Campbell's Biology, 9e **(Reece et al.)**
Chapter 46 Animal Reproduction

Most of the questions in Chapter 46 ensure that students have a firm grasp of the important principles of animal reproduction. Some art questions require students to label various parts of the human female and male reproductive systems. A few higher-level questions require students to piece together information to determine an appropriate response.

Multiple-Choice Questions

1) Regeneration, the regrowth of lost body parts, normally follows
A) all types of asexual reproduction.
B) all types of sexual reproduction.
C) fission.
D) fragmentation.
E) parthenogenesis.
Answer: D
Topic: Concept 46.1
Skill: Application/Analysis

2) One of the evolutionary "enigmas," or unsolved puzzles, of sexual reproduction is that
A) sexual reproduction allows for more rapid population growth than does asexual reproduction.
B) only half of the offspring from sexually reproducing females are also females.
C) asexual reproduction produces offspring of greater genetic variety.
D) sexual reproduction is completed more rapidly than asexual reproduction.
E) asexual reproduction is better suited to environments with extremely varying conditions.
Answer: B
Topic: Concept 46.1
Skill: Application/Analysis

3) An advantage of asexual reproduction is that
A) asexual reproduction allows the species to endure long periods of unstable environmental conditions.
B) asexual reproduction enhances genetic variability in the species.
C) asexual reproduction enables the species to rapidly colonize habitats that are favorable to that species.
D) asexual reproduction produces offspring that respond effectively to new pathogens.
E) asexual reproduction allows a species to easily rid itself of harmful mutations.
Answer: C
Topic: Concept 46.1
Skill: Knowledge/Comprehension

4) Genetic mutations in asexually reproducing organisms lead to more evolutionary change than do genetic mutations in sexually reproducing ones because
A) asexually reproducing organisms, but not sexually reproducing organisms, pass all mutations on to their offspring.
B) asexually reproducing organisms devote more time and energy to the process of reproduction than do sexually reproducing organisms.
C) sexually reproducing organisms can produce more offspring in a given time than can sexually reproducing organisms.
D) more genetic variation is present in organisms that reproduce asexually than is present in those that reproduce sexually.
E) asexually reproducing organisms have more dominant genes than organisms that reproduce sexually.
Answer: A
Topic: Concept 46.1
Skill: Knowledge/Comprehension

5) Asexual reproduction results in greater reproductive success than does sexual reproduction when
A) pathogens are rapidly diversifying.
B) a species has accumulated numerous deleterious mutations.
C) there is some potential for rapid overpopulation.
D) a species is expanding into diverse geographic settings.
E) a species is in stable and favorable environments.
Answer: E
Topic: Concept 46.1
Skill: Synthesis/Evaluation

6) Sexual reproduction patterns include the example of
A) fragmentation.
B) budding.
C) hermaphroditism.
D) parthenogenesis.
E) fission.
Answer: C
Topic: Concept 46.1
Skill: Knowledge/Comprehension

7) Sexual reproduction
A) allows animals to conserve resources and reproduce only during optimal conditions.
B) can produce diverse phenotypes that may enhance survival of a population in a changing environment.
C) yields more numerous offspring more rapidly than is possible with asexual reproduction.
D) enables males and females to remain isolated from each other while rapidly colonizing habitats.
E) guarantees that both parents will provide care for each offspring.
Answer: B
Topic: Concept 46.1
Skill: Knowledge/Comprehension

8) Environmental cues that influence the timing of reproduction generally do so by
A) increasing the body temperature.
B) providing access to water for external fertilization.
C) increasing ambient temperature to that which is comfortable for sex.
D) direct effects on gonadal structures.
E) direct effects on hormonal control mechanisms.
Answer: E
Topic: Concept 46.1
Skill: Application/Analysis

9) For water fleas of the genus *Daphnia*, switching from a pattern of asexual reproduction to sexual reproduction coincides with
A) environmental conditions becoming more favorable for offspring.
B) greater abundance of food resources for offspring.
C) periods of temperature or food stresses on adults.
D) completion of puberty.
E) exhaustion of an individual's supply of eggs.
Answer: C
Topic: Concept 46.1
Skill: Knowledge/Comprehension

10) All individuals of a particular species of whiptail lizards are females. Their reproductive efforts depend on
A) fertilization of their eggs by males of other lizard species.
B) gonadal structures that only undergo mitosis.
C) meiosis followed by a doubling of the chromosomes in eggs.
D) budding prior to the development of a sexual phenotype.
E) fragmentation via autolysis.
Answer: C
Topic: Concept 46.1
Skill: Knowledge/Comprehension

11) Evidence that parthenogenic whiptail lizards are derived from sexually reproducing ancestors includes
A) the requirement for male-like behaviors in some females before their partners will ovulate.
B) the development and then regression of testes prior to sexual maturation.
C) the observation that all of the offspring are haploid.
D) dependence on favorable weather conditions for ovulation to occur.
E) the persistence of a vestigial penis among some of the females.
Answer: A
Topic: Concept 46.1
Skill: Knowledge/Comprehension

12) Like many other fishes, bluehead wrasses utilize harem mating as they reproduce sexually. However, unlike most fishes,
A) they are simultaneous hermaphrodites.
B) they function without any signaling by steroid hormones.
C) they undergo a prolonged diapause during low tide.
D) their offspring can be either haploid or diploid.
E) large females morph into reproductively competent males.
Answer: E
Topic: Concept 46.1
Skill: Knowledge/Comprehension

13) Which of the following patterns of reproduction are found only among invertebrate animals?
A) sexual and asexual reproduction
B) external and internal fertilization
C) hermaphroditism and parthenogenesis
D) pheromonal and hormonal coordination
E) fission and budding
Answer: E
Topic: Concept 46.1
Skill: Knowledge/Comprehension

14) Animals with reproduction dependent on internal fertilization need not have
A) any copulatory organs.
B) a receptacle that receives sperm.
C) behavioral interaction between males and females.
D) internal development of embryos.
E) haploid gametes.
Answer: D
Topic: Concept 46.2
Skill: Knowledge/Comprehension

15) In close comparisons, external fertilization often yields more offspring than does internal fertilization. However, internal fertilization offers the advantage that
A) it is the only way to ensure the survival of the species.
B) it requires less time and energy to be devoted to reproduction.
C) the smaller number of offspring produced often receive a greater amount of parental investment.
D) it permits the most rapid population increase.
E) it requires expression of fewer genes and maximizes genetic stability.
Answer: C
Topic: Concept 46.2
Skill: Knowledge/Comprehension

16) Internal and external fertilization both
A) produce single-celled zygotes.
B) occur only among invertebrates.
C) occur only among terrestrial animals.
D) depend on the use of intromittent copulatory organs.
E) occur only among birds.
Answer: A
Topic: Concept 46.2
Skill: Knowledge/Comprehension

17) Organisms with a reproductive pattern that produces shelled amniotic eggs generally
A) end up having a higher embryo mortality rate than do organisms with unprotected embryos.
B) invest most of their reproductive energy in the embryonic and early postnatal development of their offspring.
C) invest more energy in parenting than do placental animals.
D) produce more gametes than do those animals with external fertilization and development.
E) lower their embryo mortality rate to less than one in a thousand.
Answer: B
Topic: Concept 46.2
Skill: Knowledge/Comprehension

18) Among nonmammalian vertebrates, the cloaca is an anatomical structure that functions as
A) a specialized sperm-transfer device produced only by males.
B) a shared pathway for the digestive, excretory, and reproductive systems.
C) a region bordered by the labia minora and clitoris in females.
D) a source of nutrients for developing sperm in the testes.
E) a gland that secretes mucus to lubricate the vaginal opening.
Answer: B
Topic: Concept 46.2
Skill: Knowledge/Comprehension

19) External chemical signals that coordinate potential reproductive partners are called
A) hormones.
B) pheromones.
C) paracrine signals.
D) cytokines.
E) gametes.
Answer: B
Topic: Concept 46.2
Skill: Knowledge/Comprehension

20) Females of many insect species, including honeybee queens, can store gametes shed by their mating partners in
A) their nests.
B) the abdominal tract.
C) the cloaca.
D) the uterus.
E) the spermatheca.
Answer: E
Topic: Concept 46.2
Skill: Knowledge/Comprehension

21) Most flatworms, including parasitic liver flukes, are hermaphrodites that form zygotes as the result of
A) internal fertilization.
B) external fertilization.
C) parthenogenesis.
D) eggs and sperm mixing together in excreted feces.
E) eggs and sperm mixing together in wastewater.
Answer: A
Topic: Concept 46.2
Skill: Knowledge/Comprehension

22) When female fruit flies mate with two different males on the same day,
A) the first male's sperm fertilizes all of the eggs.
B) the first male's sperm fertilizes most of the eggs.
C) the second male's sperm fertilizes most of the eggs.
D) the first and second males fertilize equal numbers of eggs.
E) none of the eggs become fertilized.
Answer: C
Topic: Concept 46.2
Skill: Knowledge/Comprehension

23) An oocyte released from a human ovary enters the oviduct as a result of
A) the beating action of the flagellum on the oocyte.
B) the force of the follicular ejection directing the oocyte into the oviduct.
C) the wavelike beating of cilia lining the oviduct.
D) movement of the oocyte through the pulsating uterus into the oviduct.
E) peristaltic contraction of ovarian muscles.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

24) The junction of the upper vagina and the uterus is called the
A) fallopian tube.
B) clitoris.
C) oviduct.
D) labia majora.
E) cervix.
Answer: E
Topic: Concept 46.3
Skill: Knowledge/Comprehension

25) In humans, the follicular cells that remain behind in the ovary following ovulation become
A) the ovarian endometrium that is shed at the time of the menses.
B) a steroid-hormone synthesizing structure called the corpus luteum.
C) the thickened portion of the uterine wall.
D) swept into the fallopian tube.
E) the placenta, which secretes cervical mucus.
Answer: B
Topic: Concept 46.3
Skill: Knowledge/Comprehension

26) Among mammals, the male and female genital structures that consist mostly of erectile tissue include the
A) penis and clitoris.
B) vas deferens and oviduct.
C) testes and ovaries.
D) seminiferous tubules and hymen.
E) prostate and ovaries.
Answer: A
Topic: Concept 46.3
Skill: Knowledge/Comprehension

27) Testosterone is synthesized primarily by the
A) sperm cells.
B) hypothalamus.
C) Leydig cells.
D) anterior pituitary gland.
E) seminiferous tubules.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

28) Sperm cells are stored within human males in the
A) urethra.
B) prostate.
C) epididymis.
D) seminal vesicles.
E) bulbourethral gland.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

29) Among human males, both semen and urine normally travel along the
A) vas deferens.
B) urinary bladder.
C) seminal vesicle.
D) urethra.
E) ureter.
Answer: D
Topic: Concept 46.3
Skill: Knowledge/Comprehension

30) Human sperm cells first arise in the
A) prostate gland.
B) vas deferens.
C) seminiferous tubules.
D) epididymis.
E) Sertoli cells.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

31) The surgical removal of the seminal vesicles would likely
A) cause sterility because sperm would not be produced.
B) cause sterility because sperm would not be able to exit the body.
C) greatly reduce the volume of semen.
D) enhance the fertilization potency of sperm in the uterus.
E) cause the testes to migrate back into the abdominal cavity.
Answer: C
Topic: Concept 46.3
Skill: Application/Analysis

32) Most of the noncellular fluid in ejaculated human semen is composed of
A) the secretions of the seminiferous tubules.
B) the secretions of the bulbourethral glands.
C) the secretions of the seminal vesicles.
D) the secretions of the prostate gland.
E) anticoagulant enzymes.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

33) Increasing the temperature of the human scrotum by 2°C (i.e., near the normal body core temperature) and holding it there would
A) reduce the fertility of the man by impairing the production of gonadal steroid hormones.
B) reduce the fertility of the man by impairing spermatogenesis.
C) reduce the man's sexual interest.
D) increase the fertility of the affected man by enhancing the rate of steroidogenesis.
E) have no effect on male reproductive processes.
Answer: B
Topic: Concept 46.3
Skill: Synthesis/Evaluation

34) During human heterosexual (mutual) excitement, vasocongestion
A) occurs only in the penis.
B) occurs only in the testes.
C) occurs only in the clitoris.
D) occurs only in the upper vagina.
E) occurs in the clitoris, vagina, and penis.
Answer: E
Topic: Concept 46.3
Skill: Knowledge/Comprehension

35) The moment of orgasm is characterized by
A) the ovulation of the oocyte from the ovary.
B) the release of sperm from the seminiferous tubules.
C) rhythmic contraction of many parts of the reproductive system.
D) increased synthesis and release of ovarian steroid hormones.
E) increased synthesis and release of testicular steroid hormones.
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

36) At the time of fertilization, the complete maturation of each oogonium has resulted in
A) one secondary oocyte.
B) two primary oocytes.
C) four secondary oocytes.
D) four primary oocytes.
E) four zygotes.
Answer: A
Topic: Concept 46.4
Skill: Application/Analysis

37) In vertebrate animals, spermatogenesis and oogenesis differ in that
A) oogenesis begins at the onset of sexual maturity, whereas spermatogenesis begins during embryonic development.
B) oogenesis produces four haploid cells, whereas spermatogenesis produces only one functional spermatozoon.
C) cytokinesis is unequal in oogenesis, whereas it is equal in spermatogenesis.
D) oogenesis ends at menopause, whereas spermatogenesis is finished before birth.
E) spermatogenesis is not completed until after fertilization occurs, but oogenesis is completed by the time a girl is born.
Answer: C
Topic: Concept 46.4
Skill: Application/Analysis

38) Mature human sperm and ova are similar in that
A) they both have the same number of chromosomes.
B) they are approximately the same size.
C) they each have a flagellum that provides motility.
D) they are produced from puberty until death.
E) they are formed before birth.
Answer: A
Topic: Concept 46.4
Skill: Application/Analysis

39) A male's "primary" sex characteristics include
A) deepening of the voice at puberty.
B) embryonic differentiation of the seminal vesicles.
C) growth of skeletal muscle.
D) elongation of the skeleton prior to puberty.
E) onset of growth of facial hair at puberty.
Answer: B
Topic: Concept 46.4
Skill: Knowledge/Comprehension

40) The primary difference between estrous and menstrual cycles is that
A) the endometrium shed by the uterus during the estrous cycle is reabsorbed, whereas the shed endometrium of menstrual cycles is excreted from the body.
B) behavioral changes during estrous cycles are much less apparent than those of menstrual cycles.
C) season and climate have less pronounced effects on estrous cycles than they do on menstrual cycles.
D) copulation normally occurs across the estrous cycle, whereas in menstrual cycles copulation only occurs during the period surrounding ovulation.
E) most estrous cycles are of much longer duration compared to menstrual cycles.
Answer: A
Topic: Concept 46.4
Skill: Application/Analysis

41) At the end of a nonpregnant ovarian cycle, the breakdown and discharge of the soft uterine tissues is called
A) menstruation.
B) lactation.
C) fertilization.
D) menopause.
E) ovulation.
Answer: A
Topic: Concept 46.4
Skill: Knowledge/Comprehension

42) In correct chronological order, the three phases of the human ovarian cycle are
A) menstrual → ovulation → luteal.
B) follicular → luteal → secretory.
C) menstrual → proliferative → secretory.
D) follicular → ovulation → luteal.
E) proliferative → luteal → ovulation.
Answer: D
Topic: Concept 46.4
Skill: Knowledge/Comprehension

43) In correct chronological order, the three phases of the human uterine cycle are
A) menstrual → ovulation → luteal.
B) follicular → luteal → secretory.
C) menstrual → proliferative → secretory.
D) follicular → ovulation → luteal.
E) proliferative → luteal → ovulation.
Answer: C
Topic: Concept 46.4
Skill: Knowledge/Comprehension

44) A contraceptive pill that continuously inhibits the release of GnRH from the hypothalamus will
A) increase the production of estrogen and progesterone by the ovaries.
B) initiate ovulation.
C) reduce the secretion of gonadotropins from the anterior pituitary gland.
D) stimulate the secretion of LH and FSH from the posterior pituitary gland.
E) increase the flow phase of the menstrual cycle.
Answer: C
Topic: Concept 46.4
Skill: Knowledge/Comprehension

45) A function-disrupting mutation in the progesterone receptor gene would likely result in
A) the absence of secondary sex characteristics.
B) the absence of pituitary gonadotropin hormones.
C) the inability of the uterus to support pregnancy.
D) enlarged and hyperactive uterine endometrium.
E) the absence of mammary gland development.
Answer: C
Topic: Concept 46.4
Skill: Synthesis/Evaluation

46) A primary response by the Leydig cells in the testes to the presence of luteinizing hormone is an increase in the synthesis and secretion of
A) inhibin.
B) testosterone.
C) oxytocin.
D) prolactin.
E) progesterone.
Answer: B
Topic: Concept 46.5
Skill: Knowledge/Comprehension

47) A reproductive hormone that is secreted directly from a structure in the brain is
A) testosterone.
B) estradiol.
C) progesterone.
D) follicle-stimulating hormone.
E) gonadotropin-releasing hormone.
Answer: E
Topic: Concept 46.5
Skill: Synthesis/Evaluation

48) The primary function of the corpus luteum is to
A) nourish and protect the egg cell.
B) produce prolactin in the alveoli.
C) maintain progesterone and estrogen synthesis after ovulation has occurred.
D) stimulate the development of the mammary glands.
E) support pregnancy in the second and third trimesters.
Answer: C
Topic: Concept 46.5
Skill: Knowledge/Comprehension

49) For the 10 days following ovulation in a nonpregnant menstrual cycle, the main source of progesterone is the
A) adrenal cortex.
B) anterior pituitary.
C) corpus luteum.
D) developing follicle.
E) placenta.
Answer: C
Topic: Concept 46.5
Skill: Knowledge/Comprehension

50) Ovulation is the follicular response to a burst of secretion of
A) LH.
B) progesterone.
C) inhibin.
D) prolactin.
E) estradiol.
Answer: A
Topic: Concept 46.5
Skill: Knowledge/Comprehension

51) Prior to ovulation, the primary steroid hormone secreted by the growing follicle is
A) LH.
B) FSH.
C) inhibin.
D) GnRH.
E) estradiol.
Answer: E
Topic: Concept 46.5
Skill: Knowledge/Comprehension

52) The hypothalamic hormone that stimulates hormone secretion by the anterior pituitary gland is
A) LH.
B) FSH.
C) inhibin.
D) GnRH.
E) estradiol.
Answer: D
Topic: Concept 46.5
Skill: Knowledge/Comprehension

53) The hormone progesterone is produced
A) in the pituitary and acts directly on the ovary.
B) in the uterus and acts directly on the pituitary.
C) in the ovary and acts directly on the uterus.
D) in the pituitary and acts directly on the uterus.
E) in the uterus and acts directly on the pituitary.
Answer: C
Topic: Concept 46.5
Skill: Knowledge/Comprehension

54) Menopause is characterized by
A) reduced synthesis of ovarian steroids despite high levels of gonadotropin hormones.
B) a decline in production of the gonadotropin hormones by the anterior pituitary gland.
C) wearing away of the uterine endometrium.
D) an increase in the blood supply to the ovaries.
E) a halt in the synthesis of gonadotropin-releasing hormone by the brain.
Answer: A
Topic: Concept 46.5
Skill: Knowledge/Comprehension

55) For normal human fertilization to occur,
A) many ova must be released.
B) the uterus must be enlarged.
C) only one sperm need penetrate one egg.
D) secretion of pituitary FSH and LH must decrease.
E) the secondary oocyte must implant in the uterus.
Answer: C
Topic: Concept 46.5
Skill: Knowledge/Comprehension

56) Fertilization of human eggs usually takes place in the
A) ovary.
B) uterus.
C) vagina.
D) oviduct.
E) cervix.
Answer: D
Topic: Concept 46.5
Skill: Knowledge/Comprehension

57) What is the embryo-produced hormone that maintains progesterone and estrogen secretion by the corpus luteum through the first trimester of pregnancy?
A) luteinizing hormone (LH)
B) follicle-stimulating hormone (FSH)
C) progesterone
D) human chorionic gonadotropin (HCG)
E) gonadotropin-releasing hormone (GnRH)
Answer: D
Topic: Concept 46.5
Skill: Knowledge/Comprehension

58) The hypothalamic hormone that triggers the secretion of FSH is
A) luteinizing hormone (LH).
B) estradiol.
C) progesterone.
D) human chorionic gonadotropin (HCG).
E) gonadotropin-releasing hormone (GnRH).
Answer: E
Topic: Concept 46.5
Skill: Knowledge/Comprehension

59) Labor contractions can be increased by the medical use of a synthetic drug that mimics the action of
A) inhibin.
B) luteinizing hormone.
C) oxytocin.
D) prolactin.
E) vasopressin.
Answer: C
Topic: Concept 46.5
Skill: Synthesis/Evaluation

60) A high rate of metabolic activity is maintained in the pregnant uterus by
A) inhibin.
B) testosterone.
C) oxytocin.
D) prolactin.
E) progesterone.
Answer: E
Topic: Concept 46.5
Skill: Knowledge/Comprehension

61) The secretion of follicle-stimulating hormone from the anterior pituitary gland is reduced by
A) inhibin.
B) luteinizing hormone.
C) oxytocin.
D) prolactin.
E) vasopressin.
Answer: A
Topic: Concept 46.5
Skill: Knowledge/Comprehension

62) The drug RU-486 functions by
A) inhibiting release of gonadotropins from the pituitary.
B) blocking progesterone receptors in the uterus.
C) preventing release of the secondary oocyte from the ovary.
D) reducing sexual interest.
E) prolonging the endurance of the corpus luteum.
Answer: B
Topic: Concept 46.5
Skill: Knowledge/Comprehension

63) Human fertility drugs taken by women increase the chance of multiple births, probably because they
A) enhance implantation opportunities.
B) stimulate the development of many ovarian follicles.
C) mimic progesterone action in the uterus.
D) stimulate steroidogenesis.
E) delay parturition.
Answer: B
Topic: Concept 46.5
Skill: Knowledge/Comprehension

64) The thin layer of the developing embryo which secretes a hormone that keeps the corpus luteum functioning is the
A) cervix.
B) endometrium.
C) amnion.
D) plasma membrane.
E) chorion.
Answer: E
Topic: Concept 46.6
Skill: Knowledge/Comprehension

65) In excreted urine, a reliable "marker" that a pregnancy has initiated is
A) progesterone.
B) estrogen.
C) follicle-stimulating hormone.
D) chorionic gonadotropin.
E) hypothalamic-releasing hormones.
Answer: D
Topic: Concept 46.6
Skill: Knowledge/Comprehension

66) The "immunotolerance" of a pregnant woman toward her unborn child is the result of
A) the tenacity with which the unborn child's immune system counteracts the woman's immune system.
B) the relative quiescence of a pregnant woman's immune system compared to when she was not pregnant.
C) the complete physical separation of her cells from those of the unborn child.
D) the unborn child having enough of the woman's identity so as to escape detection as foreign.
E) modern medical intervention during every pregnancy.
Answer: B
Topic: Concept 46.6
Skill: Application/Analysis

67) Among these contraception methods, the highest risk of accidental pregnancy accompanies
A) the use of a diaphragm.
B) the use of a condom.
C) the practice of coitus interruptus.
D) a verified vasectomy.
E) the practice of the "rhythm method."
Answer: C
Topic: Concept 46.6
Skill: Knowledge/Comprehension

68) The use of birth control pills (oral contraceptives)
A) reduces the incidence of ovulation.
B) prevents fertilization by keeping the sperm and egg physically separated by a mechanical barrier.
C) prevents implantation of an embryo.
D) prevents sperm from exiting the male urethra.
E) prevents oocytes from entering the uterus.
Answer: A
Topic: Concept 46.6
Skill: Knowledge/Comprehension

69) Two contraceptive methods that are generally irreversible and which block the gametes from moving to a site where fertilization can occur are
A) the male condom and female condom.
B) the male condom and oral contraceptives.
C) vasectomy and tubal ligation.
D) coitus interruptus and rhythm method.
E) the diaphragm and subcutaneous progesterone implant.
Answer: C
Topic: Concept 46.6
Skill: Application/Analysis

70) Tubal ligation
A) reduces the incidence of ovulation.
B) prevents fertilization by preventing sperm from entering the uterus.
C) prevents implantation of an embryo.
D) prevents sperm from exiting the male urethra.
E) prevents oocytes from entering the uterus.
Answer: E
Topic: Concept 46.6
Skill: Knowledge/Comprehension

71) A vasectomy
A) eliminates spermatogenesis.
B) eliminates testosterone synthesis.
C) prevents implantation of an embryo.
D) prevents sperm from exiting the male urethra.
E) prevents oocytes from entering the uterus.
Answer: D
Topic: Concept 46.6
Skill: Knowledge/Comprehension

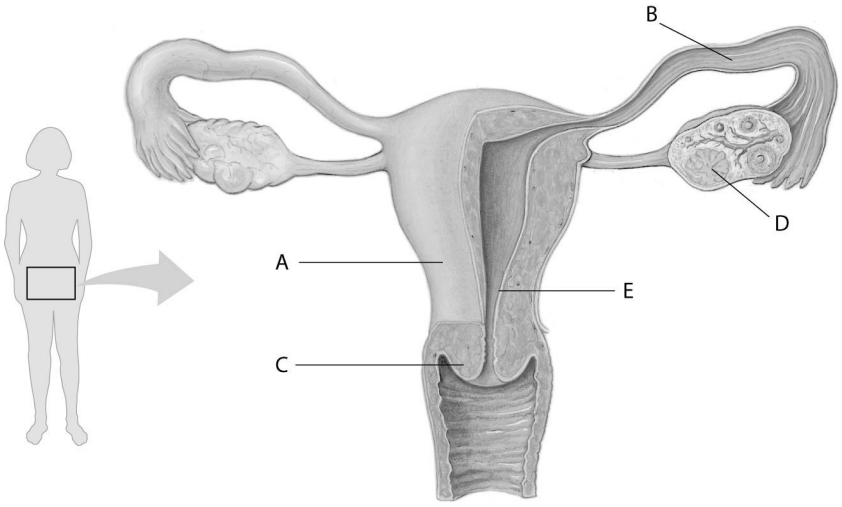
72) Time-release progesterone implants function in contraception by
A) increasing the frequency of ovulation.
B) thickening the cervical and uterine mucus to impair sperm movement.
C) increasing gonadotropin secretion to abnormally high levels.
D) reducing libido.
E) activating inflammation responses in the uterus.
Answer: B
Topic: Concept 46.6
Skill: Knowledge/Comprehension

73) For lactation to take place, the synthesis of breast milk and its release from the mammary gland, respectively, are caused by
A) testosterone and dihydrotestosterone.
B) estrogen and progesterone.
C) cortisol and testosterone.
D) prolactin and oxytocin.
E) luteinizing hormone and follicle-stimulating hormone.
Answer: D
Topic: Concept 46.6
Skill: Knowledge/Comprehension

74) So-called "combination" birth control pills function in contraception by
A) inhibiting the release of GnRH, FSH, and LH.
B) irritating the uterine lining so as to prevent implantation.
C) causing spontaneous abortions.
D) blocking progesterone receptors, so that pregnancy cannot be maintained.
E) binding to and inactivating any sperm that enter the oviduct.
Answer: A
Topic: Concept 46.6
Skill: Knowledge/Comprehension

Art Questions

Refer to the following figure, which diagrams the reproductive anatomy of the human female, to answer the following questions.



75) In the above figure, which letter points to the corpus luteum?
A) A
B) B
C) C
D) D
E) E
Answer: D
Topic: Concept 46.3
Skill: Knowledge/Comprehension

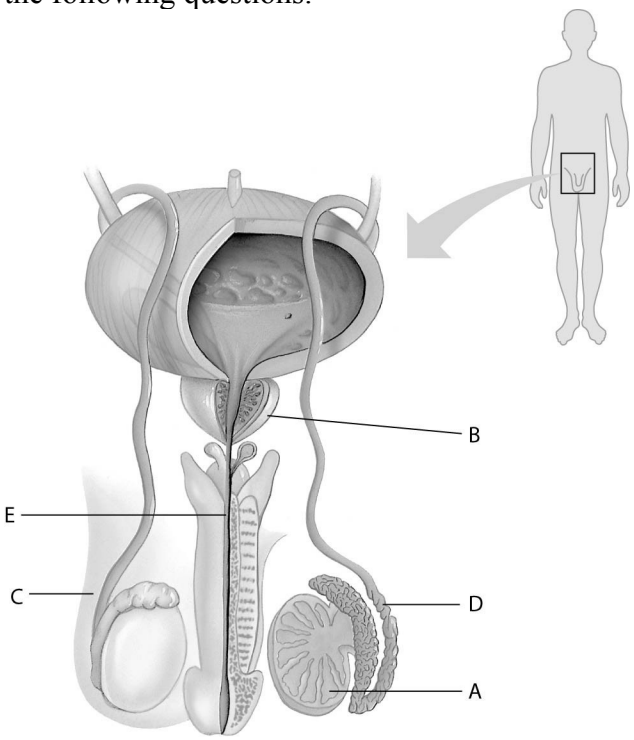
76) In the above figure, which letter points to the oviduct?
A) A
B) B
C) C
D) D
E) E
Answer: B
Topic: Concept 46.3
Skill: Knowledge/Comprehension

77) In the above figure, which letter points to the cervix?
A) A
B) B
C) C
D) D
E) E
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

78) In the above figure, which letter points to the uterus?
A) A
B) B
C) C
D) D
E) E
Answer: A
Topic: Concept 46.3
Skill: Knowledge/Comprehension

79) In the above figure, which letter points to the endometrium?
A) A
B) B
C) C
D) D
E) E
Answer: E
Topic: Concept 46.3
Skill: Knowledge/Comprehension

Refer to the following figure, which diagrams the reproductive anatomy of the human male, to answer the following questions.



80) In the above figure, which letter points to the scrotum?
A) A
B) B
C) C
D) D
E) E
Answer: C
Topic: Concept 46.3
Skill: Knowledge/Comprehension

81) In the above figure, which letter points to the testis?
A) A
B) B
C) C
D) D
E) E
Answer: A
Topic: Concept 46.3
Skill: Knowledge/Comprehension

82) In the above figure, which letter points to the urethra?
A) A
B) B
C) C
D) D
E) E
Answer: E
Topic: Concept 46.3
Skill: Knowledge/Comprehension

83) In the above figure, which letter points to the prostate gland?
A) A
B) B
C) C
D) D
E) E
Answer: B
Topic: Concept 46.3
Skill: Knowledge/Comprehension

84) In the above figure, which letter points to the vas deferens?
A) A
B) B
C) C
D) D
E) E
Answer: D
Topic: Concept 46.3
Skill: Knowledge/Comprehension

Scenario Questions

85) You observe vertebrate organisms with parthenogenetic reproduction, internal development of embryos, and the lack of parental care for its young. Based on this information, you should categorize these organisms as
A) earthworms.
B) lizards.
C) birds.
D) frogs.
E) mammals.
Answer: B
Topic: Concept 46.1
Skill: Synthesis/Evaluation

86) Imagine that a woman is in the final week of her pregnancy. Her doctor gives her an injection of oxytocin. The likely result of this is that the pregnant woman would
A) undergo the loss of oxytocin receptors from her uterine smooth muscle cells.
B) stop secreting prostaglandins from the placenta.
C) undergo vigorous contractions of her uterine muscles.
D) increase the synthesis and secretion of progesterone.
E) be prevented from lactation.
Answer: C
Topic: Concept 46.6
Skill: Synthesis/Evaluation

End-of-Chapter Questions

The following questions are from the end-of-chapter "Test Your Understanding" section in Chapter 46 of the textbook.

87) Which of the following characterizes parthenogenesis?
A) An individual may change its sex during its lifetime.
B) Specialized groups of cells grow into new individuals.
C) An organism is first a male and then a female.
D) An egg develops without being fertilized.
E) Both mates have male and female reproductive organs.
Answer: D
Topic: End-of-Chapter Questions
Skill: Knowledge/Comprehension

88) In male mammals, excretory and reproductive systems share
A) the testes.
B) the urethra.
C) the seminal vesicle.
D) the vas deferens.
E) the prostate.
Answer: B
Topic: End-of-Chapter Questions
Skill: Knowledge/Comprehension

89) Which of the following is *not* properly paired?
A) seminiferous tubuleÃcervix
B) Sertoli cellsÃfollicle cells
C) testosteroneÃestradiol
D) scrotumÃlabia majora
E) vas deferensÃoviduct
Answer: A
Topic: End-of-Chapter Questions
Skill: Knowledge/Comprehension

90) Peaks of LH and FSH production occur during
A) the menstrual flow phase of the uterine cycle.
B) the beginning of the follicular phase of the ovarian cycle.
C) the period just before ovulation.
D) the end of the luteal phase of the ovarian cycle.
E) the secretory phase of the menstrual cycle.
Answer: C
Topic: End-of-Chapter Questions
Skill: Knowledge/Comprehension

91) During human gestation, rudiments of all organs develop
A) in the first trimester.
B) in the second trimester.
C) in the third trimester.
D) while the embryo is in the oviduct.
E) during the blastocyst stage.
Answer: A
Topic: End-of-Chapter Questions
Skill: Knowledge/Comprehension

92) Which of the following is a true statement?
A) All mammals have menstrual cycles.
B) The endometrial lining is shed in menstrual cycles but reabsorbed in estrous cycles.
C) Estrous cycles are more frequent than menstrual cycles.
D) Estrous cycles are not controlled by hormones.
E) Ovulation occurs before the endometrium thickens in estrous cycles.
Answer: B
Topic: End-of-Chapter Questions
Skill: Application/Analysis

93) For which of the following is the number the same in spermatogenesis and oogenesis?
A) interruptions in meiotic divisions
B) functional gametes produced by meiosis
C) meiotic divisions required to produce each gamete
D) gametes produced in a given time period
E) different cell types produced by meiosis
Answer: C
Topic: End-of-Chapter Questions
Skill: Application/Analysis

94) Which statement about human reproduction is false?
A) Fertilization occurs in the oviduct.
B) Effective hormonal contraceptives are currently available only for females.
C) An oocyte completes meiosis after a sperm penetrates it.
D) The earliest stages of spermatogenesis occur closest to the lumen of the seminiferous tubules.
E) Spermatogenesis and oogenesis require different temperatures.
Answer: D
Topic: End-of-Chapter Questions
Skill: Application/Analysis