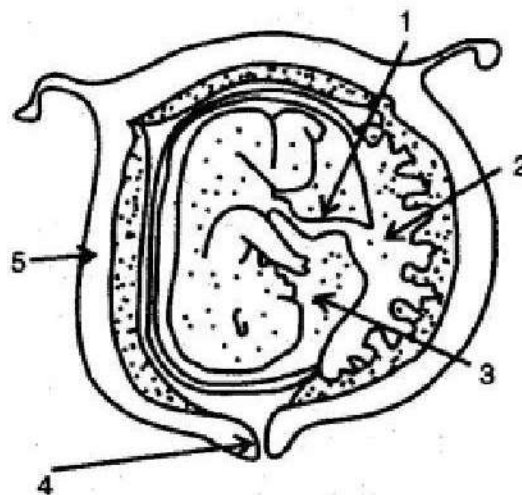


**Reproductive system and Human Population**

**PRACTICE QUESTIONS (CONTD.)**

**Question 8:** The diagram given below is that of a developing human foetus in the womb. Study the same and then answer the questions that follow:

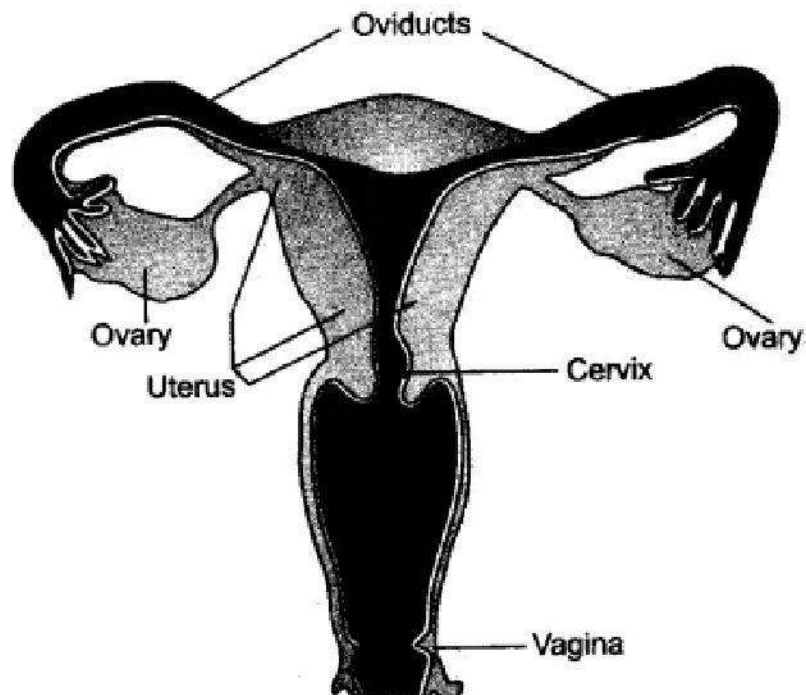


- (i) Name the parts '1' to '5' indicated by guidelines.
- (ii) What term is given to the period of development of the foetus in the womb?
- (iii) How many days does the foetus take to be fully developed?
- (iv) Mention two functions of the parts labeled '2' other than its endocrine function.
- (v) Name the hormone (any one) produced by the part labeled '2'.
- (vi) What is the function of the part marked '3'?

**Answer:**

- (i) 1. Umbilical cord
- 2. Placenta
- 3. Amniotic fluid
- 4. Cervix
- 5. Uterus wall
- (ii) Gestation period.
- (iii) 280 days.
- (iv) Provides nutrition and exchange of respiratory gases by diffusion.
- (v) Progesterone.
- (vi) Prevents foetus from jerks and shocks. Also prevents foetus from sticking to the uterine wall.

**Question 9:** The adjoining figure represents the female reproductive organ of the humans:

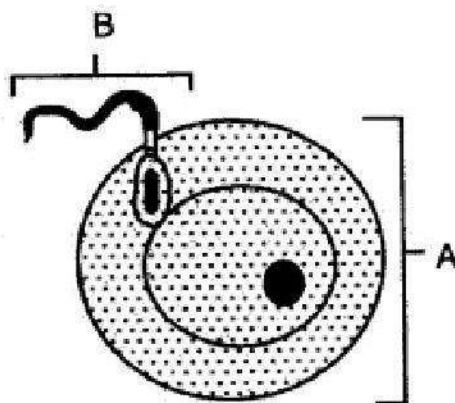


- (i) How does the human embryo developing in the uterus obtain its nourishment ?
- (ii) Which structure protects and nourishes the developing embryo ?
- (iii) Define ovulation.

**Answer:**

- (i) The foetus gets its nourishment from the mother's blood through the placenta.
- (ii) Uterus.
- (iii) The process by which the ova is released from the ovary.

**Question 10:** The diagram below represents two reproductive cells A and B. Study the same and then answer the questions that follow :



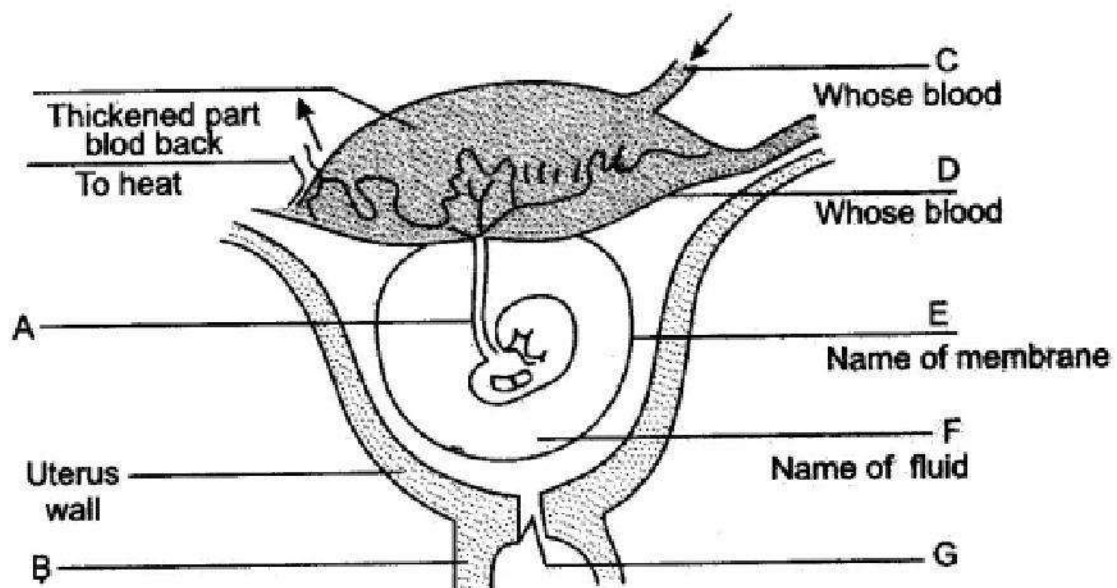
- (i) Identify the reproductive cells A and B.
- (ii) Name the specific part of the reproductive system where the r above cells are produced.
- (iii) Where in the female reproductive system do these cells unite ?
- (iv) Name the main hormones secreted by the (1) ovary, (2) testes.

(v) Name an accessory gland found in the male reproductive – system and state the function of its secretion.

**Answer:**

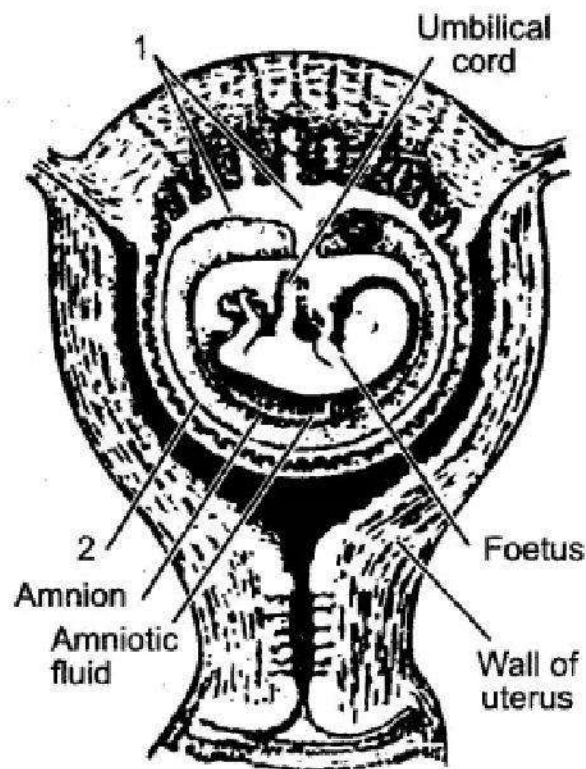
- (i) 1. Ovum 2. Sperm
- (ii) A is produced in ovary  
B is produced in testes.
- (iii) Oviduct
- (iv) 1. Progesterone 2. Testosterone
- (v) Seminal vesicles.

They produce secretion which activates the sperms.



**Question 11:** The diagram given below shows an embryo in the uterus of mammal. Label the parts indicated.





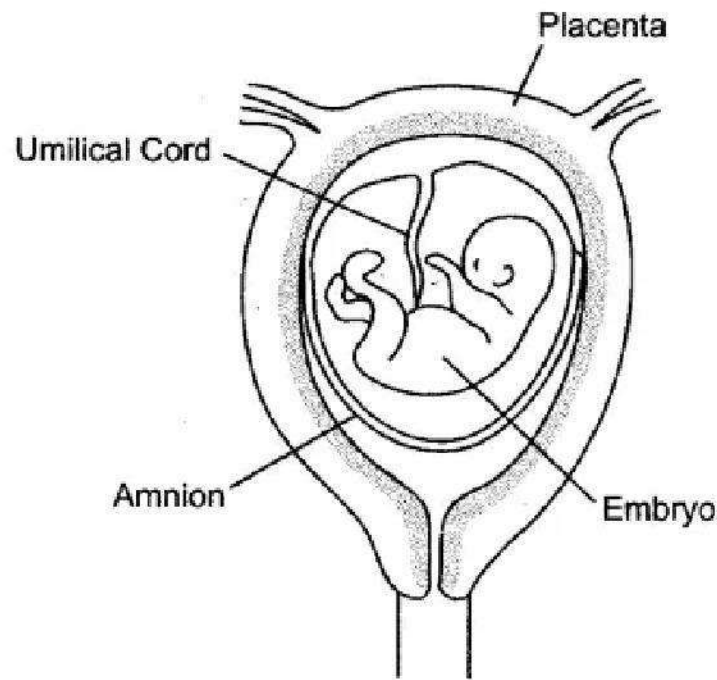
**Answer:** A – Umbilical cord  
 B-Cervix  
 C-Blood of mother flows into placenta  
 D-Blood of foetus flows into placenta E-Amnion  
 F-Amniotic fluid  
 G-Opening of the cervix

**Question 12:** Study the diagram given below and then answer the questions that follow :

- (i) Name the parts labeled 1 and 2. State the function of each part.
- (ii) State any one function of the amniotic fluid.
- (iii) What is the role of the umbilical cord in the development of the foetus?
- (iv) Name the part in the diagram which is endocrine in nature.

**Answer:** (i) 1. Placenta—It helps in nutrition, excretion and respiration of the embryo.  
 2. Cervix—It forms the placenta.  
 (ii) Amniotic fluid present in amniotic cavity, acts as shock absorber and prevents desiccation of embryo.  
 (iii) Umbilical cord makes the connection between placenta and foetus. It supplies the nutrients and  $O_2$  with maternal blood; to foetus and removes  $CO_2$  and excretory wastes from foetus blood into maternal blood. Thus it acts as a transport channel between foetus and mother blood.  
 (iv) Placenta—Secrets HCG (Human Chorionic Gonadotropin) hormone.

**Question 13:** The below diagram is of a developing embryo in a mother's womb:



- (i) Write the functions of placenta, amnion and umbilical cord.
- (ii) How are the waste products of foetus removed?
- (iii) What is gestation period?

### Answer:

#### (i) Functions of Placenta:

1. It supplies oxygen, water, nutrients and hormones from the mother to embryo.
2. It transfers carbon dioxide and other waste materials from the embryo to the mother's blood.
3. It shields the embryo from infections as it is impermeable to most of the micro organisms present in the mother's blood.
4. It produces certain hormones like oestrogen and progesterone which are essential for the reproductive process.

The amnion or amniotic sac is made up of protective membranes that are formed around the embryo. It encloses a fluid-filled space which acts as a water-bath and an excellent shock absorber for the young embryo.

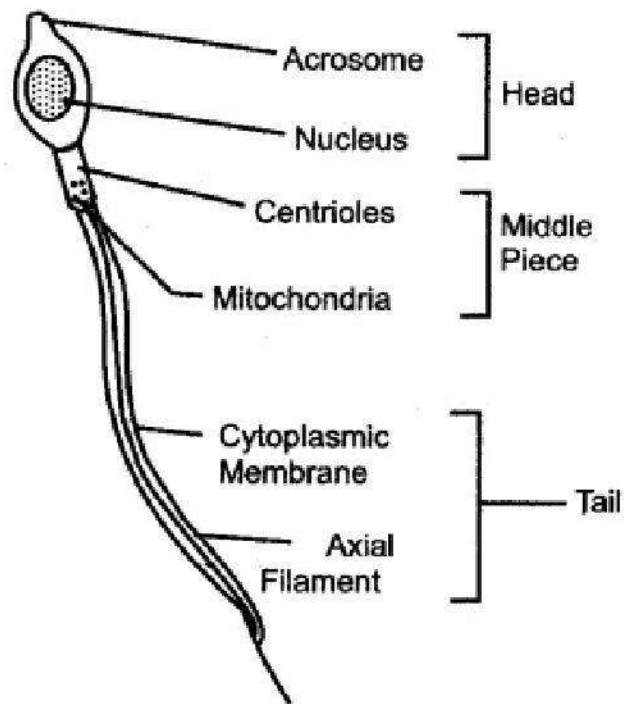
(ii) The embryo that develops in the placenta is maintained at a constant temperature, is well protected and nourished by the umbilical cord. Waste products of the foetus are also removed through it.

(iii) The interval of time between fertilization and birth is called the gestation period. It is about 280 days in human beings.

### Sketch and Label the Diagram

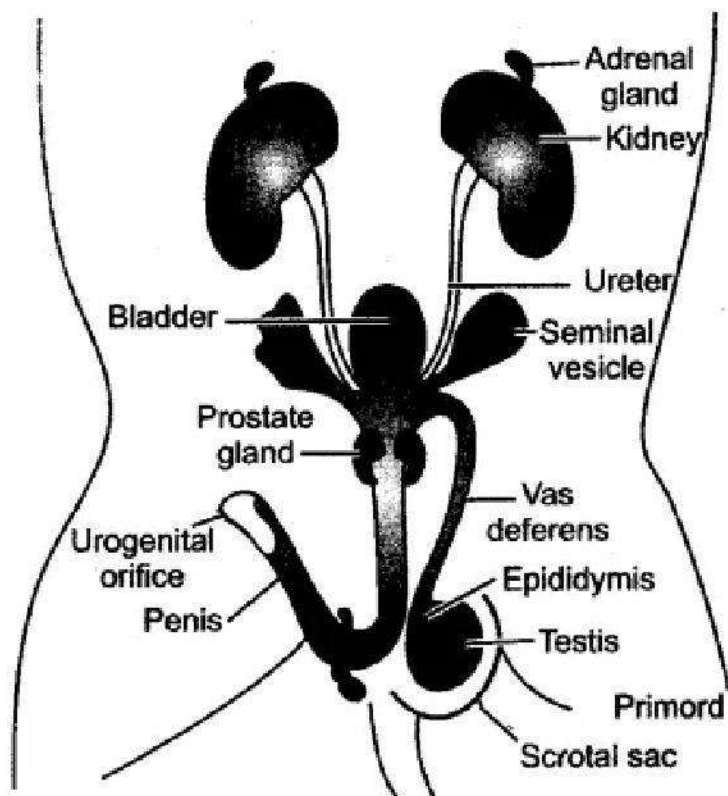
**Question 1:** Draw a labeled diagram of sperm.

### Answer:



**Question 2:** Sketch and label the human male reproductive system.

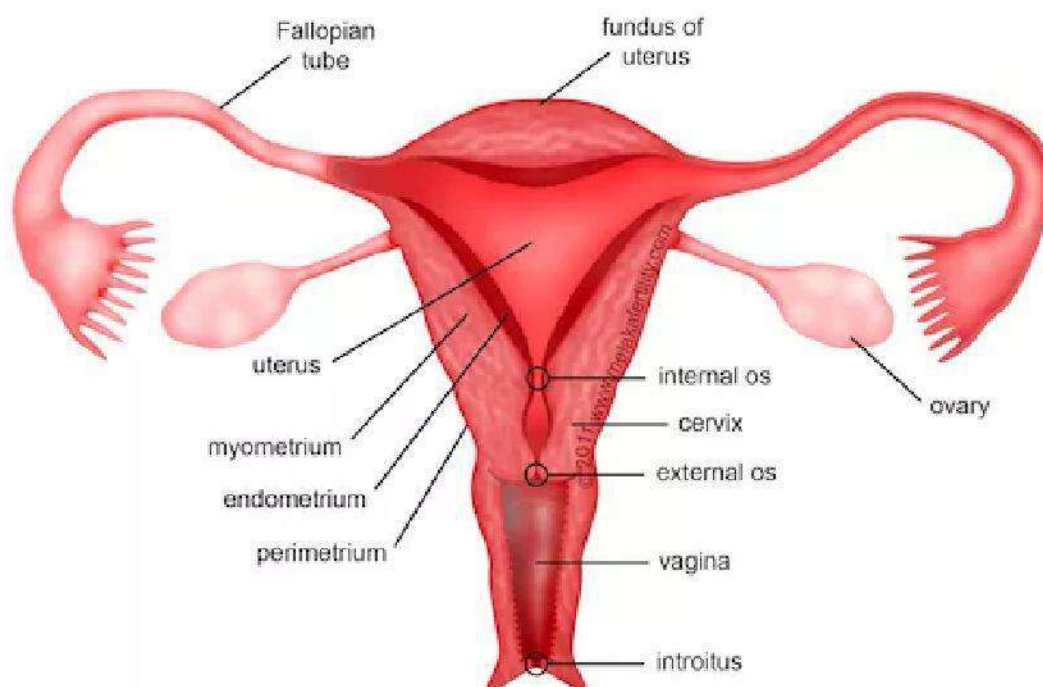
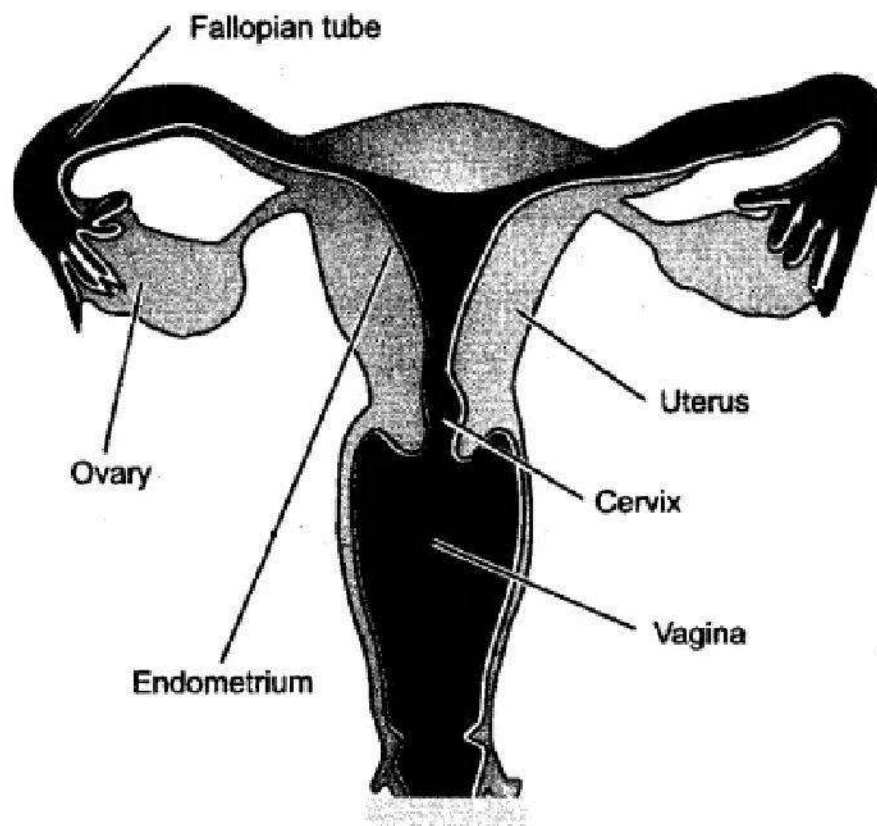
**Answer:**





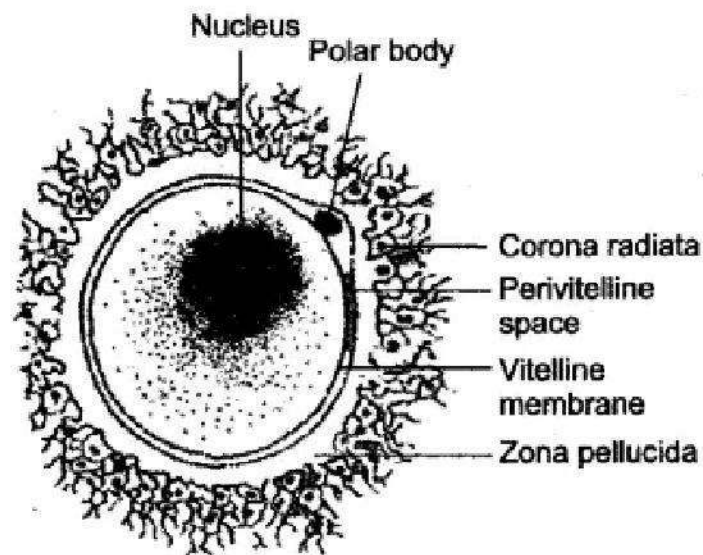
**Question 3:** Draw a labeled diagram of human female reproductive system.

**Answer:**



**Question 4:** Give a labeled structure of ovum.

**Answer:**



**Structure of ovum(unfertilized)**

## Explain the Terms

### Question:

1. Vas deferens
2. Penis
3. Graffian follicle
4. Gametogenesis
5. Androgens
6. Cowper's glands
7. Scrotum
8. Parturition.
9. Foetus
10. Secondary sexual characters
11. Tubectomy
12. Vasectomy

### Answer:

1. **Vas deferens:** The vas deferens is also known as the sperm duct and receives the sperms from the epididymis. The vas deferens opens into the top of the urethra after receiving the secretions from the seminal vesicles, prostate gland and Cowper's gland.
2. **Penis:** The Penis is a muscular and highly vascular copulatory organ composed of erectile tissue which serves to deposit the semen of the male into the vagina of the female during copulation or mating.
3. **Graffian follicle:** The ovum begins to develop in the ovary and as it matures, it migrates towards the surface of the ovary and becomes surrounded by a fluid filled follicle called the Graffian follicle. Every 28 days, on an average, the most highly developed Graffian follicle ruptures to release a single ovum.



4. **Gametogenesis:** Formation of sperms in testes and ova in ovary is called gametogenesis.
5. **Androgens:** These are the male sex hormones that have been produced by the interstitial cells of the testes. The androgens are essential for the maturation of sex organs, development of the sperm and for promoting secondary sexual characters such as beard, mustache, the deepening of the voice etc.
6. **Cowper's gland:** It secretes a fluid which mixes with the sperms, offers chemical protection and supports the swimming motion of the sperms. The mucous secretion of Cowper's glands serves as lubricants and help to contract the acidity of the semen.
7. **Scrotum:** Each of the testes is present in a special sac, called scrotum which is located outside the abdominal cavity. In the scrotum, the testes are maintained at a temperature for less than the body temperature.
8. **Parturition or birth:** It is the expelling of the foetus from the body of the mother and it begins by the contraction of the uterine walls resulting in labour pains.
9. **Foetus:** The fertilized zygote gets implanted in the endometrial lining of the uterus and is called the foetus after undergoing cell division.
10. **Secondary sexual characters:** They develop at the time of puberty due to hormonal activity. In a female, there is development of breasts and change in body shape and size of hips. In a male, there is development of a beard and mustache and deepening of the voice.
11. **Tubectomy:** It is the operative procedure in female in which a small segment of oviduct is removed.
12. **Vasectomy:** It is an operative procedure in male in which a small segment of the vas deferens is removed.

## Name the Following

### Question:

1. The age or period when the reproductive organs become fully operational.
2. The term used when beard and mustache appear, harshening of voice, broadening of shoulders etc. takes place.
3. The basic unit of the testes.
4. Male copulatory organ.
5. The male gamete (male reproductive cells) of mammals.
6. The tubular knot fitting like a cap on the upper surface of the testes.
7. The site of production of sperms in man.
8. The structure in which testes are present in man.
9. The accessory gland in human males whose secretion activates the sperms.
10. Muscular extension of cauda epididymis.
11. The hormone that stimulates development of secondary sexual characters in males.
12. A female gonad responsible for the production of ova.

13. The female copulatory organ in human.
14. The structure formed after release of ovum from Graffian follicle.
15. Term used for mature follicle.
16. A cellular sac containing maturing egg.
17. The onset of menstruation in a young girl at about the age of 13 years.
18. Sloughing of uterine wall during menstrual flow.
19. The term used when females stop menstruation at the age of 45-50 years.
20. A hollow pear shaped muscular organ that holds, nourishes and protects the foetus.
21. The process of attachment of fertilized ovum to uterine wall.
22. How the embryo inside the uterus is protected from jerks or mechanical shocks.
23. The hormone that stimulates contraction of uterus during child-birth.
24. The expulsion of the foetus from the body of the mother.
25. Days in the human gestation period.
26. Surgical operation of fallopian tube in females for family planning.
27. What do these abbreviations stand for ?  
LH, FSH, IUD.

**Answer:**

1. Puberty
2. Puberty
3. Seminiferous tubule
4. Penis
5. Spermatozoa
6. Epididymis
7. Testes
8. Scrotum
9. Prostate gland
10. Vas deferens
11. Testosterone
12. Ovary
13. Vagina
14. Corpus luteum
15. Graffian follicle
16. Follicle
17. Menarch
18. Menstruation or menses
19. Menopause
20. Uterus
21. Implantation
22. By Amniotic fluid
23. Oxytocin
24. Parturition
25. 280 days
26. Tubectomy
27. (i) LH: Lutenizing hormone.  
(ii) FSH: Follicle stimulating hormone.  
(iii) IUD: Intfa-uterine device.