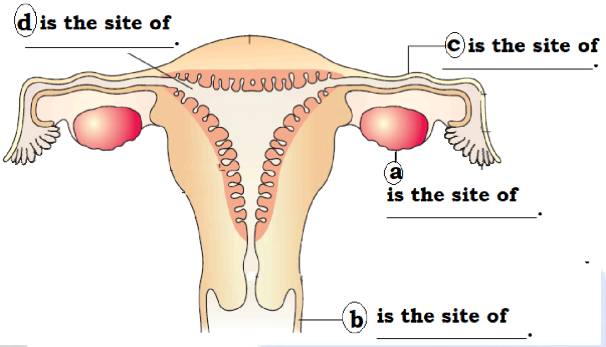
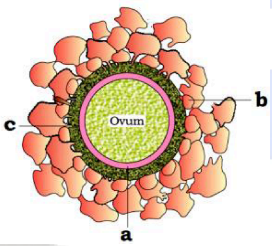
2 MARKS EACH

1. The testes are situated outside the abdominal cavity within a pouch called scrotum. State the function of scrotum.
2. State the functions of testis and ovaries.
3. Identify the events that occur in the labelled sites in the given figure.



4. In the figure depicting a pregnant woman and assuming the developing foetus to be a female, name the cells that would be present in the foetus ovary. Also state the relationship of X with the pregnant woman.

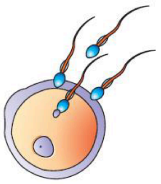
5. In the given figure,



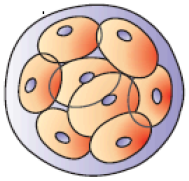
   (a) Name the space marked ‘a’ outside egg membrane and extra egg membranes, ‘b’ and ‘c’.

   (b) The stage has been released from the ovary and is present in the fallopian tube. Name the stage of egg development.

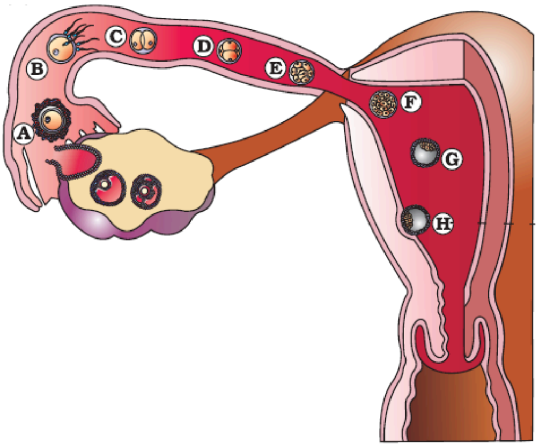
6. Differentiate between extra egg membranes, zona pellucida and corona radiata.
7. Differentiate between menarche and menopause.
8. Name and define the event being depicted in the figure. Where is it occuring?



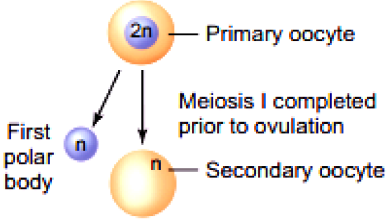
9. Identify the stage shown in the figure. Describe its structure briefly. Name its next stage.



10. Differentiate between Sertoli cell and Leydig cell.
11. What happens to corpus luteum in human female if the ovum is (a) fertilized, (b) not fertilized?
12. Identify the events 'A', 'B', 'C' to 'F' and 'H' in the development of embryo.



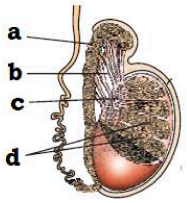
13. Why is breast-feeding recommended during the initial period of an infant's growth? Give three reasons.
14. How many eggs are released by a human ovary in a month? How many eggs do you think would have been released if the mother gave birth to identical twins? Would your answer change if the twins born were fraternal? How many eggs do you think were released by the ovary of a female dog which gave birth to 6 puppies?
15. During oogenesis, primary oocyte divides by meiosis unequally into a large haploid secondary oocyte and a tiny first polar body. The secondary oocyte retains bulk of the nutrient rich cytoplasm of the primary oocyte. What is the advantage for this?



16. Why is parturition called a neuroendocrine mechanism.

3 MARKS EACH

1. (a) Identify the parts ‘a’, ‘b’, ‘c’ and ‘d’.

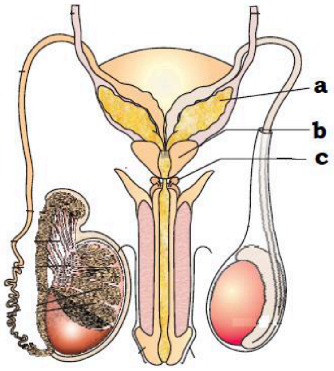


(b) State the number of ‘d’ in each testis.

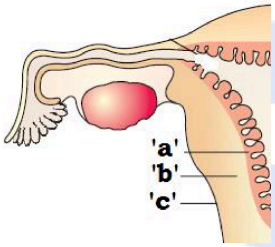
(c) What is located in ‘d’?

2. Trace the path of spermatozoa from seminiferous tubule to exterior.

3. In the given figure, label the male accessory glands and state their functions.



4. In the diagram showing a part of the human female reproductive system,

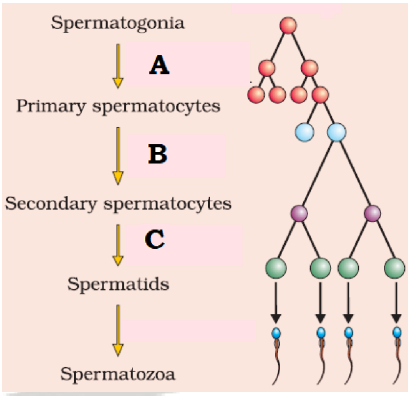


(a) Name the uterine layers marked ‘a’, ‘b’ and ‘c’.

(b) State the functions of ‘a’ and ‘b’.

(c) State the shape of uterus.

5. (a) In the pictorial representation of spermatogenesis, label the processes A, B and C.



(b) When does the process begin in human males and under the influence of which hormone?

(c) Where do sperms get nutrition from?

6. (a) Draw a Graafian follicle and label antrum and secondary oocyte.

(b) Name the protective layers present.

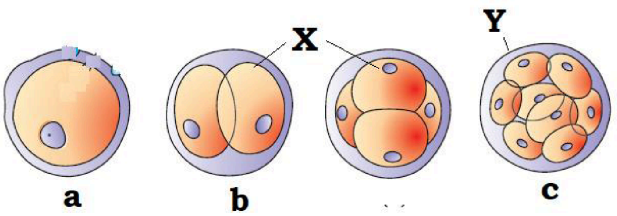
(c) Name the structure Graafian follicle gets transformed into.

7. Differentiate between follicular phase and luteal phase of menstrual cycle.

8. Draw a well –labelled diagram of human sperm.

9. Explain the role of pituitary and sex hormones in the process of spermatogenesis.

10. Given figures depict a sequence of development stages that a zygote 'a' undergoes.



(a) Name the divisions that result in the formation of 'c'.

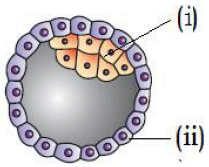
(b) How are these divisions different from normal division?

(c) Name the cells 'X'.

(d) Where are these stages occuring?

(e) Name 'Y' and explain its significance.

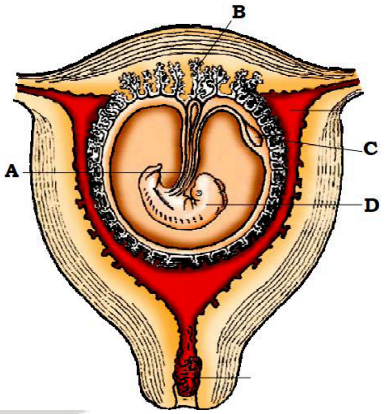
11. (i) Identify the developmental stage depicted in the figure.



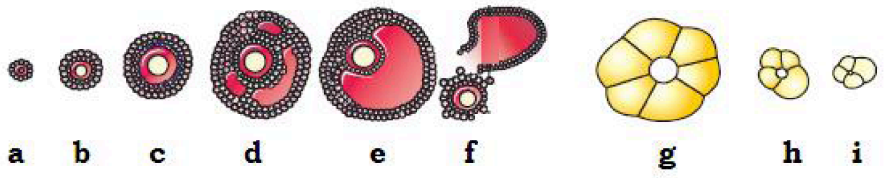
(ii) Label (a) and (b) and state their functions.

(iii) What is the fate of this stage?

12. Identify the labels 'A', 'B', 'C' and 'D' in the figure. Why is 'C' rudimentary in humans?



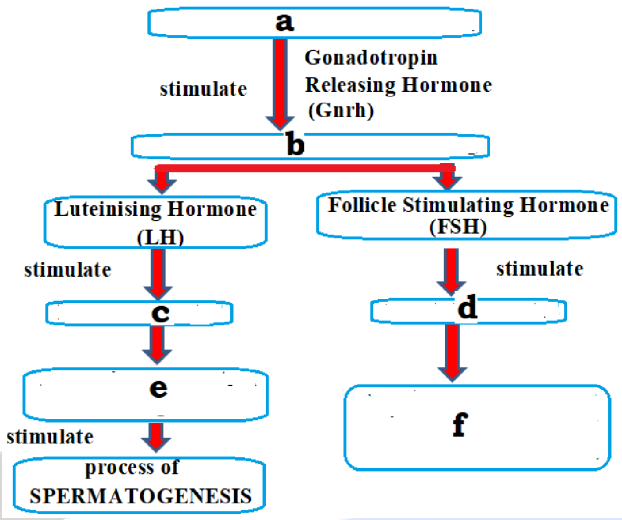
13. (a) What is the fate of inner cell mass immediately after implantation?
    (b) What are stem cells?
14. Answer the following with reference to the figure given below:



(a) Identify and differentiate between 'e' and 'g'.
(b) Name the event occurring in 'f'. Name the hormones responsible for it.
(c) Describe the simultaneous events occurring in the uterus from 'g' to 'i'.

3 MARKS EACH

1. About 300 million spermatozoa may be present in a human male ejaculation at one time. Calculate how many:
   (a) spermatogonia will be involved to produce this number of spermatozoa?
   (b) Secondary spermatocytes will be formed?
   (c) Define Spermiation.
2. Differentiate between spermatogenesis and oogenesis
3. In the flow chart depicting hormonal control of spermatogenesis, identify 'a', 'b', 'c', 'd' 'e' and 'f'.

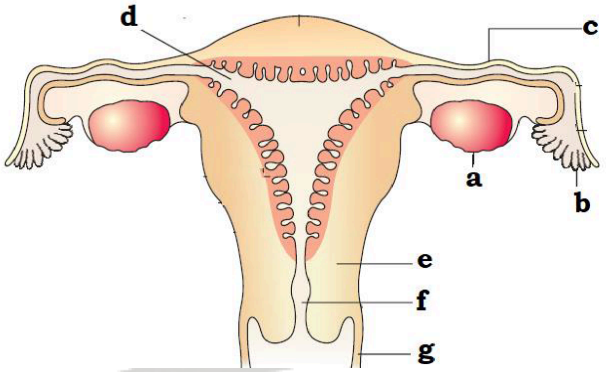


4. Draw a sectional view of seminiferous tubules of human. Label Sertoli cells, spermatagonia and Leydig cells on it and write their functions.
5. Explain with reason:
   (a) Not all copulations lead to fertilisation and pregnancy.
   (b) Only one sperm can fertilise an ovum. (Or how can polyspermy be prevented?)
   (c) The sex of the baby has been decided at zygote stage itself.
6. The given picture depicts kit for detection of pregnancy. What is the principle behind this kit?

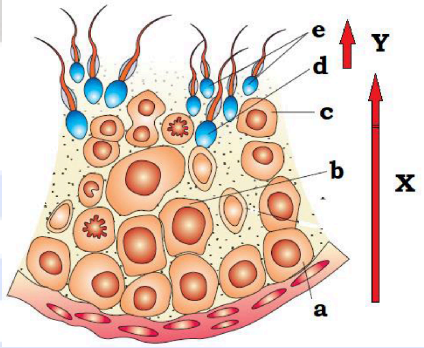
7. (a) A woman misses menstruation and goes to the doctor to find out if she is pregnant after a month. How will the doctor find out?
   (b) It is advised to a pregnant woman to be careful and not get undue exposure to radiations or chemicals, especially during the first three months of pregnancy / first trimester. Why?
   (d) On confirmation of pregnancy by the doctor, when will the pregnant woman first feel the baby?

5 MARKS EACH

1. How many cells are located inside testis? Name them and state their functions respectively.
2. In the figure depicting human female reproductive system, label the parts – ‘a’, ‘b’, ‘c’, ‘d’, ‘e’, ‘f’ and ‘g’. State the functions of ‘b’ and ‘f’.

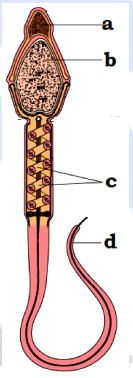


3. In the schematic diagram of a part of testis,



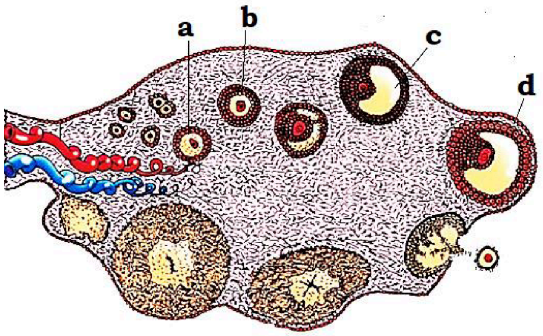
(a) Name the processes 'X' and 'Y'.
(b) Name the different cells form a □ e.
(c) State the ploidy of cells a, b and c.

4. (a) In the given diagram of human sperm, label 'a', 'b', 'c', 'd' and state their functions.

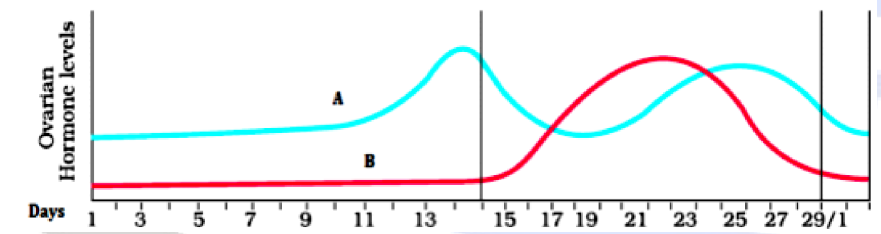


(b) State the conditions necessary regarding sperm number and structure for fertility.

5. (a) In the figure depicting a section of human ovary, identify 'a', 'b', 'c' and 'd'.
(b) Name the stage of oogenesis found in 'a', 'b', 'c' and 'd'.
(c) When will 'a' be formed? State the number of 'a'.
(d) Which of the following stages will show meiosis I? Name the resulting daughter cells.



6. Explain the events in a normal woman during her menstrual cycle on the following days.
   (a) Ovarian events from 3-12 days
   (b) Ovarian events from 13-15 days
   (c) Ovarian events from 16 to 23 days
   (d) Ovarian hormones level from 3-12 days
   (e) Ovarian hormones level from 16 to 23 days
7. Explain the events in a normal woman during her menstrual cycle on the following days.
   (a) Uterine events from 3-12 days
   (b) Uterine events from 16 to 23 days
   (c) Uterine events from 24 to 29 days.
   (d) Pituitary hormones level from 3-12 days
   (e) Pituitary hormones level from 13 to 15 days
8. The graph given below shows the variation in the levels of ovarian hormones during various phases of menstrual cycle:



   (i) Identify 'A' and 'B'.
   (ii) Specify the source of the hormone marked in the diagram.
   (iii) Reason out why A peaks before B.
   (iv) Compare the roles of A and B.
   (v) Under which condition will the level of B continue to remain high on the 28th day?
9. Describe the steps of spermatogenesis.
10. Explain Oogenesis.
11. Briefly explain the events of fertilization, cleavage and implantation in an adult human female.
12. Explain the main events of menstrual cycle in a human female.
13. After implantation inter -digitation of maternal and foetal tissues takes place. Identify the tissues involved. Name the structure formed and state its functions.
14. Define gestation and parturition? Mention how it is induced.