate (membranous) urethra.
Answer: FALSE
Page Ref: 541
Bloom's: 1) Knowledge

6) The seminal glands (vesicles) produce a milky fluid that activates sperm.
Answer: FALSE
Page Ref: 541
Bloom's: 1) Knowledge

7) The bulbourethral glands are located inferior to the prostate gland and produce a thick, clear mucus secretion that aids lubrication during sexual intercourse.
Answer: TRUE
Page Ref: 542
Bloom's: 1) Knowledge

8) Between 2 and 5 mL of sperm are released during each ejaculation event.
Answer: TRUE
Page Ref: 542
Bloom's: 1) Knowledge

9) Viable sperm cannot be produced at temperatures below body temperature.
Answer: FALSE
Page Ref: 542
Bloom's: 1) Knowledge

10) An erection results from blood filling the spongy erectile tissues of the penis.
Answer: TRUE
Page Ref: 543
Bloom's: 1) Knowledge

11) One primary spermatocyte completes two divisions of meiosis to produce four sperm.
Answer: TRUE
Page Ref: 543-544
Bloom's: 1) Knowledge

12) Spermatids are functional sperm.
Answer: FALSE
Page Ref: 544
Bloom's: 1) Knowledge

13) The acrosome helps a sperm penetrate the follicle cells that surround the egg.
Answer: TRUE
Page Ref: 544
Bloom's: 1) Knowledge
14) Progesterone and estrogen promote secondary sex characteristics in males.
Answer: FALSE
Page Ref: 545, 547
Bloom's: 1) Knowledge

15) Ovaries contain many tiny saclike structures called ovarian follicles, each of which consists of an immature egg surrounded by one or more layers of follicle cells.
Answer: TRUE
Page Ref: 547
Bloom's: 1) Knowledge

16) The fundus of the uterus protrudes into the vagina.
Answer: FALSE
Page Ref: 550
Bloom's: 1) Knowledge

17) Oocytes are carried toward the uterus both by cilia and peristalsis.
Answer: TRUE
Page Ref: 559
Bloom's: 1) Knowledge

18) The innermost layer of the uterus is called the myometrium.
Answer: FALSE
Page Ref: 550
Bloom's: 1) Knowledge

19) The hymen is a thin fold of mucosa that encloses the distal end of the vagina.
Answer: TRUE
Page Ref: 550
Bloom's: 1) Knowledge

20) In a female, the labia minora are two outer, hair-covered folds of skin that enclose the delicate, hair-free folds called the labia majora.
Answer: FALSE
Page Ref: 551
Bloom's: 1) Knowledge

21) The vagina functions both as the birth canal and also as the female's organ of copulation.
Answer: TRUE
Page Ref: 550
Bloom's: 1) Knowledge

22) The diamond-shaped region of a female's external genitalia found between the anterior end of the labial folds, the anus posteriorly, and the ischial tuberosities is called the perineum.
Answer: TRUE
Page Ref: 551
Bloom's: 1) Knowledge
23) The cyclic changes that occur monthly in the ovary constitute the ovarian cycle.
Answer: TRUE
Page Ref: 551
Bloom's: 1) Knowledge

24) A primary oocyte undergoes meiosis to produce a secondary oocyte and a polar body.
Answer: TRUE
Page Ref: 551
Bloom's: 1) Knowledge

25) Ovulation occurs in response to a surge of luteinizing hormone (LH) near the end of the proliferative phase of the uterine (menstrual) cycle.
Answer: TRUE
Page Ref: 553
Bloom's: 1) Knowledge

26) During the secretory phase of the uterine (menstrual) cycle, progesterone causes endometrial glands to grow and secrete nutrients into the uterine cavity.
Answer: TRUE
Page Ref: 555
Bloom's: 1) Knowledge

27) Progesterone, in combination with estrogen, produces secondary sex characteristics in a female.
Answer: FALSE
Page Ref: 555
Bloom's: 1) Knowledge

28) Ovulation usually occurs on or about day 14 of the uterine (menstrual) cycle.
Answer: TRUE
Page Ref: 555
Bloom's: 1) Knowledge

29) Oocytes are viable for 48-72 hours once ovulated from the ovary.
Answer: FALSE
Page Ref: 558
Bloom's: 1) Knowledge

30) The rapid mitotic cell division that occurs after the fertilization of an egg is known as cleavage.
Answer: TRUE
Page Ref: 559
Bloom's: 1) Knowledge
31) The inner cell mass of the blastocyst forms a large fluid-filled sphere.  
Answer:  FALSE  
Page Ref: 559  
Bloom's:  1) Knowledge

32) The endoderm gives rise to the nervous system and the epidermis of the skin.  
Answer:  FALSE  
Page Ref: 559  
Bloom's:  1) Knowledge

33) Beginning at the ninth week of development, the embryo is referred to as a fetus.  
Answer:  TRUE  
Page Ref: 560  
Bloom's:  1) Knowledge

34) Parturition includes delivery of both the infant and the placenta.  
Answer:  TRUE  
Page Ref: 565  
Bloom's:  1) Knowledge

35) The cervix typically dilates to about 10 cm during the dilation stage of labor.  
Answer:  TRUE  
Page Ref: 566  
Bloom's:  1) Knowledge

36) The placenta and its attached fetal membranes, delivered during the placental stage of labor, are called the afterbirth.  
Answer:  TRUE  
Page Ref: 567  
Bloom's:  1) Knowledge

37) When a year has passed without menstruation, a woman has reached menarche.  
Answer:  FALSE  
Page Ref: 570  
Bloom's:  1) Knowledge
16.4 Matching Questions

*Identify the cell or stage of production:*

A) urethra  
B) secondary oocyte  
C) ductus (vas) deferens  
D) spermatogonium  
E) oogonium  
F) scrotum  
G) spermiogenesis  
H) polar body  
I) sperm  
J) ovum  
K) oogenesis  
L) prostate  
M) Testis  
N) spermatid

1) Cell released from female's ovary during ovulation that can potentially be fertilized  
   Page Ref: 553  
   Bloom's: 1) Knowledge

2) Cell that undergoes spermiogenesis in males to become sperm  
   Page Ref: 544  
   Bloom's: 1) Knowledge

3) Cell that gives rise to an ovum if fertilized  
   Page Ref: 553  
   Bloom's: 1) Knowledge

4) Stem cell in males  
   Page Ref: 543  
   Bloom's: 1) Knowledge

5) Cell ruptured from a vesicular (Graafian) follicle in females  
   Page Ref: 547, 553  
   Bloom's: 1) Knowledge

6) Process that streamlines spermatids into sperm  
   Page Ref: 544  
   Bloom's: 1) Knowledge

7) Stem cell in females  
   Page Ref: 551  
   Bloom's: 1) Knowledge
8) Process that creates ova in females  
Page Ref: 551  
Bloom's: 1) Knowledge

9) Cell that has been streamlined into a head, midpiece, and tail through the process of spermiogenesis  
Page Ref: 544  
Bloom's: 1) Knowledge

10) Cell produced by meiosis II when the secondary oocyte is penetrated by a sperm  
Page Ref: 553  
Bloom's: 1) Knowledge

11) Functional male gametes  
Page Ref: 544  
Bloom's: 2) Comprehension

12) Tiny cell produced by oogenesis  
Page Ref: 552  
Bloom's: 1) Knowledge

13) Duct connecting epididymis to ejaculatory duct  
Page Ref: 539  
Bloom's: 1) Knowledge

14) Organ that produces testosterone and sperm  
Page Ref: 539  
Bloom's: 1) Knowledge

15) Tube described as prostatic, intermediate (membranous) or spongy (penile)  
Page Ref: 541  
Bloom's: 1) Knowledge

16) Gland that produces a milky fluid that plays a role in activating sperm  
Page Ref: 541  
Bloom's: 1) Knowledge

17) Sac of skin found hanging outside the abdominal cavity  
Page Ref: 542  
Bloom's: 1) Knowledge

**Match each description with the appropriate female reproductive structure:**

A) uterine (fallopian) tube  
B) uterus  
C) ovary  
D) vulva  
E) hymen  
F) vagina

18) Birth canal  
Page Ref: 550  
Bloom's: 1) Knowledge

19) Organ that is the typical site of implantation of a fertilized egg  
Page Ref: 550  
Bloom's: 1) Knowledge

20) Duct that provides a site for fertilization  
Page Ref: 547  
Bloom's: 1) Knowledge

21) Organ that produces eggs  
Page Ref: 547  
Bloom's: 1) Knowledge

22) External genitalia of a female  
Page Ref: 550  
Bloom's: 1) Knowledge

23) Fold of mucous membrane that partially encloses the distal end of the vagina  
Page Ref: 550  
Bloom's: 1) Knowledge

16.5 Essay Questions

1) Trace the pathway of sperm from their production to their exit from the body during ejaculation.
Answer: Sperm are formed in the seminiferous tubules of the testes. Sperm are matured in the epididymis where they gain the ability to swim. During ejaculation, peristaltic waves squeeze sperm from the epididymis to the ductus (vas) deferens. The ductus (vas) deferens enters the pelvic cavity and travels to the posterior side of the urinary bladder where it empties into an ejaculatory duct. Each ejaculatory duct travels through the prostate gland to merge with the urethra. Ejaculation carries the sperm through the prostatic urethra, intermediate part of the urethra (membranous urethra), and spongy (penile) urethra to exit the body.
Page Ref: 539-541
Bloom's: 2) Comprehension

2) Describe the effects of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) on the testes.
Answer: Follicle-stimulating hormone (FSH) prods the seminiferous tubules of the testes to produce sperm. Luteinizing hormone (LH) stimulates the interstitial cells of the testes secrete testosterone. Testosterone enhances spermatogenesis, the process of making sperm.
Page Ref: 545
Bloom's: 2) Comprehension

3) Describe the process of spermatogenesis.
Answer: Spermatogenesis is sperm production that begins during puberty and continues throughout life. The process is begun by primitive stem cells called spermatogonia. From birth until puberty, spermatogonia undergo mitotic division to increase the number of stem cells. During puberty, FSH causes each division of spermatogonium into one stem cell (type A cell) and one type B cell that becomes a primary spermatocyte. The primary spermatocytes then undergo meiosis to secondary spermatocytes, which then form four spermatids. The spermatids streamline and a tail is formed during spermiogenesis, after which they are mature enough to fertilize an ovum and are called sperm.
Page Ref: 543-544
Bloom's: 2) Comprehension

4) What hormones promote ovulation? Describe how the levels of these hormones change in the days prior to ovulation.
Answer: Follicle-stimulating hormone (FSH) promotes the development of a primary follicle and the start to the ovulation process each month. Follicle development takes approximately 14 days and ovulation occurs at that time. Just prior to ovulation, a secondary anterior pituitary gland hormone called luteinizing hormone (LH) suddenly spikes in production and leads to ovulation. During the time while the follicle is growing and developing, prior to ovulation, estrogen levels continue to rise.
Page Ref: 551-552
Bloom's: 2) Comprehension
5) Describe the events of embryonic development from conception until the fetal stage, including development of the primary germ layers.
Answer: A fertilized egg (zygote) undergoes rapid mitotic cell division in a stage called cleavage. Cleavage provides the building blocks for constructing the embryo, which develops until it has about 100 cells and then hollows out to form a blastocyst. The blastocyst has two areas: the trophoblast and the inner cell mass. The inner cell mass forms three primary germ layers which are the ectoderm, the endoderm, and the mesoderm. The ectoderm gives rise to the nervous system, the epidermis, and the skin. The endoderm forms the mucosae and associated glands. The mesoderm gives rise to everything else. The trophoblast develops projections called chorionic villi which form the placenta along with tissues from the mother's uterus. By the eighth week, all the organ systems have been laid down and the embryo looks distinctly human. Beginning in the ninth week, the embryo is referred to as a fetus.
Page Ref: 557, 559-561
Bloom's: 2) Comprehension

6) List and describe the three stages of labor.
Answer: Stage 1 is the dilation stage, which extends from the appearance of true contractions until full dilation of the cervix (dilation to about 10 cm in diameter). Usually the amnion ruptures during this stage, which is the longest part of labor and lasts for 6 to 12 hours. Stage 2 is the expulsion stage. It extends from full dilation to delivery of the infant. In this stage, the infant passes through the cervix and vagina to the outside of the body. This stage takes 20 minutes to 2 hours. Stage 3 is the placental stage, which usually lasts about 15 minutes, culminating in delivery of the placenta.
Page Ref: 566-567
Bloom's: 2) Comprehension