



BIOLOGY

BOOKS - PEARSON IIT JEE

FOUNDATION

REPRODUCTION IN HUMAN BEINGS

Quick Recap

1. What is the role of a Graafian follicle?



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2. What is the significance of huge length of seminiferous tubules?



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3. The process of spermatogenesis in males and oogenesis in females shows striking differences in human reproductive cycle. Comment on this statement.



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4. Differentiate between identical and fraternal twins.



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5. Explain the formation of different organ systems from the germ layers in human embryogenesis.



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Test Your Concepts

1. _____ is the process of formation of a new individual from existing one of its own kind



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2. _____ undergoes cell division and a new offspring is formed.



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3. Reproductive organs in human beings are classified into _____ and _____



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4. _____ are the primary reproductive organs in females.



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5. The organs involved in the process of reproduction are called _____



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6. If the ovum does not get fertilized, the uterus sheds its lining thus, leading to _____



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7. The hormones that are released from _____ of pituitary gland play their role in reproduction in human beings.



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8. The fusion of haploid male and female gametes leads to the formation of _____



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9. _____ takes place on the ampulla of the fallopian tube of the female reproductive system.



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10. The acrosome of the sperm secretes



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11. Penis is the ____ in males.

A. Primary reproductive organs

B. Accessory reproductive organs

C. Accessory glands

D. Primary glands

Answer: B



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12. Testes are located outside the abdominal cavity and suspended in a pouch known as _____ .

A. Sperm duct

B. Vulva

C. Penis

D. Scrotum

Answer: D



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13. The gland that is located between the urinary bladder and penis is _____ .

A. Seminal gland

B. Prostate gland

C. Cowper's gland

D. Vestibular gland

Answer: B



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14. Identify the content that is not present in the semen of men.

A. Citrate

B. Ascorbic acid

C. Acid phosphatase

D. Citric acid

Answer: D



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15. _____ contains the digestive enzymes that help in dissolving the outer coating of the female gamete.

A. Acrosome

B. Tail

C. Middle piece

D. Prostate gland

Answer: A



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16. _____ is a set of tissues with the help of which an organ remains attached with the abdominal wall.

A. Follicles

B. Mesentery

C. Graafian follicle

D. Oestrogen

Answer: B



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17. Which is not the accessory reproductive organ in the females ?

A. Oviduct

B. Uterus

C. Vagina

D. Penis

Answer: D



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18. The rupture of follicle is called _____

A. Reproduction

B. Ovulation

C. Menstruation

D. Fertilization

Answer: B



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19. _____ gland helps in copulation by lubricating vagina and vulva.

- A. Bartholins
- B. Mammary gland
- C. Prostate gland
- D. Bulboutheral gland

Answer: A



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20. Identify the gland that helps in lactation.

A. Bartholins

B. Mammary gland

C. Prostate gland

D. Bulbourethral gland

Answer: B



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21. Which among the following is not a phase in menstrual cycle?

- A. Menstrual phase
- B. Secretory phase
- C. Ovulatory phase
- D. Copulation phase

Answer: D



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22. During _____ the secretion of oestrogen stimulates the uterus for the thickening of the endometrium.

A. Proliferative phase

B. Luteal phase

C. Menstrual phase

D. Ovulatory phase

Answer: A



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23. The release of progesterone by corpus luteum is during _____ in the menstrual cycle.

A. Proliferative phase

B. Luteal phase

C. Menstrual phase

D. Ovulatory phase

Answer: B



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24. _____ is responsible for the growth of Graafian follicle in the female reproductive system.

A. Lytic enzymes

B. Germ layers

C. Follicle stimulating hormone

D. Lutenizing hormone

Answer: C



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25. The physiological changes that occur in the sperm, enable it to fertilize the ovum. These changes in the sperm are known as _____

- A. Ovulation
- B. Copulation
- C. Capacitation
- D. Fertilization

Answer: C



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26. Name the different parts of sperm duct



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Mastering The Concepts Knowledge And Understanding

1. What are the different accessory glands of male reproductive system?



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2. What are different accessory reproductive organs present in females?



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3. Name the different parts of oviduct.



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4. Mention the role of the following organ:

Seminal vesicles



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5. Mention the role of the following organ:

Cowper's gland



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6. Mention the role of the following organ:

Rete testis



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7. What is mesovarium ?



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8. Write a short note on the following

Infundibulum



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9. Write a short note on the following

Ampulla



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10. Write a short note on the following

Isthmus



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11. Name the different layers that make uterus thick and strong?



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12. Which membrane closes the opening of vagina?



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13. What are the different parts of uterus?



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14. Explain the structure of the organ responsible for sperm formation.





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15. Write about the journey of sperms from origin to ejaculatory organ.



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16. Does the temperature of the testes remain same as that of the body temperature? Explain.



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17. The male organ that is responsible for ejaculation also helps in discharge of urination. Explain the reason why discharge of urine does not take place during ejaculation.



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18. Draw the structure of a male sperm.



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19. Explain head part of the male gamete.



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20. Where is the largest cell formed in the human female reproductive system?



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21. Write the function of the accessory reproductive organ of females into which the

largest cell is released.



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22. What is the main function of the accessory female reproductive organ where development of fertilized egg takes place?



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23. Explain about the structure and function of the accessory female organ to which the lower

most part of uterus is connected.



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24. Define menstrual cycle.



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25. What are the changes that take place in the uterus during the menstrual phase?



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26. Name the hormones that are released by the anterior lobe of the pituitary gland.



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27. What are the changes that take place in embryo during gestation period?



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28. What happens during gastrulation?



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29. What is the function of amnion?



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30. What do you mean by implantation?



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31. Name the phase of the menstrual cycle where oestrogen hormone is secreted.



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32. Identify the phase and mention the changes that take place when Graafian follicle gets ruptured during the menstrual cycle.



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33. Name the stage in which Graafian follicle gets converted to corpus luteum in the menstrual cycle.



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34. Mention the changes that take place in the uterus in the above phase.



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35. The hormone that is responsible for secretion of testosterone in males also plays a significant role in females. Identify the hormone and mention its role in females.



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36. In which stage of the gestation period zygote undergoes mitotic division. Explain.



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37. What are the different stages of the gestation period?



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38. What is the main role of the organ during development of foetus, which is formed by villi present in one of the membrane of trophoblast?



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Mastering The Concepts Application And Analysis

1. The secretion of testosterone is maximum at adolescence and early adulthood in a male human being. Give reason.



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2. Vasa efferentia contain ciliated cells. What purpose do they serve?



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3. Sperms undergo maturation in the upper and middle regions of epididymis and get stored in the hind region. What kind of changes of sperms occurs in different regions of epididymis?



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4. The secretion of male accessory glands makes the semen alkaline. What is the

significance of alkaline nature of semen?



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5. What is an ectopy or tubal pregnancy?



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6. How are the diseases salpingitis and infertility related?



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7. Excess secretion of oestrogen leads to different problems in the pelvic region. Explain.



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8. What are uterine fibroids? Why do they cause excess and continuous menstrual bleeding?



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9. What is menorrhagia and what causes it?



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10. Menstrual cramp is a common problem that occurs during the beginning of menstrual period. What could be the reason for this?



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11. Placenta helps in the removal of waste material from the foetus as well as protects the foetus against diseases. Justify the statement.



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12. How does HIV get transmitted from the mother to the child ? Does placenta play any role in the transmission of HIV ? Explain.



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13. What is chorioamnionitis ? How does it occur?



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14. How does vasectomy and tubectomy prevent fertilization?



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15. In human females, yolk sac which is the embryonic layer becomes non-functional in the later part of the gestation period. Give reason.



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Mastering The Concepts Assertions And Reasons

1. Assertion (A): The skin of the scrotum contract or expand with the change in the

ambient temperature.

Reason (R): Maturation of sperms requires a specific temperature.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:





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2. Assertion (A): During ejaculation, contraction of the sphincter muscles at the neck of the urinary bladder takes place.

Reason (R): Excess flow of blood into the penis takes place due to sexual stimulation.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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3. Assertion (A): Semen is alkaline in nature.

Reason (R): Semen contains fructose and prostaglandin hormone.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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4. Assertion (A): Fimbriae help the ovum to enter the infundibulum from ovary.

Reason (R): Fimbriae secrete some fluids that control the movement of ovum.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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5. Assertion (A): The secretion from Bartholin's gland helps in copulation.

Reason (R): Copulation ensures fertilization of the ovum.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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6. Assertion (A): Lactation happens at the adolescent stage of a female.

Reason (R): The secretion of different

hormones during the later stage of pregnancy helps in milk production.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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7. Assertion (A): Artificial insemination is generally carried out in cattle.

Reason (R): Genetic selection can be done through artificial insemination.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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8. Assertion (A): During parturition, the head of the developed foetus gets pushed along the uterus due to the contraction of the uterine wall.

Reason (R): During parturition, cervical expansion takes place.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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9. Assertion (A): The placental barrier prevents the mixing of mother's blood with the fetal blood.

Reason (R): During implantation, placenta is developed from the embryonic membrane called chorion.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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10. Assertion (A): Allantois finally converts to the umbilical cord.

Reason (R): Umbilical cord helps in mixing of body fluids of the mother and the foetus.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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11. Assertion (A): The presence of fructose in female genital tract indicates pregnancy.

Reason (R): Fructose is the major constituent of semen.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true, but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer:



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Assessment Tests

1. _____ and _____ cells are present in seminiferous tubules.



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2. _____ are interstitial cells that are present between seminiferous tubules.



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3. _____ stimulates contraction of the female reproductive tract and helps in the fusion of male and female gametes.



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4. _____ transports matured sperm from epididymis to the ejaculatory duct.



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5. _____ part of the male gamete helps in swimming inside the uterus



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6. _____ is the period during which an embryo develops into a newborn until its birth.



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7. The layers that contribute to the development of different organs in the embryo are known as _____



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8. The villi develops an organ that connects the embryo to the uterine wall which is known as _____ -



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9. An _____ is the sac-like structure with the fluid that surrounds the embryo.



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10. The total period for the development of newborn baby until its delivery is called _____ or _____



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11. What are the ingrowths in tunica albuginea known as?

A. Germ cell

B. Septa

C. Sertoli cells

D. Leydig cell

Answer: b



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12. Identify the cells that provide nutrition to the germ cells.

A. Sertoli cells

B. Leydig cells

C. Serniniferous

D. Septa

Answer: A



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13. Which part of the sperm duct is used for storing the sperms temporarily?

A. Rete testis

B. Vasa efferentia

C. Epididymis

D. Vasa deferentia

Answer: C



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14. Which part of the sperm duct helps in transportation of sperms to epididymis?

A. Rete testis

B. Vasa efferentia

C. Ejaculatory duct

D. Vasa deferentia

Answer: B



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15. Name the hormone that is secreted by granulosa cells.

A. Progesterone

B. Oestrogen

C. FSH

D. LH

Answer: B



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16. The gestation stage in which the zygote undergoes mitotic division and increases the number of cells by geometric progression is called _____ .

A. Cleavage

B. Blastulation

C. Gastrulation

D. Organogenesis

Answer: A



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17. The stage of gestation where the formation of different organs takes place in the embryo is called _____

A. Gastrulation

B. Organogenesis

C. Cleavage

D. Blastulation

Answer:



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18. The layer of the cell that forms the outer layer of the blastocyst is called _____

A. Amnion

B. Allantois

C. Placenta

D. Trophoblast

Answer: D



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19. The process of giving birth to the completely developed foetus is called _____

A. Ovulation

B. Parturition

C. Implantation

D. Cleavage

Answer: B



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20. _____ is a vestigial organ that acts as the site for the formation of blood cells in the developing embryo.

A. Chorion

B. Amnion

C. Allantois

D. Yolk sac

Answer: D



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21. Correct the following statement.

If the sperm and ovum are fertilized in the

uterus, then the baby born as a result is known as test tube baby.



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22. Correct the following statement.

The involvement of two organisms of same species to produce a new offspring is known as asexual reproduction.



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23. Correct the following statement.

The rupture of Graafian follicles to produce ovum is called capacitation.



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24. Correct the following statement.

Luteinizing hormone is responsible for the growth of Graafian follicle in the female reproductive system.



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25. Correct the following statement.

Tubectomy is a surgical procedure that prevents the entry of sperms into the uterus.



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26. Write the missing correlated terms.

Testes : Male :: ___ _ : Female.



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27. Write the missing correlated terms.

_____ : Prostate gland : : Accessory
reproductive organ : Penis.



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28. Write the missing correlated terms.

Primary reproductive organ ____ :: Accessory
gland : Mammary gland.



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29. Write the missing correlated terms.

Ampulla: _ ___ :: Uterus: Cervix .



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30. What is the function of the accessory female reproductive glands?



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31. Write about the function of vulva and identify its different parts.



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32. Define fertilization.



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33. What are the different phases of menstrual cycle?



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34. Name the layer that consists of four membranes and forms an outer covering over blastocyst



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35. Explain the method that is adopted by a woman to give birth to a child when she cannot conceive in a normal course.





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