QB365

Important Questions - Human Reproduction

12th Standard CBSE

Biology

Reg.No. : | | | | | | |

Time : 01:00:00 Hrs

Total Marks : 50

Section - A

1) Some important events in the human female reproductive cycle are given below.Arrange the events in a proper sequence.A-secretion of FSH, B-growth of corpus luteum, C-growth of the follicle and oogenesis, D-ovulation, E-sudden increase in the levels of LH **1**

(a) A D C E B (b) B A C D E (c) C A D B E (d) A C E D B

2) Which one of the following is the correct matching of the events occurring during menstrual cycle? **1**

(a) Menstruation: breakdown of myometrium and ovum not fertilized

(b) Ovulation:LH and FSH attain peak level and sharp fall the in secretion of progesterone.

(c) Proliferative phase: Rapid regeneration of myometrium and maturation of Graafian follicle

(d) Development of corpus luteum: Secretary phase and increased secretion of progesterone

3) Which one of the following is the most likely root cause why menstruation is not taking place in the regularly cycling human female? **1**

(a) retention of well-developed corpus luteum (b) fertilization of the ovum

(c) maintenance of the hypertrophical endometrial lining

(d) maintenance of high conc. of sex hormones in the blood stream

4) The correct sequence of spermatogenic stages leading to the formation of sperms in a mature human testis is **1**

(a) spermatogonia-spermatid-spermatocyte-sperms (b) spermatocyte-spermatogonia-spermatid-sperms

(c) spermatogonia-spermatocyte-spermatid-sperms (d) spermatid-spermatocyte-spermatogonia-sperms

5) A change in the amount of yolk and its distribution in the egg will affect **1**

(a) Fertilization (b) Formation of zygote (c) Pattern of cleavage (d) Number of blastomeres produced

6) Which of the following hormones is not secreted by human placenta? **1**

(a) hCG (b) Estrogens (c) Progesterone (d) LH

7) The membranous cover of the ovum at ovulation is **1**

(a) Corona radiata (b) Zona radiata (c) Zona pellucida (d) Chorion

8) Amniocentesis is a technique used to **1**

(a) Determine errors in amino acid metabolism in embryo

(b) Pinpoint specific cardiac ailments in embryo

(c) Determine any hereditary/genetic abnormality in embryo (d) All of these

9) The signals for parturition originate from **1**

(a) fully developed foetus only (b) Placenta only (c) Placenta as well as fully developed fetus

(d) oxytocin released from the maternal pituitary

10) Seminar plasma in human males is rich in **1**

(a) ribose and potassium (b) fructose and calcium (c) glucose and calcium (d) DNA and testosterone

Section - B

11) Differntiate between vasa efferentia and vas deferens. **2**

12) Why is it considered that the presence or absence of hymen is not an indication of virginity? **2**

13) Differentiate between primary and secondary follicles. **2**

14) Bring out the differences between secondary and tertiary follicles. **2**

15) What is mwant by LH-surge?When does it occur? **2**

16) Describe the events of changes that take place in the reproductive organs of a human female during follicular phase of menstrual cycle. **2**

17) Enumerate the functions of placenta. **2**

18) Name two hormones (other than gonadotropins,ovarian and placental hormones) that increase several fold in the maternal blood during pregnancy.What is the need for them? **2**

19) Name the source of gonadotropins in human females.Explain the changes brought about in the ovary by these hormones during menstrual cycle. **2**

20) Describe the structure of a seminiferous tubule. **2**

Section - C

21) (a) Draw a sectional view of human label the following parts: (i) Primary follicle (ii) Ovum (iii) Graafian follicle (iv) Corpus luteum (b) Name the hormones influencing (i) ovulation, (ii) development of corpus luteum. **5**

22) (a) Study the graph carefully and correlate the follicular growth that takes place according to hormonal levels on **5**

(i) 1-5 days

(ii) 12-14 days

(iii) 25-28 days (if the ovum is not fertilized).

(b) Specify source(s) of the hormones mentioned n the graph.

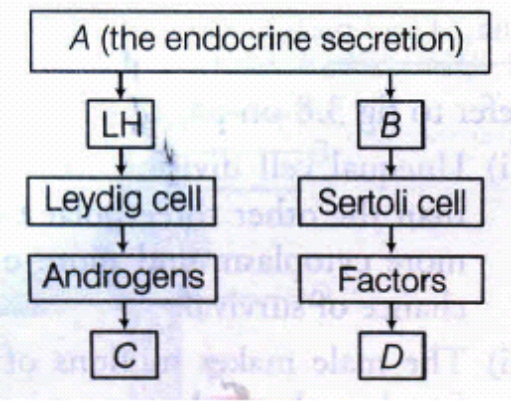
23) Given reasons for the following statements: **5**

(a) Parturition is also termed labour.

(b) Early secretions from mammary glands of mother are very useful to newly born baby.

(c) Testes in males are lodged in the scrotum so as lie outside the abdominal cavity.

24) Identify A,B,C and D with reference to gametogenesis in humans in the flow chart given below. **5**



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Section - A

1) (d) A C E D B **1**

2) (d) Development of corpus luteum: Secretary phase and increased secretion of progesterone **1**

3) (d) maintenance of high conc. of sex hormones in the blood stream **1**

4) (c) spermatogonia-spermatocyte-spermatid-sperms **1**

5) (c) Pattern of cleavage **1**

6) (d) LH **1**

7) (a) Corona radiata **1**

8) (c) Determine any hereditary/genetic abnormality in embryo **1**

9) (c) Placenta as well as fully developed fetus **1**

10) (b) fructose and calcium **1**

Section - B

11) **2**

Vasa efferentia	Vas deferens
Vasa efferentia arise from rete testis and open into epididymis.	Vas deferens arises from epididymis and opens into urethra.
They conduct the sperms out of the testes.	This conducts the sperm to the urethra and then to outside.
They do not receive ducts of any associated glands.	It receives ducts of the associated glands.
They remain inside the scrotum (extra abdominal).	It ascends into the abdominal cavity.

12) **2**

Hymen is the membrane that partially covers the vaginal opening.

The hymen gets torn during the first coitus.

But it can also be torn by active participation in sports like horse-riding,cycling,or by a sudden fall or jolt and insertion of vaginal tampon;so its presence or absence cannot indicate virginity.

13) 2

Primary follicle	Secondary follicle
It is the structure that is formed when the primary oocyte is surrounded by a layer of granulosa cells.	When the primary follicle becomes surruonded by more layers of granulosa cells and a thecal layer,it is called secondary follicle.
Many primary follicles degenerate before puberty.	There is no degeneration of secondary follicles.

14) 2

Secondary follicle	Tertiary follicle
When the primary follicle containning the promary oocyte becomes surrounded by more layers of granulosa cells and a thecal layer,it is called secondary follicle. The oocyte shows little growth.	When a fluid-filled cavity develops around the oocyte in the secondary folicl,it is called tertiary follicle. The oocyte grows in size and undergoes meiosis I.

15) LH-surge refers to a very high (maximum) level of LH during the middle of menstrual cycle. 2
It occurs around the 14th day of mentrual cycle,just before ovulation.

16) 2

Follicular phase.

The primary follicles in the ovary grow and become a fully mature Graafian follicle.

The endometrium of the uterus is regenerated by proliferation of the cells.

These changes are due to an increased level of pituitary hormones,FSH and LH and ovarian hormone,estrogen.

FSH controls the follicular phasa; it stimulates the growth of follicles and secretion of estrogen by the follicular cells.

Both FSH and LH reach their peak level in the middle of the cycle.

17) 2

Functions of Placenta.

Placenta facilitates the supply of oxygen ahd nutrients to the foetus.

It also helps in the removal of excretory products of the foetus.

Placenta acts as an endocrine organ and secretes hormones like chorionic gonadotropins,human placental lactogen,progesterone,etc.

It acts as an ultrafilter and does not allow the entry of certain viruses and bacteria.

18) 2

Cortisol and thyroxine.

These hormones are essential for supporting the foetal growth,metabolic changes in the mother and maintenance of pregnancy.

19) **2**

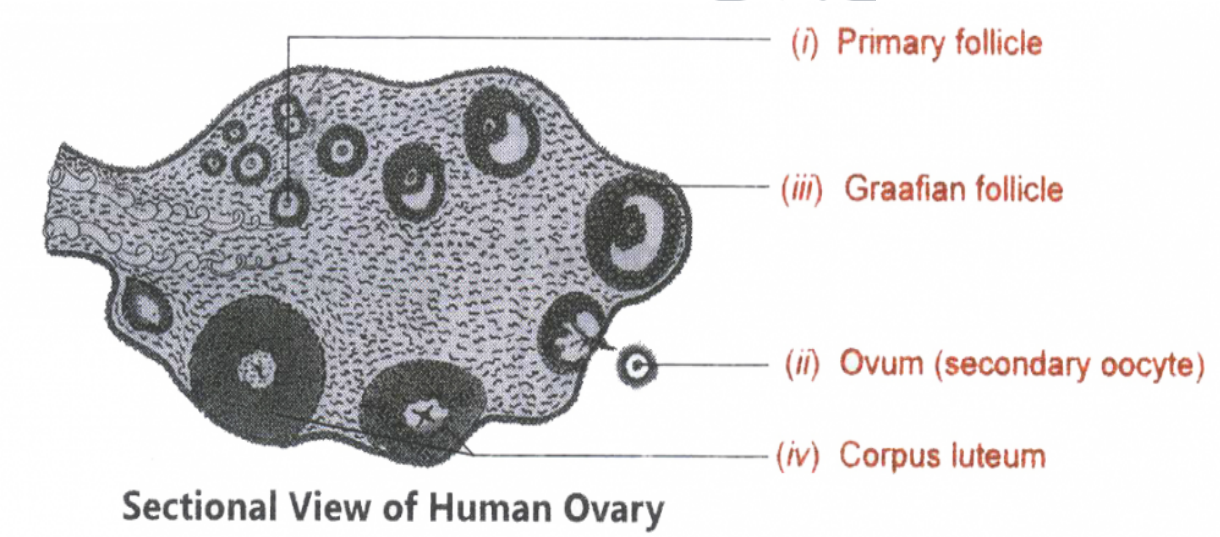
Gondotropins are secreted by the anterior pituitary. Follicle stimulating hormone (FSH) and luteinising hormone (LH) are the gonadotropins. FSH stimulates follicular development and secretion of estrogens by the follicle cells. Both FSH and LH attain a peak level around the middle of the cycle(about 14th day). The maximum level of LH (also called LH surge) induces ovulation,i.e.,rupture of the mature follicle and release of ovum/secondary oocyte. LH stimulates the formation of corpus luteum from the ruptured follicle and secretion of progesterone from the corpus luteum.

20) **2**

Each seminiferous tubule has atunic of cennectivity tissue and is internally lined by seminifirous/germinal epithelium. The seminiferous epathelium consists of two types of calls: (i) Sertoli cells and (ii) Spermatogonia/male germ cells. Sertoli cells are large and columnar.

Section - C

21) **5**



Sectional View of Human Ovary

(b) (i) Luteinising hormone (ii) Luteinising hormone

22) (a) (i) LH increases and FSH decreases. **5**

(ii) LH peaks and FSH peaks.

(iii) LH level decreases and FSH level maintained.

(b) Source of FSH and LH are anterior pituitary

23) **5**

(a) Parturition (childbirth) involves a very hard muscular work at the expense of considerable energy by the mother. It is, therefore, also called labour.

(b) Early secretions from the mammary glands of mother are termed as colostrum. It brings antibodies from mother to combat infections in the newly born baby who till has to build up its own antibodies.

(c) In males, testes are lodged in the scrotum and lie outside the abdominal cavity because the temperature in the scrotum is about 2^0C lower than that in the abdominal cavity. It is ideal for the development and survival of spermatozoa.

24) A - GnRH

B - FSH

C - Spermatogenesis

D - Spermiogenesis