

2013

MASTER 201

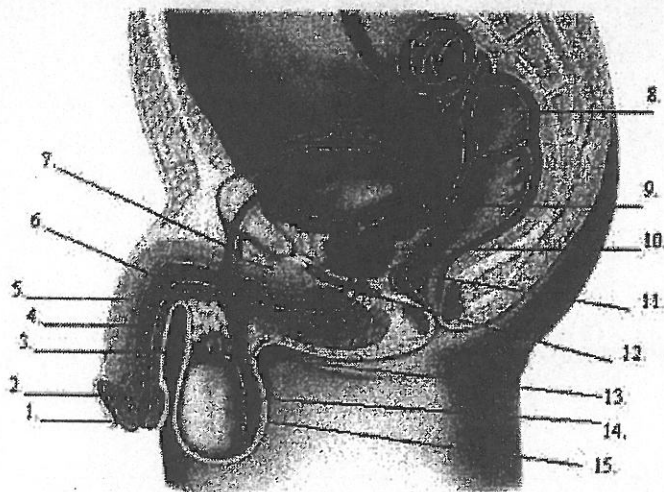
NAME _____ TEST No 3 DATE _____

Short Answer Questions (answer in spaces provided) SCORES: M/C = /20

S/A = /20

Refer to the diagram to answer Questions 21 and 22.

TOTAL = /40



21. Identify the following structures, as indicated on the above diagram:

4 URETHRA

14 TESTIS

7 VAS DEFERENS

15 SCROTUM

(OR) DUCTUS DEFERENS

(4 marks)

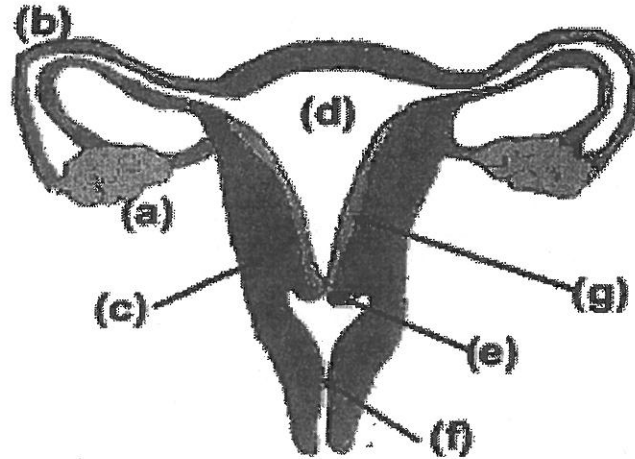
22. Elaborate on the necessity for the position of structure 15

• THE SCROTUM IS LOCATED IN THIS POSITION TO
LOWER THE TESTES AWAY FROM THE BODY. (1)

• THE TESTICLES NEED TO BE KEPT AT SLIGHTLY LOWER
THAN BODY TEMPERATURE FOR SPERM TO DEVELOP NORMALLY. (1)

(2 marks)

Refer to the diagram to answer Questions 23 and 24.



23. Identify the following structures, as indicated on the above diagram:

a OVARY

e CERVIX

b UTERINE TUBE

g ENDOMETRIUM

(OR) FALLOPIAN TUBE /
OVIDUCT.

(4 marks)

24. Elaborate on the changes (g) undergoes during the menstrual cycle.

• ESTROGENS (BEGINNING OF OVARIAN CYCLE) STIMULATES ENDOMETRIUM
TO PROLIFERATE - STRAIGHT TUBULAR GLANDS FORM + BLOOD VESSELS INVAD
NEW ENDOMETRIAL EPITHELIUM (i.e. ↑ VASCULARITY)

• ESTROGENS + PROGESTERONE (AFTER OVULATION) - ENDOMETRIUM
CONTINUES TO GROW, GLANDS ↑ AND ARTERIES ENLARGE +
SPIRAL (2 marks)

• NO PREGNANCY - HORMONES ↓, ENDOMETRIUM UNDERGOES
INTENTIONALLY LEFT BLANK PROLONGED SPASMS
(CONTRACTIONS)

• REDUCED BLOOD FLOW / TISSUES DEGENERATE
CAPILLARIES WEAKEN / BLOOD LEAKS THROUGH THEM

• BLOOD + DETERIORATING ENDOMETRIAL TISSUES - DISCHARGED

ANY
2

ELABORATED
ON

25. Briefly outline the process of ovulation under the following headings:

- (a) Hormones
- (b) Development of Follicle
- (c) Corpus Luteum and Corpus Albicans

Hormones -

- Follicle Stimulating Hormone (FSH) - stimulates the development of the ovarian follicles resulting in the release of oestrogen (1)
- Oestrogen levels peak, stimulating a surge in Luteinising Hormone (LH) (1)
- Luteinising Hormone (LH) - triggers ovulation (1) (4)
- Progesterone - secreted in large amounts by corpus luteum maintains the thickened uterine lining in preparation for implantation of a fertilized ovum / inhibits the development of more follicles. (1)

Development of Follicle

- Formation of Primary Follicle
- Formation of Secondary Follicle
- Formation of Tertiary Follicle
- Follicle surrounding the 'egg' grows in response to FSH / cells enlarge + undergo repeated cell divisions → produce oestrogens (1) (suspended in prophase)
- In response to surge of LH, follicle ruptures to release ovum i.e. This is a mature Graafian follicle (1) (complete meiosis)

which continues to grow & around day 14 ruptures to release ovum (1)

- The ruptured follicle develops into the corpus luteum (the 'yellow body'), which secretes large amounts of progesterone (2 smaller amounts of oestrogen) (1)
- if fertilization does not occur, corpus luteum breaks down into the corpus albicans ('white body') (1) (meiosis II completed from metaphase only if fertilization occurs)

Must have one point for each of the 3 hormones

Can refer to stages

Must include growth, Graafian follicle + Corpus luteum / Corpus albicans - brief functions

more advanced students in terms of meiosis

Corpus Luteum and Corpus Albicans

- Corpus luteum - developed from the Graafian follicle; secretes progesterone which promotes full development of the uterine lining (endometrium), maintains the embryo in the first 12 weeks of pregnancy & inhibits the development of more follicles.

Must
include
what are they
what they
do

②

- Corpus albicans - corpus luteum degenerates into corpus albicans when fertilization does not take place.

(10 marks)