

# Schoenwolf: Larsen's Human Embryology, 4<sup>th</sup> Edition

## Test Bank

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

#### 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. Karotyping
- B. Spectral karotyping (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