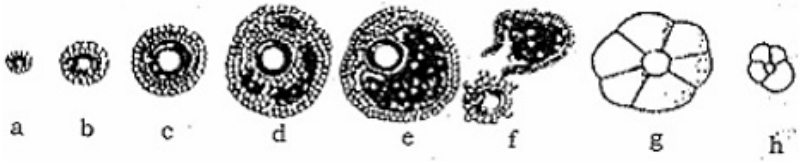
CBSE Test Paper 05

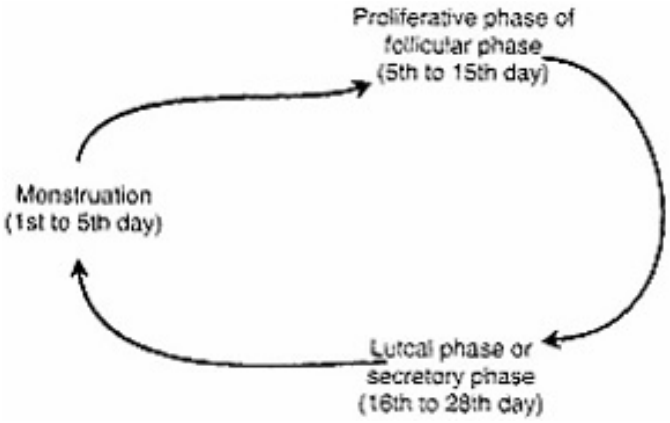
Ch-3 Human Reproduction

1. Antrum is the cavity of
   a. Gastrula
   b. Uterus
   c. Graafian follicle
   d. Blastula
2. Each testicular lobules contain one to three highly coiled
   a. Sertoli cells b. Male germ cells c. Leydig cells d. Seminiferous tubules
3. Hormone responsible for milk ejection after the birth of baby is:-
   a. Estrogens
   b. Oxytocin
   c. Progesterone
   d. Prolactin
4. Regression and disappearance of ovarian follicles of ovary during reproductive cycle of female is called as
   a. Follicular atresia
   b. Cavernosa
   c. Mesovariun
   d. Follicular cessation
5. Seminal plasma in human males is rich in
   a. Glucose and Calcium
   b. Fructose and Calcium
   c. DNA and testosterone
   d. Ribose and Potassium
6. How many sperms will be produced from 100 primary spermatocytes and how many eggs will be produced from 100 primary oocytes?
7. Which part of the blastula is destinated to form germ layers of the developing embryo in humans?
8. Name the hormones involved in regulation of spermatogenesis.
9. Ooogenesis takes place in corpus luteum.(True/False)
10. Where does fertilization take place in human female?

11. The male reproductive system is often referred to as a closed system, whereas the female reproductive system is referred to as an open system. To what aspects of the system does this refer?
12. Write two major functions each of testis and ovary.
13. Write the function of each of the following :-
    (a) Middle piece in human sperm
    (b) Luteinizing hormone in human males.
    (c) Oxytocin
14. The following is the illustration of the sequence of ovarian events (a-i) in a human female.



    i. Identify the figure that illustrates ovulation and mentions the stage of oogenesis it represents.
    ii. Name the ovarian hormone and the pituitary hormone that have caused the above-mentioned event.
    iii. Explain the changes that occur in the uterus simultaneously in anticipation.
    iv. Draw a labelled sketch of the structure of a human ovum prior to fertilization.
15. The events of the menstrual cycle are represented below. Answer the question following the diagram.



    i. State the levels of FSH, LH and progesterone simply by mentioning high or low, around 13 th and 14 th day and 21 st to 23 rd day.
    ii. In which of the above-mentioned phases does the egg travel to the fallopian tube?
    iii. Why is there no menstruation upon fertilisation?

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Answer

1. c. Graafian follicle, **Explanation:** Ovary contains large number of Graafian follicle that maturates to produce ovum or egg. A small cavity is present in Graafian follicle called antrum.
2. d. Seminiferous tubules, **Explanation:** Testicular tubules are present inside the testis. Each testicular lobule contains one to three highly coiled seminiferous tubules. Seminiferous tubules contain two types of cells male germ cells and sertoli cells.
3. b. Oxytocin, **Explanation:** Lactiferous glands present inside the mammary gland start producing milk due to release of hormone oxytocin from pituitary glands.
4. a. Follicular atresia, **Explanation:** In some females during reproductive cycle regression and disappearance of ovarian follicles occurs this stage is called follicular atresia. It is due to hyper-secretion of progesterone hormone.
5. b. Fructose and Calcium, **Explanation:** Seminal plasma along with sperms forms the semen. The seminal plasma provides nourishment to sperms and rich in fructose and calcium ions.
6. 400 sperms, 100 ova
7. ICM (Inner Cell Mass)
8. GnRH, FSH, LH and testosterone
9. False; Oogenesis takes place in the ovary.
10. After copulation, sperms travel through the cervix and finally reach the ampullary-isthmic junction of fallopian tube. Ovum after its release from ovary also travel to this place. If both ovum and sperms reach in the ampullary- isthmic junction at the same time, there is a strong chance of occurring fertilisation. So this junction may be considered as a site of fertilisation in human females.
11. The female system open into the abdominal cavity by way of the upper opening of the oviducts. The male system has the testes at the upper end of the vas deferens and thus does not open into the abdominal cavity.
12. **Functions of Testis.**

(i) Production of sperms

(ii) Secretion of Testosterone hormone

Function of Ovary:

(i) Production of ova

(ii) Secretion of estrogen and progesterone hormones.

13. (a) Middle piece contains mitochondria, which produce ATP for the movement of the sperm.

    (b) In males LH is called as ICSH which stimulates the interstitial cells to release testosterone.

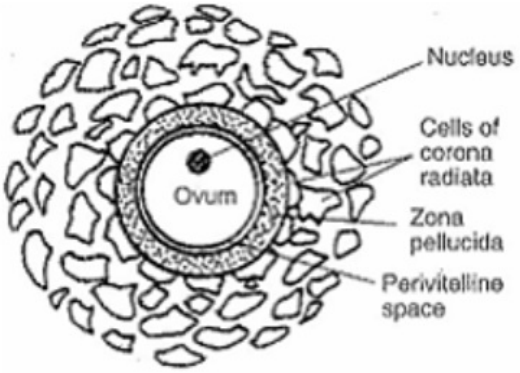
    (c) After parturition, the milk ejection is stimulated by oxytocin hormone, which is released by the posterior pituitary.

14. i. Figure f illustrates ovulation

    ii. It represents secondary oocyte stage of oogenesis.

    - Pituitary hormone - LH

    iii. Endometrium proliferates and becomes thicker by rapid cell multiplication development and maturation of ovum is in progress, while the figure 'h' shows that corpus luteum going towards degeneration. (iv)



15. i.

Hormone	13-14th day	21-23rd day
FSH	HIGH	LOW
LH	HIGH	LOW
Progesterone	Low	High

    ii. Luteal

    iii. There is no menstruation upon fertilization because the ovum which was to shed gets implanted. Uterine wall and blood vessels maintain the embryo.