

Name: _____

ANATOMY & PHYSIOLOGY II

System Assignment

Reproductive Systems

The purpose of this assignment is to ensure that you are working diligently to keep up with the material and to give you practice both researching answers and answering questions specifically and succinctly.

To receive credit for this assignment, your answers must be in your own words, and:

- well-written, with terms correctly spelled.**
- NOT** copied from any course handouts;
- NOT** be copied from your or any other textbook (with the exception of definitions);
- NOT** be identical to another student's answers; and
- NOT** be dictated by academic support services in the ARC.

The due date for this assignment will be announced in class.

Due date: _____

Points: 40

1. **Definitions.** Provide a simple, concise definition for the following terms (1 pt each):

Sertoli cell _____

endometrium _____

capacitation _____

ovulation _____

granulosa cell _____

vasectomy _____

spermiogenesis _____

polar body _____

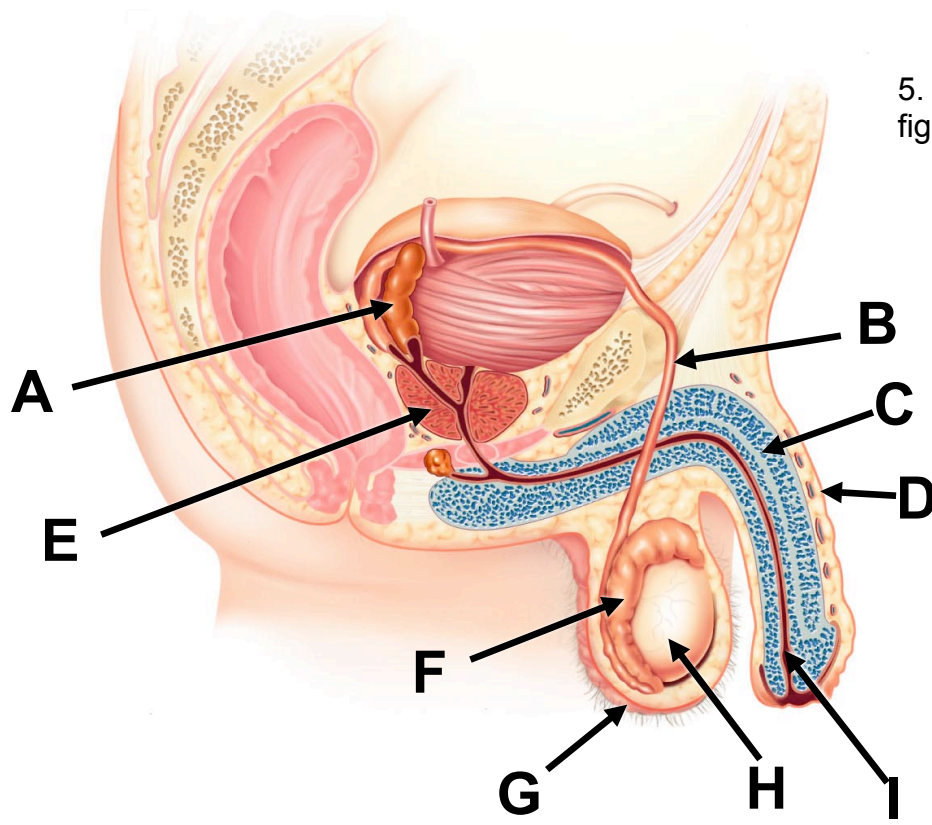
2. Explain the difference between primary and secondary sex determination. What controls each? (2 pts)

3. What is Sry? Where is it found? What does its presence mean to a developing fetus? (2 pts)

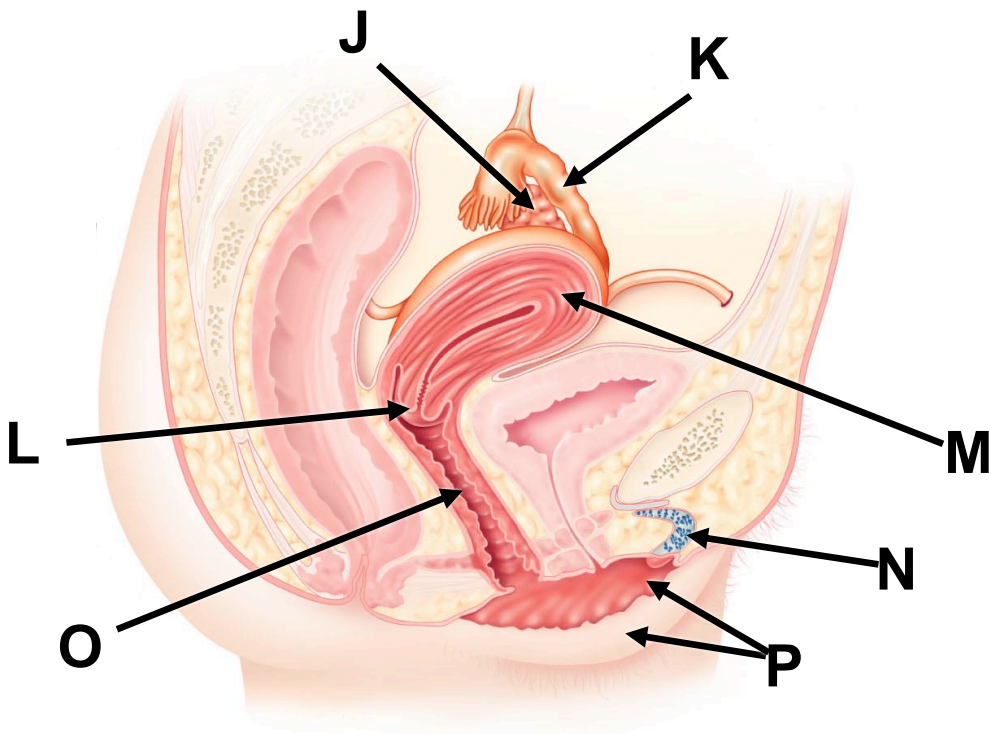
4. After 12 years of a childless marriage, the Dulaps decided to consult a physician concerning their chances of having a family. Examination of Mrs. Dulap revealed abnormal internal genitalia, and the uterus was totally absent. Blood samples showed testosterone levels typical of a male. Explain her situation (2 pts).

Extra credit: What piece of evidence should have tipped Mrs. Dulap off a little sooner? (2 pts)

5. **Matching.** Match the labels on the figure with the terms below (3 pts).



- ___ cervix
- ___ clitoris
- ___ corpus cavernosa
- ___ corpus spongiosum
- ___ epididymis
- ___ labia (major & minor)
- ___ ovary
- ___ oviduct
- ___ penis
- ___ prostate gland
- ___ scrotum
- ___ seminal vesicles
- ___ testis
- ___ uterus
- ___ vagina
- ___ vas deferens



6. Briefly summarize the effects of the two major gonadotropins on the **male** reproductive system (1 pt each).

FSH _____

LH _____

7. What is the name of the active androgen found in males? _____ (1 pt)

8. Why is this androgen more active than testosterone (T)? (1 pt) _____

9. What is the function of the epididymis? (1 pt) _____

10. What is the blood-testis barrier and why is it important? (2 pts)

16. What is the acrosome reaction? (1 pt) _____

17. What triggers the acrosome reaction? (1 pt) _____

18. Fertilization is a highly ordered process in which events must occur in a specific sequence. Place the following events in the correct order by numbering the statements. The first and last have been done for you (5 pts).

- 1 Semen is ejaculated into the vagina.
- Sperm become capacitated in female reproductive tract.
- Sperm binds to oocyte plasma membrane.
- Sperm encounter oocyte-cumulus cell complex in ampulla of oviduct.
- Sperm head binds to zona pellucida glycoprotein ZP3.
- Sperm head fuses with oocyte plasma membrane.
- Sperm migrate through cervix and into uterus.
- Sperm nucleus enters oocyte cytosol and decondenses.
- Sperm penetrate the cumulus cell complex.
- Sperm penetrates the zona pellucida and enters the perivitelline space.
- Sperm undergoes the acrosome reaction.
- 12 Male and female chromosomes congregate, restoring the diploid (2n) number.

19. What is the importance of the cortical granule reaction? What does it do? (1 pt)
