

## **Schoenwolf et al.: Larsen's Human Embryology, 5th Edition**

### **Chapter 1: Gametogenesis, Fertilization, and First Week**

#### **Test Bank**

#### **MULTIPLE CHOICE**

1. A child with a large sacrococcygeal teratoma is delivered by cesarean section. The teratoma likely arose from which type of cells?
  - A. Neuroectodermal stem cells
  - B. Neural crest cells
  - C. Primitive streak cells
  - D. Primordial germ cells
  - E. Secondary oocyte cells

ANS: D

2. A baby is diagnosed with Down syndrome shortly after birth. Which of the following events occurred abnormally during prenatal development?
  - A. Anaphase of mitosis
  - B. Metaphase of mitosis
  - C. Telophase of mitosis
  - D. Anaphase of meiosis
  - E. Metaphase of spermatogenesis

ANS: D

3. The birth control pill acts by blocking which process?
  - A. Fertilization
  - B. Ovulation
  - C. Cleavage
  - D. Capacitation
  - E. Implantation

ANS: B

4. RU-486 is an effective abortifacient. It acts by which mechanism?
  - A. Blocking oogenesis
  - B. Causing menstruation
  - C. Blocking ovulation
  - D. Causing polyspermy
  - E. Blocking capacitation

ANS: B

5. A 36-year-old woman is unable to conceive a child because both her oviducts were severely scarred by pelvic inflammatory disease resulting from gonorrhea. Which type of assisted reproductive technology could be used to help her conceive?
- A. Gamete intrafallopian transfer (GIFT)
  - B. Zygote intrafallopian transfer (ZIFT)
  - C. In vitro fertilization (IVF) and embryo transfer

ANS: C

6. A researcher knocks out expression of the POU domain transcription factor *Oct4* in the early epiblast of a mouse embryo. Which cell type would you expect to be affected?
- A. Neural crest cells
  - B. Neural plate cells
  - C. Mesodermal cells
  - D. Primordial germ cells
  - E. Endodermal cells

ANS: D

7. Formation of haploid spermatozoa occurs during which developmental event?
- A. Spermiation
  - B. Capacitation
  - C. Spermatogenesis
  - D. Spermiogenesis
  - E. Fertilization

ANS: C

8. Increase in the levels of which hormone prevents menstruation during a cycle in which fertilization occurs?
- A. LH
  - B. FSH
  - C. GnRH
  - D. hCG
  - E. Estrogen

ANS: D

9. A newborn girl is suspected of having Turner syndrome. Which diagnostic procedure would be used to determine if this is indeed the case?
- A. Karyotyping
  - B. Spectral karyotyping (SKY)
  - C. Comparative genomic hybridization (CGH)
  - D. Fluorescent in situ hybridization (FISH)

ANS: A

10. A researcher establishes mouse spermatozoa lacking one of the following two sperm-specific proteins: Izumo and CD9. Which developmental events will be perturbed in the absence of either of these proteins?
- A. Spermatogenesis
  - B. Capacitation
  - C. Binding of spermatozoa to the zona pellucida
  - D. Fusion of the egg and spermatozoa membranes
  - E. Spermiogenesis

ANS: D