

Answers to Endocrine & Reproductive Systems Test Review

Reviewing Content

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|------|------|-------|
| 1. b | 5. c | 9. c |
| 2. b | 6. a | 10. c |
| 3. b | 7. b | |
| 4. d | 8. c | |

Understanding Concepts

11. A hormone binds to a specific chemical receptor on a target cell or to receptors inside the cell. For example, progesterone binds to a receptor site inside a uterine cell.

12. Prostaglandins are hormonelike substances that affect only nearby cells or tissues.

13. When the level of a hormone increases in the blood, it “feeds back” to inhibit the gland that produced it.

14. The pituitary gland

16. Diabetes mellitus may occur. Very high blood glucose levels can cause serious complications or death.

17. A period of rapid growth and sexual maturation during which the reproductive system becomes fully functional

18. Follicle-stimulating hormone (FSH) and luteinizing hormone (LH)

20. A sperm cell consists of a head containing a highly condensed nucleus, a midpiece packed with mitochondria, and a flagellum that propels it forward.

21. Sperm travel from the seminiferous tubules in the testes into the epididymis, where they mature and are stored. Sperm then are moved into the vas deferens, where fluids from the seminal vesicle, prostate gland, and bulbo-urethral gland are added to form semen. The semen is ejected from the penis through the urethra.

23. It passes through a Fallopian tube and the uterus and if unfertilized is discharged from the body through the vagina.

24. The menstrual cycle is regulated by hormones that are controlled by feedback inhibition mechanisms. For example, the hypothalamus reacts to low estrogen levels in the blood by producing a releasing hormone that acts on the pituitary gland. In response, the pituitary releases FSH and LH.

25. A zygote undergoes cell division as it passes through the Fallopian tube from a two-celled embryo on day 2 to a solid, 50-cell morula on day 4. As the embryo grows, a fluid-filled cavity forms in the center, transforming it into a hollow blastocyst. About six or seven days after fertilization, the blastocyst implants into the wall of the uterus.

26. All organs of the embryo form from the primary germ layers.

27. The placenta, which contains maternal and fetal tissues, can be thought of as the fetus’s organ of respiration, nutrition, and excretion.

28. Childbirth begins when the pituitary gland releases oxytocin, which stimulates contractions. The contractions cause the opening of the cervix to expand enough for the baby to pass through it. The amniotic sac breaks, and contractions of the uterus force the baby out through the vagina.

29. The red line represents a person with diabetes, and the blue line represents a person who does not have diabetes. The person with diabetes has a high level of blood glucose for a longer period of time following a meal due to lack of insulin to help remove glucose from the blood.

32. The placenta is made up of two layers, the fetal portion and the maternal portion. This two-layered structure allows the blood of the mother and the embryo to flow past each other but not to mix.

33. Because the Fallopian tube does not provide the fetus with enough room to grow and the tube would eventually rupture

34. This keeps sperm at a cooler temperature than internal body temperature, which is needed for normal development.

35. Insufficient amounts of FSH and LH would cause follicles to fail to develop to maturity and release mature eggs. Further, without a rise in estrogen and progesterone, the uterine lining would not be maintained.