Fertilization and Implantation : Pre Test

Next Generation Sunshine State Standards:
SC.912.L.16.10 Evaluate the impact of biotechnology on the individual, society, and the environment, including medical and ethical issues.

SC. 912.L.16.13 Describe the basic anatomy and physiology of the human reproduction system. Describe the process of human development from fertilization to birth and major changes that occur at each trimester of pregnancy.

1. After the human egg erupts from a follicle, it is able to stay alive for ______________.
   A. two to three hours
   B. about one week
   C. about 24 hours
   D. the entire time preceding the menstrual cycle

2. Sperm are viable for up to a couple of days before ovulation and up to a day following ovulation (release of the egg) because sperm ____________________.
   A. survive up to 48 hours
   B. have an indefinite life-span
   C. remain viable for up to two weeks
   D. take days to get through the protective outer coverings of the egg

3. Sperm ejaculated into the vagina will typically make contact with the egg ______________.
   A. in the uterus
   B. in the fallopian tubes, or oviducts
   C. in the ovaries
   D. before reaching the cervix

4. Although millions of sperm are released during ejaculation, only a few hundred actually reach the egg. Which of the following is NOT a reason for this?
   A. The sperm must travel a notable distance to reach the egg.
   B. Sperm lose their tail-like flagellum as they swim.
   C. Only one of the two oviducts contains the single released egg and the sperm travel to both.
   D. The acidic fluids secreted in the vagina kill many sperm.

5. The _______________ is the part of the sperm containing enzymes that assist it in the process of penetrating the protective coating of the egg.
   A. mitochondria of the midpiece
   B. whip-like flagellum
   C. acrosome cap
   D. nucleus of the head
6. The part of the sperm containing the DNA for fertilization with the egg is shown at ___________.
   A. Point A  
   B. Point B  
   C. Point C  
   D. Point D

7. The egg and the sperm nuclei each contain ___________________.
   A. a diploid of chromosomes  
   B. a haploid set chromosomes  
   C. simply a sex chromosome to determine the gender of the fetus  
   D. 46 chromosomes

8. Which of the following is the order of development of an embryo?
   A. Blastocyst- zygote- fertilization- implantation  
   B. Zygote-blastocyst-implantation-fertilization  
   C. Fertilization-blastocyst-zygote-implantation  
   D. Fertilization- zygote- blastocyst- implantation

9. Implantation refers to which of the following?
   A. The zygote attaches itself to the wall of the ovarian duct while it goes through cell division.  
   B. The blastocyst burrows into the wall of the uterus.  
   C. The nucleus of the sperm unloads it’s DNA into the cytoplasm of the egg.  
   D. The egg travels to the uterus where it waits to be fertilized by a single sperm.

10. Use the diagram below to identify the egg at its zygote stage.
    A. Point A.  
    B. Point B.  
    C. Point D.  
    D. Point C.
11. In the diagram above, point D. is representing _________________.
   A. gastrulation
   B. implantation
   C. fertilization
   D. ovulation

12. ________________ is usually the treatment of choice for women desiring a pregnancy, but have blocked, severely damaged or absent fallopian tubes (oviducts).
   A. Surgical removal of the uterus and damaged organs
   B. Insertion of a diaphragm
   C. The In Vitro Fertilization (IVF) procedure
   D. A vasectomy in the male partner

13. In Vitro Fertilization involves all but which one of the following procedures?
   A. Multiple eggs are surgically removed from the female’s ovaries.
   B. The eggs have their nuclei removed to make room for the sperm’s nucleus.
   C. Egg and sperm join and are fertilized in a laboratory petri dish.
   D. Two to four developing embryos are selected for implantation in the female’s uterus.

14. In order to obtain multiple eggs from a woman for the purpose of In Vitro Fertilization, she_______________________________.
   A. receives counseling on better nutrition
   B. borrows eggs from an “egg bank”
   C. is prescribed special vitamins
   D. gives herself hormone injections daily in the abdomen
15. Which of the following is a NOT one of the negative aspects of in vitro fertilization?
   A. The process increases the potential for birth defects.
   B. There is only about a 25% success rate of having a baby through this kind of conception.
   C. It costs several thousands of dollars for each cycle of implantation.
   D. There is a greater chance of having multiple births (twins, triplets).