



BIOLOGY

BOOKS - PRADEEP BIOLOGY (HINGLISH)

HUMAN REPRODUCTION

Curiosity Questions

1. How does the zygote differ from other cells of the body ?



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2. how does the embryonic development point to the common ancestry of all animals ?

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3. How are the spermatozoa moved through the epididymis ?

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4. How does penis become erect and stiff ?

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5. why is the body's largest and most powerful sphincter muscle located in the cervix?

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6. what is the significance of unequal cytokinesis during oogenesis ?

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7. what causes compaction during early cleavage ?

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8. How does the blastocyst ensure its own survival in the uterus ?

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9. why are the foetal membranes formed prior to the embryo ?

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Ncert Exercises With Answers Fill In The Blanks

1. Humans reproduce _____. (asexually/sexually)

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2. Humans are _____.

(oviparous/viviparous/ovoviviparous)

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3. Fertilization is _____ in humans. (external/internal)

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4. Male and female gametes are _____. (diploid/haploid)

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5. Zygote is _____. (diploid/haploid)



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6. The process of release of the ovum from a mature follicle is called _____.



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7. Ovulation is induced by a hormone called the _____.



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8. The fusion of the male and the female gametes is called _____.

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9. Fertilization takes place in the _____.

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10. Zygote divides to form _____ which is implanted in uterus.

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11. The zygote divides to form _____, which is implanted in _____

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Ncert Exercises With Answers

1. Draw a labeled diagram of male reproductive system.

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2. Draw a labeled diagram of female reproductive system.

Answer

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3. Write two major functions each of testis and ovary.

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4. Describe the structure of a seminiferous tubule.

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5. What is spermatogenesis? Briefly describe the process of spermatogenesis.

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6. Name the hormones involved in regulation of spermatogenesis.

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7. Define spermiogenesis and spermiation.

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8. Draw a labeled diagram of sperm.

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9. What are the major components of seminal plasma?



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10. What are the major functions of male accessory ducts and glands?



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11. What is oogenesis? Give a brief account of oogenesis.



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12. Draw a labeled diagram of a section through ovary.



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13. Draw a labeled diagram of a Graafian Follicle?



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14. Name the functions of the following.

(a) Corpus luteum

(b) Endometrium (c) Acrosome

(d) Sperm tail

(e) Fimbriae



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15. Androgens are produced by Sertoli cells. (True/False)



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16. Spermatozoa get nutrition from Sertoli cells. (True/False)



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17. Leydig cells are found in ovary. (True/False)



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18. Leydig cells synthesise androgens. (True/False)



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19. Oogenesis takes place in corpus luteum. (True/False)



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20. Menstrual cycle ceases during pregnancy. (True/False)

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21. The presence or absence of hymen is not a reliable indicator of virginity or sexual experience. (True/false)

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22. What is menstrual cycle ? Name the hormones that regulate menstrual cycle ?

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23. What is parturition? Which hormones are involved in induction of parturition?

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24. In our society the women are often blamed for giving birth to daughters. Can you explain why this is not correct?

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25. 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 ?

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26. How many eggs do you think were released by the ovary of a female dog which gave birth to 6 puppies?

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Additional Questions Very Short Answer Questions

1. what are the fundamental methods of reproduction ?

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2. Define zygote .

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3. what is seman ?



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4. where do you find corpora cavernosa ?



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5. what is mesovarium ?



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6. what are the male and female gametes called ?



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7. Give the functions of scrotum .



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8. The head of the sperm consists of:



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9. name the part of the female genital tract where foetus develops .



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10. name the membrane that cover the vaginal opening in the virgin .

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11. by which structures are the testes suspended in the scrotum ?

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12. where are the sperms stored in the male ?

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13. How many sperms are present in a single ejaculation ?

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14. when does a woman attain puberty ?

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15. give the term used for the age at which the reproductive organs becomes functional.

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16. what is the special structural feature of the epithelial cells that line the fallopian tube ?

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17. The morphogenetic movements occur during

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18. Name some extramembranous membranes .

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19. What is a teratogen ?



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20. give the term used for the period between fertilization and birth of young one.



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21. which event marks the animal pole of the human ovum ?



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22. what type of twins would result if the two blastomeres formed by first cleavage separate ?



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23. How are fraternal twins formed ?



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24. which are more common , identical or nonidentical twins ?



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25. From which germ layer are nervous system and receptors formed.



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26. which germ layers produce (a) kidneys and (b) urinary bladder ?

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27. which germ layer gives rise to liver , pancreas , thyroid and thymus ?

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28. Name the given layer that produces Skeleton and muscles .

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29. which foetal membrane takes part in the formation of placenta in man ?

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30. Are maternal and fetal blood in direct contact in the placenta ?

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31. At what stage is the mammalian embryo implanted in the uterus ?

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32. what is " Afterbirth ."



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33. What is the other name of trophoblast cells lying over the embryonic disc ?



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34. How does colostrum provide protection against diseases to new born babies ?



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35. Name the embryonic stage that gets implanted in the uterine wall of a human female.

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36. what is colostrum ?

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37. when does a woman attain puberty ?

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38. In human beings the egg are



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39. Menstrual cycle ceases during pregnancy. (True/False)



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40. State the fate of a pair of autosomes during gamete formation.



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Additional Questions Short Answer Questions

1. what is conjugation ?

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2. What is meant by sexual dimorphism?

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3. what is rete testis ?

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4. Cumulus oophorus represents

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5. what is follicular atresia ?

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6. what is capacitation ?

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7. what is cortical reaction ?

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8. How is polyspermy prevented?

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9. name two organisms which lack sexual reproduction and are immortal . What is an asexual reproductive unit called?

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10. give the adaptations of male and female gametes

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11. What is the advantage of hermaphroditism?

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12. How the spermatozoa are moved through the efferentia and the epididymes ?

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13. Name the tunicae that enclose the testis . Which of these is incomplete ?

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14. Give the names and locations of urethral of urethral sphincters .

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15. what are inguinal canals ?

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16. what is puberty ? When is it attained ?

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17. Give two functions of testes .

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18. What are Leydig's cells ?

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19. What structure forms the corpus luteum and at what stage ? Name two hormones secreted by it .



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20. name the hormone responsible for the descent of testes into the scrotum , why does the failure of the process result in sterility ?



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21. How does the zygote differ from other cells of the body ?



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22. what is a foetus ?



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23. Distinguish between a blastos and a gamete .



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24. List the various types of cleavage seen in animals .



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25. what is the role of oxytocin in copulation ?



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26. which organ is formed from two different individuals in mammals .

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27. what is the significance of fertilization ?

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28. The type of placenta fund in human beings is of type :

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29. Define amniocentesis.

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30. Where are fimbriae present in human female reproductive system? Give their functions.

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31. Name the muscular and glandular layers of human uterus. Which one of these layers undergoes cyclic changes during menstrual cycle? Name hormone essential to maintain this cycle.

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32. Where are the Leydig cells present ? What is their role in reproduction ?

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33. Placenta acts as an endocrine tissue. Justify.

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34. Differentiate between menarche and menopause.

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35. Fill in the blanks with suitable words :

(a) Animals with self -fertilising ability are termed as.....

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36. Fill in the blanks with suitable words :

Development of unfertilized ovum into a new individual is called

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37. Fill in the blanks with suitable words :

(C) the mature follicles are termed as

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38. Match the items given in column I with Appropriate items (one or more) of column II.

Column I

- (i) Acrosome
- (ii) Leydig's cells
- (iii) Clone
- (iv) Isogamy
- (v) Male urethra

Column II

- (a) Testes
- (b) Monocystis
- (c) Passage of urine
- (d) Genetically identical offspring
- (e) Testosterone
- (f) Passage of sperms
- (g) Spermatozoon



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39. Give example of animals possessing following tuypes of placenta :

(i) Heamoendothelial placentra (ii) Heamochorial placenta

(iii) Eqitheliochorial placenta

(iv) Syndesmochorial placenta (v) Endotheliochorial placenta.

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40. Name the types of blastula present in following animals:

(i) Amphioxus (ii) Reptiles birds and prototherian mammals

(iii) Insects (iv) Annelids ,Molluscs

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41. match the items given in column I with appropriate

items (one or more) of column II.

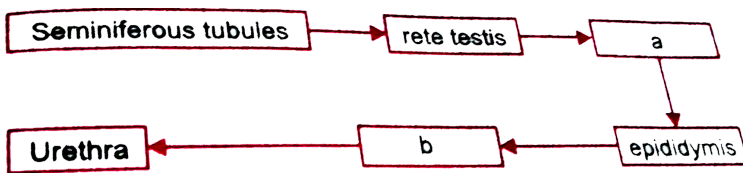
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42. Given below are events in human reproduction. Write them in correct sequential order.

Insemination, gemetogenesis, fertilisation, parturition, gestation, implanation.

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43. the path of sperm transport is given below.provide the missing steps in blanks boxes.



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44. What is the role of cervix in the human female reproductive system?

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45. Why are menstrual cycles absent during pregnancy?

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46. From where the parturition signals arises-mother or foetus? Mention the main hormone involved in parturition.

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47. What is the significance of epididymis in male fertility?

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48. female reproductive organs and associated functions are given below in columns A and B . Fill in the blank Boxes .

Column A

Ovaries

Oviduct

b

Vagina

Column B

Ovulation

a

Pregnancy

Birth

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49. During reproduction the chromosome number ($2n$) reduces to half (n) in the gametes and again the original

number ($2n$) is restored in the offspring. What are the processes through which these events take place?

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50. write two differences between endometrium and myometrium .

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51. where do you find corpora cavernosa ?

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52. What is parturition? Which hormones are involved in induction of parturition?

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53. When and where do chorionic villi appear in humans ?
State their function.

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54. How does the inguinal hernia develop?

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55. Name the accessory genital glands in male .

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56. How is corpus luteum formed ? What is its function ?

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57. Name the accessory structures of female reproductive system .

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58. What is spermatogenesis ? Write down its steps .



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59. How do Leydig cells help in spermatogenesis ?



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60. Name some chemicals that are released by the acrosome during fertilization.



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61. What is reproduction ? Name the common modes of reproduction in animals.



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62. What is gametogenesis ? Name its two types and give differences between them .

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63. Describe the glands associated with the male reproductive system .

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64. Write down the functions of testes or ovaries .

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65. Give the differences between male and female urethra .

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66. Give an account of male menopause .

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67. Write a note on puberty or artificial insemination .

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68. List the accessory sex characters of man or woman .

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69. How do oestrous and menstrual cycles differ? Describe the menstrual cycle .

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70. In man , testes lie outside the abdomen .Give reason .

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71. In Which organ are Leydig cells and Sertoli cells located ?
Differentia between these cells with reference to their location in the organ and their funcrtion .

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72. Test tube baby is a boon to a woman who cannot conceive normally .Explain the procedure involved .

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73. What is placenta ?Give its functions ?

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74. How does parturition take place ?

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75. What is colostrum ?How if milk production hormonally regulated ?

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76. What does the term "Development " Means ? Name its 2 types .How do these differ?

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77. What is cleavage ? Where does it occur in the human female ?what does ti lead to ?

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78. Enlist the major phases of embryonic development .

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79. Distinguish between :(a) Spermatogenesis and spermiogenesis .(b) Corona Radiata and zona pellucida.

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80. A fertilized egg is blue print of future development.

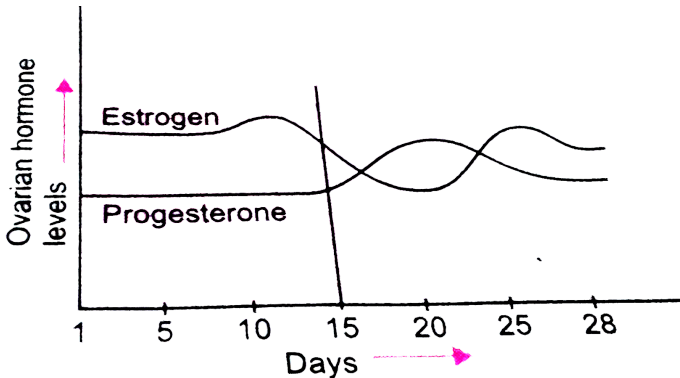
Explain

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81. Why is the human placenta referred to as haemochorial type? Name the hormone it secretes to facilitate parurition .

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82. Read the graph given here and correlate the uterine events that take place according to the hormonal levels on



(a) (i) 6-15 days (ii) 16-25 days (iii) 26-28 days (if the ovum is not fertilised)

(b) Specify the sources of the hormones mentioned in the graph.

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83. Draw a labelled diagram of the microscopic structure of a human sperm.

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84. Study the figure given below and answer the questions that follow:

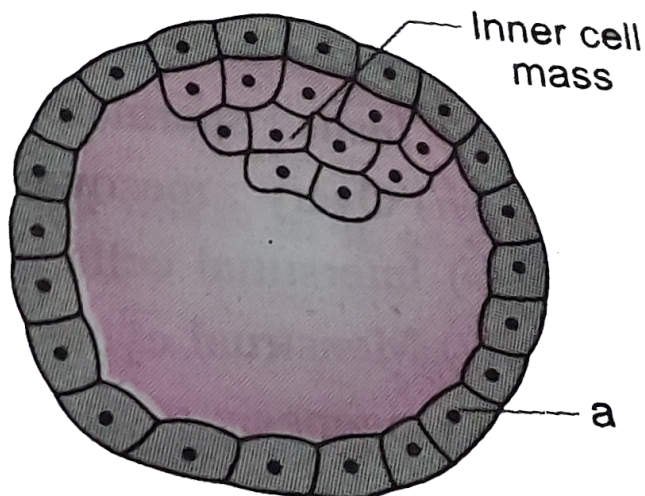
(a) Name the stage of human embryo the figure represents

(b) Identify 'a' in the figure and mention its function

(c) Mention the fate of the inner cell mass after

implantation in the uterus .

(d) Where are the stem cells located in this embryo ?



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85. Mention the target cells of lutenising hormone in human males and female .explain the effect of the changes which the hormone induces in each case .

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86. Draw a labelled sectional view of seminiferous tubule of a human male.

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87. Study the given figure carefully and answer the following questions :

(i) Label the Parts marked as (a),(b) ,(C) ,(d) and €

(ii) give one major function of each part

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88. Fill in the blanks :

Primary sex organs are called And secondary sex

secondary sex organs include. And reproductive glands .

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89. Fill in the blanks :

seminiferous tubules produce While interstitial (Leydig 's) cells produce

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90. Fill in the blanks :

Vas efferentia carry spermatozoa from To

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91. Fill in the blanks :

Vasa efferentia carry spermatozoa from To

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92. Fill in the blanks :

In females , urethra is small and conducts While in males it conducts urine and . . .

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93. Fill in the blanks :

Penis is an external intromittent organ which contains 3 columns of spongy tissue : two columns of On the front side and one column of Around the urethra .



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94. Fill in the blanks :

the process of formation of spermatozoa from spermatogonia is called And the process of maturation of spermatides into spermatozoa is called

.



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95. Note the relationship between first two words and suggest suitable word/ words for the fourth place :

(i) Testis : spermatogenesis :: ovary :

(ii) Male : penis :: female :

(iii) Ovary : mesovarium :: uterus :

(iv) Man : vasectomy :: women :

(v) Intersitial cells : Testosterone :: Graafian follicle cells :

. . .

(vi) Menstrual cycle : human female :: oestrous cycle :



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96. mark the wrong items in each series -

(i) scrotum rete testis , fallopian tube , vas deferens .

(ii) Ovary , uterus , vagina , ejaculatory duct.

(iii) acrosome , Graafian follicle , corpus luteum , cervix .

(iv) Fission , budding , fragmentation , gametogenesis .

(v) Prostate tesis , seminal vesicles cowper's gland .



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97. Mark the wrong item in each series -

(a) Spermatoocyte , polar body , spermatid , spermatogonium

.

(b) Endometrium , corpus luteum , antral or graafian follicle .

(c) Vas deferens , Fallopian tube , epididymis , Cowper's gland.

(d) Testes , Prostate , seminal vesicles , Cowper's glands .

(e) Fallopian tubes , vagina , uterus , ovaries .



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98. Fill in the blanks :

the development stage of an animal passed in the egg or mother's womb is termed And the process of its formation from a zygote is known as



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99. Fill in the blanks :

..... Present in the acrosome hydrolyses hyaluronic acid of the follicular cells and Enzyme dissolves corona radiata portion around the secondary oocyte by hydrolysing their ground substances .



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100. Fill in the blanks :

A glycoprotein Is secreted by ovum .Penetrating sperm also has on its surface a protein substance Their interaction is species specific .



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101. Fill in the blanks :

The outer layer of blastule is called It does not take part in the formation of embryo proper .It gives rise the Membranes .



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102. Fill in the blanks :

..... Is the the first germ layer formed from the embryonal knob by differentiation . The tube so formed inside the trophblast of the blastodermiv vesicle is called



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103. Fill in the blanks :

Identical twins develop from While fraternal twins develop from

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104. Except endocrine function, what are the other functions of placenta.

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105. Give a schematic labelled diagram to represent oogenesis (without descriptions).

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106. (a) How many spermatozoa are formed from one secondary spermatocyte?

(b) Where does the first cleavage division of zygote take place?

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107. Draw a labelled diagram of the reproductive system in a human female.

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108. How does the inguinal hernia develop?

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109. Where are the Leydig cells present ? What is their role in reproduction ?

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110. Draw a diagram of the microscopic structure of human sperm. Label the following parts in it and write their functions.

(a) Acrosome

(b) Nucleus

(c) Middle piece

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111. Draw the following diagrams related to human reproduction and label them.

(a) The zygote after the first cleavage division

(b) Morula stage

(c) Blastocyst stage (sectional view)

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112. Explain the steps in the formation of an ovum from an oogonium in humans.

or

Suggest and explain any three Assisted Reproductive Technologies (ART) to an infertile couple.

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113. Name and explain the role of inner and middle walls of the human uterus.

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114. Draw a labelled diagram of the sectional view of a human seminiferous tube (Six parts to be labelled

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115. Describe the process of Parturition in humans

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116. Name the stage of human embryo at which it gets implanted .Explain the process of implanatation .

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117. Drew a labelled diagram of the sectional view of a human seminiferous tube (Six parts to be labelled

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118. Drew a diargam of a mature human sperm .Label any three parts and write their functions .

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119. Medically It is advised to all young mothers that breast feeding is the best for their newborn babies ,DO you agree ?

Give reasons in suport of your answer :

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Additional Questions Long Answer Questions

1. Briefly describe the process of oogenesis .

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2. what is menstrual cycle ? Write down the horimonal control over the menstrual cycle .

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3. MALE REPRODUCTIVE SYSTEM

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4. Describe the ultrastructure of human sperm with the help of a well- labelled figure .

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5. FEMALE REPRODUCTIVE SYSTEM

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6. Give an account of spermatogenesis in human male .

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7. Give a diagram of T.S of a part of a seminiferous tubule of testis of an adult human male .Label its parts .

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8. Write briefly the changes in the following organs in the different phases of the menstrual cycle - (a) Ovaries , (B) Uterus ,(C) Fallopian tubes .

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9. Describe the duct system which conducts spermatozoa from the testes to the exterior of the body.

Name the hormone controlling the growth of this duct system .

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10. Mention the functions of the following -(a) Epididymis (B) fallopian tubes (C) vagina (d) Uterus (E) corpus luteum (F) seminiferous tubules (g) scrotum (h) Graafian follicle .

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11. Where does oogenesis take place ? Describe the stages of the process.

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12. (a) Through schematic diagrams , illustrate the stages of spermatogenesis .

(B) what is the descent of testes from the abdomen into the scrotum significant in the human male ?

(c) List any two events taking place in an ovum just when sperm gains entry into it .

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13. Describe the hormonal control of reproductive system in human male.

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14. OOGENESIS

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15. where does oogenesis occur in human ? Describe the stage of the process.

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16. What is menstruation ? What are the specific actions of FSH,LH, estrogens and progesterone in the menstrual cycle ?

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17. Where does spermatogenesis take place ? Describe the stages of the process.

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18. (a) Draw a labelled diagram of sectional view of human ovary showing different stages of oogenesis.

(b) Where is morula formed in humans? Explain the process of its development from the zygote.

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19. Give an account of the formation of blastocyst in human species .

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20. What is blastocoel in mamalian development ? What does it signify from the point of view of phylogeny ?

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21. What are foetal membranes ? Give their names . Mention the function of each .

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22. Define cleavage . Write down its characteristics .

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23. Draw a mammalian sperm and label its four major parts .

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24. Compare the structure of mature mammalian sperm and ovum .

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25. Fertilization is a physicochemical process . Explain .

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26. What are the significant differences in the mitotic divisions in the process of morula formation and somatic cell formation ?

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27. Describe the formation of blastodermic vesicle in a mammalian embryo .

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28. Distinuish between :

(a) Morula and blastula .(b) blastulation and gastrulation .(c) trophoctoderm and ectoderm .

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29. Describe the formation of three germ layers in a mammalian embryo .

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30. what are the main structures and organs which differentiate from the ectoderm and entodem and endoderm of an embryo ?

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31. Describe the process of fertillzation .

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32. Draw a labelled diagram of a sectional view of humen seminiferous tubule.

(b) Differentiate between gametogenesis in humen males and females on the basis of

(i) time of initiation of the process.

(ii) Products formed at the end of the process.

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33. Give a schematic representation of oogenesis in humans .

Mention the number of chromosomes at each stage

.Correlate the life phases of the individual with the stage of the process .

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34. (a) Give a schematic representation of spermatogenesis in humans .

(b) At which stage of life does gametogenesis begin in

human male and female respectively ?

(c)Name the organs where gametogenesis gets completed in male and female respectively.

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35. Study the following flow . Chart , Name the hormones involved at each stage . Explain their functions.

Hypothalamus



Pituitary



Testes



sperms

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36. Draw a diagrammatic sectional view of human ovary showing different stage of oogenesis along with corpus luteum .

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37. where is morula in humans ? Explain the process of its development from zygote .

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38. Draw a schematic diagram of a human sperm and label the cellular components. Give the functions of any three parts.

Where are the sperm heads found embedded to survive after spermatogenesis?

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39. Study the flow chart heads found embedded to hormones at each stage and explain their functions

Hypothalamus



Pituitary



Ovary



pregnancy

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40. (a) When and how does placenta develop in human female?

(b) How is the placenta connected to the embryo?

(c) Placenta acts as an endocrine gland. Explain.

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41. When and where are primary oocytes formed in a human female ? Trace the development of these oocytes till ovulation (in menstrual cycle). How do gonadotropins influence this developmental process ?

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42. (a) Explain the events taking place at the time of fertilization of an ovum in a human female .(b) trace the development of the zygote upto its implantation in the uterus .(C) Name and draw a labelled sectional view of the embryonic stage that gets implanted .

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43. (a) Give a schematic representation showing the events of spermatogenesis in human male.
(b) Describe the structure of a human sperm.

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44. (a) Draw a diagrammatic labelled sectional view of seminiferous tubule of a human.

(b) Describe in sequence the process of spermatogenesis in human

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45. Describe the post-zygotic events leading to implantation and placenta formation in humans. Mention any two functions of placenta.

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46. What role does pituitary gonadotrophins play during follicular and ovulatory phases of menstrual cycle ? Explain the shifts in steroidal secretions .

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47. Meiotic division during oogenesis is different from that in spermatogenesis. Explain how and why?

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48. Describe the chemical and physical events of fertilization .

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49. What is gametogenesis ? Describe the process of spermatogenesis .



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50. Describe the functions of humans placenta .



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51. (a) Draw a diagrammatic sectional view of the female reproductive system of human and label the parts

(i) where the secondary oocytes develop

(ii) which helps in collection of ovum after ovulation

(iii) where fertilization occurs

(iv) where implantation of embryo occurs.

(b) Explain the role of pituitary and the ovarian hormones in menstrual cycle in human females.

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52. (a) Draw a diagram of the structure of a human ovum surrounded by corona radiata. Label the following parts :

(i) Ovum, (ii) Plasma Membrane, (iii) Zona Pellucida

(b) State the function of Zona Pellucida.

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53. (a) Describe the events of spermatogenesis with the help of a schematic representation.

(b) Write two differences between spermatogenesis and oogenesis.

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54. (a) Describe the events of Oogenesis with the help of schematic representation. (b) Write two differences between Oogenesis and Spermatogenesis.

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55. Draw a diagrammatic sectional view of a human seminiferous tubule, and label sertoli cells, primary spermatocyte, sperm-atogonium and spermatozoa init.

b) Explain the hormonal regulation of the process of spermatogenesis in humans.

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56. Explain the ovarian and uterine events that occur during a menstrual cycle in a human female, under the influence of Pituitary and Ovarian hormones respectively.

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57. a) Draw a labelled diagrammatic view of human male reproductive system.

b) Differentiate between:

i) Vas deferens and vasa efferentia

ii) Spermatogenesis and spermeogenesis

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58. During the reproductive cycle of human female , when where and how does a placenta develop ?

what is the function of placenta during pregnancy and embryo development ?

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59. Describe the changes that occurs in ovaries and uterus in human female during the reproductive cycle .

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60. Explain the development of a secondary oocyte (ovum) in a human female from the embryonic stage upto its ovulation. Name the hormones involved in this process.

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61. Describe the role of pituitary and ovarian hormones during the menstrual cycle in a human female .

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62. (a) Explain the menstrual phase in a human female. State the levels of ovarian and pituitary hormones during this phase.

(b) Why is follicular phase in the menstrual cycle also referred as proliferative phase ? Explain.

(c) Explain the events that occur in a graafian follicle at the time of ovulation and thereafter. Itbvrgrt (d) Draw a graafian follicle and label antrum and secondary oocyte.

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63. a) Arrange the following hormones in sequences of their secretion in a pregnant woman.

b) Mention their source and the function they perform:

hcG, LH, FSH, Relaxin.

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64. a) Name the hormones secreted and write their functions:

i) by corpus luteum and placenta (any two).

ii) During Follicular phase and parturition.

b) Name the stages in a human female where:

i) Corpus luteum and placenta co-exist.

ii) Corpus luteum temporarily ceases to exist.

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65. (a) Where in the fallopian tube does fertilization occur in humans ? Describe the development of a fertilized ovum upto implantation .

(b) How is polyspermy prevented in humans ?

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66. (a) Explain the following phases in the menstrual cycle of a human female :

(i) Menstrual phase (ii) Follicular phase (iii) Luteal phase .

(b) A proper understanding of menstrual can help immensely in family planning . Do you agree with the statement ? provide reasons for answer.

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67. (a) Explain menstrual cycle in human females .

(b) How can the scientific understanding of the menstrual cycle of human females help as a contraceptive measure ?

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68. (a) Draw a diagram of the adult human female reproductive system and label the different :

(i) parts of fallopian tube It,brgt (ii) layers of uterus wall

(b) Explain the events during fertilization of an ovum in humans.

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69. Differentiate between spermatogenesis and oogenesis.

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70. Parturition is induced by a complex neuroendocrine mechanism. (True/false)



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Analytical Questions With Answers

1. what is dartos tunic and what is its role ?



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2. What forensic test is performed to verify rape cases ?



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3. Besides producing blastomeres , cleavages has an additional role , state this rope .

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4. Why is the process of fertilization mostly species specific?
? Comment .

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5. Capacitation of sperms is necessary before fertilization.
Justify . Secretions of which glands activate the sperms?

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6. What are sperm lysins? List three main sperm lysins and also their role .





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7. What is scrotum ? Why is it termed thermoregulator ?



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8. (a) In which part of the human female reproductive system do the following events take place ?

I-Release of 1st polar body

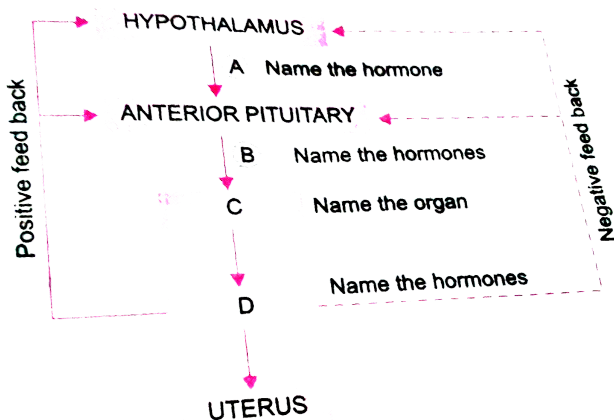
II-Release of 2nd polar body

III-Fertilisation

IV-Implantation

(b) From where do signals for parturition originate and what does maternal pituitary release for stimulating uterine contractions for child birth ?

9. Given below is an incomplete flow chart showing influence of hormones on gametogenesis in human females, study it carefully and fill in the blanks A,B,C and D .



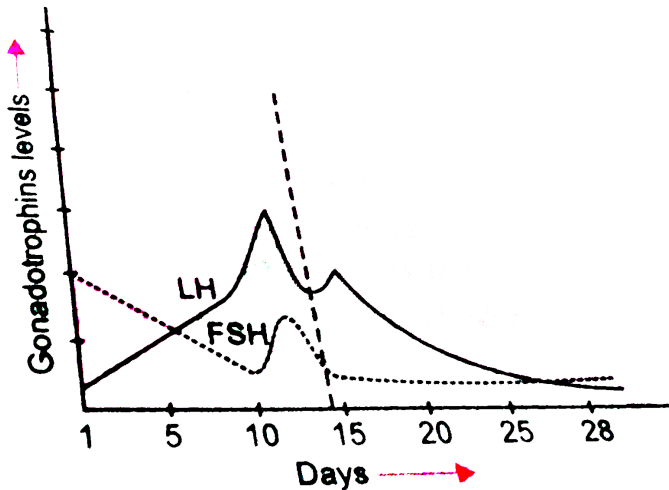
10. (a) Study the graph carefully and correlate the follicular growth that take place according to hormonal levels on

(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 in the graph.



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11. Give reasons for the following statements :

(a) Parturition is also termed labour .

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

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12. (a) what is the right age of marriage of girls in india ?

(b) what are the risks involved in early marriage ?

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13. (a) Why is breast feeding important to infants ?

(b) What health problem can mother face in case she does not breast feed the baby ?

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14. where would you expect to find sertoli Cells ? Name their two important secretions .what would happen if cells if sertoli cells become nonfunctional ?

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15. How is poly embryony checked during fertillization in humans ?

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16. Now a days, educated women use kits such as 'Preganews ' to test pregnancy , what is the basis of such a pregnancy test ?

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17. What is 'Colostrum '? Name its important constituents .what happens to those infants who are not breast fed after birth ?



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18. What terms do we use for monozygotic and dizygotic twins ? To which sex do these twins belong ?how are monozygotic twins different from conjoined twins ?



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19. Why are pregnant women advised not to smoke and take narcotic drugs ?

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Practice Questions | Multiple Choice Questions

1. The number of chromosomes in a mature gamete gets halved during:

- A. Formation of first polar body
- B. Formation of second polar body
- C. Meiosis II
- D. Division of secondary oocyte and spermatocyte

Answer: a



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2. Frog's testes do not possess

- A. Interstitial cells
- B. seminiferous tubules
- C. Sertoli cells
- D. Seminal vesicles

Answer: c



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3. During embryonic development, the establishment of polarity along anterior/posterior, dorsal/ventral or medial/lateral axis is called

- A. Organizer phenomena
- B. Axis formation
- C. Anamormorphosis
- D. Pattern formation

Answer: a



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4. The main function of trophoctoderm in mammalian embryo is:

- A. Protection of the developing cells
- B. Drawing food for the developing cells
- C. Formation of future ectoderm
- D. Formation of placenta

Answer: b

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5. Amniocentesis is a technique used to

- A. Determine errors in amino acid metabolism in embryo
- B. Pin point specific cardiac ailments in embryo

C. Determine any hereditary/ genetic abnormality in embryo

D. All of these

Answer: c

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6. The early stage human embryo distinctly possesses:

A. Gills

B. Gill slits

C. External ear (pinna)

D. Eye brows

Answer: b



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7. Which one of the following statements with regard to embryonic development in humans is correct?

A. Cleavage divisions bring about about considerable increase in the mass of protoplasm

B. In the second cleavage division one two blastomeres usually divides a little sooner than the second

C. With more cleavages divisions , the resultant blastomeres become larger and larger

D. Cleavage division results in a hollow ball of cells called morula .

Answer: b



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8. Rule of embryonic development was given by

A. Von bear

B. Haeckel

C. Wallace

D. Morgan

Answer: a

9. In oogamy, fertilization involves

- A. A large non-motile female gamete and a small non-motile male gamete
- B. A large motile female gamete and a small non-motile male gamete
- C. A small non-motile female gamete and a large motile male gamete
- D. A large non-motile female gamete and small motile male gamete.

Answer: d

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10. If mammalian ovum fails to get fertilized which one of the following is unlikely ?

- A. Corpus luteum will degenerate
- B. Progesterone secretion rapidly declines
- C. Estrogen secretion further decreases
- D. Primary follicle starts developing

Answer: d

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11. Which of the following is immortal?

- A. Somatic cells
- B. Glomerular cells
- C. germ cells
- D. cells of pituitary

Answer: c

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12. Which one of the following events is correctly matched with the time period in a normal menstrual cycle?

- A. Release of egg : 5 th day
- B. endometrium regenerates : 5-10 days

C. endometrium secretes nutrients for implantation : 11-

18 days

D. Rise in progesterone level : 1-15 days

Answer: b

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13. Grey crescent is the area

A. at the point of entry of sperm into ovum

B. Just opposite to the site of entry of sperm into ovum

C. at the animal pole

D. at the vegetal pole

Answer: b



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14. Extra structure that provides nutrition to embryo is

A. Umbilicus

B. amnion

C. chorion

D. Placenta

Answer: d



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15. Sertoli cells are regulated by the pituitary hormone known as

A. LH

B. FSH

C. GH

D. Prolactin

Answer: b



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16. Withdrawal of which of the following hormones is the immediate cause of menstruation?

A. Progesterone

B. estrogen

C. FSH

D. FSH-RH

Answer: a



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17. Which secretions are produced by spermatozoa at the time of fertilization?

A. Fertilizin and antifertilizin

B. antifertilizin sperm lysin

C. Fertilizin and sperm lysin

D. Only sperm lysin

Answer: b

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18. Which of the following represents a condition where the motility of the sperms is highly reduced?

- A. Oligospermia
- B. asthenospermia
- C. azoospermia
- D. polyspermy

Answer: b

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19. Embryo at 16-celled stage is called

- A. Morula
- B. gastrula
- C. Blastule
- D. Blastomere

Answer: c



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20. In the human female, menstruation can be deferred by the administration of:

- A. Combination of FSH and LH
- B. Combination of estrogen and progesterone
- C. FSH only
- D. LH only

Answer: b

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21. Which accessory genital gland occurs only in mammalian male?

- A. Prostate gland
- B. perineal gland
- C. Cowper's gland

D. Bartholin gland

Answer: c



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22. Layers of an ovum from outside to inside is

A. Corona radiate , zona pellucida and vitelline membrane

B. Zona pellucida , corona radiate and vitelline membrane

C. Vitelline membrane , zona pelluide and corona radiate

D. zona pellucida , vitelline membrane and corona radiata

Answer: a



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23. Which germ layer develops first during embryonic development?

A. Ectoderm

B. mesoderm

C. endoderm

D. Both (b) and (C)

Answer: c



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24. Which one of the following statements is incorrect about menstruation ?

- A. At menopause in the female , there is esially abrupt increase in gonadotropic hormones
- B. the beginning of the cycle of menstruations is called menarche
- C. During normal menstruation about 40 ml blood is lost
- D. the menstrual fluid can easily clot

Answer: d



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25. Which extraembryonic membrane in humans prevents desiccation of the embryo inside the uterus ?

- A. Yolk sac
- B. amnion
- C. chorion
- D. allantois

Answer: b



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26. In human at the end of the first meiotic division the male germ cells differentiate into the

- A. spermatids
- B. spermatogonia
- C. primary spermatocytes
- D. secondary spermatocytes

Answer: d



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27. Spermatids are transformed into spermatozoa by

- A. spermiation

B. spermatogenesis

C. spermiogenesis

D. spermatosis

Answer: c



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28. The 32-cells stage of the human embryo is

A. Smaller than fertilized egg

B. Same size as the fertilized egg

C. Two times of the size of the fertilized egg

D. Four times of the size of the fertilized egg

Answer: b



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29. In the male reproductive system, sperms are concentrated to

- A. rete testis
- B. epididymis
- C. Vas deferens
- D. Seminal vesicles

Answer: b



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30. In females, hormone inhibin is secreted by

- A. Granulosa and theca cells
- B. granulosa cells and corpus luteum
- C. granulosa and cumulus oophorus cells
- D. granulosa cells and zona pellucida

Answer: b



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31. The chemical substances released by activated spermatozoa that acts on the ground substances of the follicle cells is known as

A. Progesterone

B. Hyaluronidase

C. Relaxin

D. Gonadotropin

Answer: b



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32. Vitellogenesis occurs during the formation of:

A. Ootid in the fallopian tube

B. secondary oocyte in the fallopian tube

C. Primary oocyte in the Graafian follicle oogonial cell in
the graafin Follicle

D.

Answer: c

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33. $2n = 16$ is in a primary spermatocyte which is in metaphase of first meiotic division. What shall be the total number of chromatids in each of the secondary spermatocyte?

A. 16

B. 24

C. 32

D. 8

Answer: a



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34. 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.

A. ADCEB

B. BACDE

C. CADBE

D. ACEDB

Answer: d



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35. Identify the correctly matched pair/pairs of the germ layers and their derivatives.

A. Ectoderm-Epidermis

B. Endoderm-Dermis

C. Mesoderm-Muscles

D. Mesoderm-Notochord

E. Endoderm-Enamel of teeth

A. A and D only

B. A and B only

C. A,C and D only

D. A,B,C and E only

Answer: c



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36. 1st polar body is formed at which stage of oogenesis?

A. 1st meiosis

B. 2nd mitosis

C. 1st Mitosis

D. differentiation

Answer: a



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37. Which germ layer develops first during embryonic development?

A. ectoderm

B. Messoderm

C. Endoderm

D. Both (b) and (C)

Answer: c





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38. Seminal plasma in human is rich in

- A. Fructose and certain enzymes but poor in calcium
- B. Fructose , calcium and certain enzymes
- C. Fructose and calcium but has no enzymes
- D. Glucose and certain enzymes but no calcium

Answer: b



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39. Foetal ejection reflex in human female is induced by

- A. Differentiation of mammary glands
- B. Pressure exerted by amniotic fluid
- C. Release of oxytocin from pituitary
- D. Fully developed foetus and placenta

Answer: d

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40. Which one of the following is the correct matching of the events occurring during menstrual cycle ?

- A. Menstruation : Breakdown of myometrium and ovum not fertilised

B. Ovulation : LH and FSH attain peak level and sharp fall in secretion of progesterone .

C. Proliferative phase : Rapid regeneration of myometrium and maturation of Graafian follicle

D. luteum : secretory phase and increased secretion of progesterone

Answer: d



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41. Which one of the following is the most likely root cause why menstruation is not taking place in regularly cycling human female ?

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

Answer: d



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42. The correct sequence of spermatogenetic stages leading to the formation of sperms in a mature human testis is

A. spermatogonia - spermatid - spermatocyte - sperms

B. spermatocyte - spermatogonia- spermatid - sperms

C. spermatogonia - spermatocyte- spermatid - sperms

D. spermatid - spermatocyte - spermatogonia - sperms

Answer: c

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43. A change in the amount of yolk and its distribution in the egg will affect .

A. Fertilization

B. Formation of zygote

C. Pattern of cleavage

D. Number of Blastomeres produced

Answer: c



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44. Which among the following has 23 chromosomes?

- A. spermatogonia
- B. Zygote
- C. Secondary oocyte
- D. Oogonia

Answer: c



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45. Which of the following hormones is not secreted by human placenta?

- A. hCG
- B. estrogen
- C. Progesterone
- D. LH

Answer: d



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46. The vas deferens receives duct from the seminal vesicle and opens into urethra as

- A. Epididymis
- B. Ejaculatory duct
- C. Efferent ductule
- D. Ureter

Answer: b

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47. Urethral meatus refers to the

- A. Urinogenital duct
- B. Opening of vas deferens into urethra
- C. External opening of the urinogenital duct

D. Muscles surrounding the urinogenital duct

Answer: c

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48. Morula is a development stage:

- A. Between the zygote and blastocyst
- B. Between the blastocyst and gastrula
- C. After the implantation
- D. Between implantation and parturition

Answer: a

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49. The membranous cover of the ovum at ovulation is

- A. Corona radiata
- B. Zona radiate
- C. Zona pellucida
- D. Chorion

Answer: a



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50. Identify the odd one from the following.

- A. Labia minora

B. Fimvriae

C. Infundibulum

D. Isthmus

Answer: a



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51. Vasa efferentia are the ductules leading from

A. epididymis to urethra

B. testicular lobules to rete testis

C. rete testis to vas deferens

D. Vas deferens to epididymis

Answer: c



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52. The first movements of the foetus and appearance of hair on its head are usually observed during which month of pregnancy ?

- A. Third month
- B. Fourth month
- C. Fifth month
- D. Sixth month

Answer: c



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53. Which one of the following statements about human sperm is correct ?

A. Acrosome serves no particular function

B. Acrosome has a conical pointed structure used for piercing and penetrating the egg resulting in fertilization .

C. The sperm lysins in the acrosome dissolve the egg envelope facilitating fertilization

D. Acrosome serves as a sensory structure leading the sperm towards the ovum .

Answer: c

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54. Seminal plasma in human males is rich in

- A. Ribose and potassium
- B. fructose and calcium
- C. glucose and calcium
- D. DNA and testosterone

Answer: b

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55. Sertoli cells are found in

A. Pancreas and secrete choecystokinin

B. Ovaries and secrete progesterone

C. adrenal cortex and secrete adrenaline

D. seminiferous tubules and provide nurtition to germ
cells

Answer: d



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56. The part of Falloplan tube closest to the ovary is

A. Ampulla

B. isthmus

C. Infundibulum

D. cervix

Answer: c



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57. Signals for parturition originate from

A. Fully developed foetus only

B. Placenta only

C. Placenta as well as fully developed foetus

D. Oxytocin released from maternal pituitary

Answer: c

58. The second maturation division of the mammalian ovum occurs

- A. in the graffian follicle following the first maturation division
- B. shortly after ovulation before the ovum makes entry into the fallopian tube
- C. Until after the ovum has been penetrated by a sperm
- D. until the unclous of the sperm has sperm has fused with that of the ovum

Answer: c





59. Which one of the following statements about morula in human is correct ?

A. It has more cytoplasm and more DNA than an incleaved zygote

B. It has almost equal quantity of cytoplasm as an unclevated zygote but much more DNA .

C. It has far less cytoplasm as well as less DNA than in an unclevated zygote

D. It has more or less equal quantity of cytoplasm and DNA as in unclevated zygote .

Answer: b



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60. Gastrula has a pore which the know as

- A. Zoospore
- B. Oospore
- C. Blastopore
- D. Gonophore

Answer: c



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61. Hormone responsible for the secretion of milk after parturition is

- A. ICSH
- B. Prolactin
- C. ACTH
- D. LH

Answer: b



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62. What is present in the middle piece of sperm ?

- A. Acrosome

B. mitochondria

C. Nucleus

D. Proximal centriole

Answer: b



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63. In humans the oocyte is maintained in a state of meiotic arrest by the secretion of

A. Granulosa cells

B. Zona pellucida

C. Cumulus oophorus

D. theca

Answer: a



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64. Signals from fully developed foetus and placenta ultimately lead to parturition which requires the release of

- A. Oestrogen from placenta
- B. Relaxin from placenta
- C. Oxytocin from fetal pituitary
- D. Oxytocin from maternal pituitary

Answer: d



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65. Secretion from which one of the following are rich in fructose , calcium and some enzymes ?

- A. Uterus
- B. Liver
- C. Male accessory glands
- D. Salivary glands

Answer: c



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66. In human female the blastocyst

- A. Forms placenta even before implantation

B. Gets implanted into uterus 3 days after ovulation

C. Gets nutrition from uterine endometrial secretion only
after implantation

D. Gets implanted in endometrium

Answer: d



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67. In the absence of acrosome the sperm

A. Cannot get food

B. cannot swim

C. Cannot penetrate the egg

D. cannot get energy

Answer: c



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68. If for some reason the vasa efferentia in the human reproductive system get blocked . The gametes will not be transported from

- A. Testes to epididymis
- B. epididymis to vas deferens
- C. Ovary to uterus
- D. Vagina to uterus

Answer: a



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69. The testes in humans are situated outside the abdominal cavity inside a pouch called scrotum. The purpose served is for

A. maintaining the scrotal temperature lower than the internal body temperature

B. escaping any possible compression by the visceral organs

C. Providing more space for the growth of epididymis

D. providing more space for the growth of exhibiting the male sex

Answer: a



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70. What happens during fertilisation in humans after many sperms reach close to the ovum ?

A. Secretions of acrosome help one sperm enter cytoplasm of ovum through zona pellucida

B. All sperms except the one nearest to the ovum lose their tails

C. Cells of corona radiata trap all the sperms except one

D. Only two spermers nearest the ovum zona pellucide

Answer: a



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71. About which day in a normal human menstrual cycle does rapid secretion of LH (popularly called LH-surge) normally occurs?

A. 14th day

B. 20th day

C. 5th day

D. 11th day

Answer: a



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72. Signals for parturition originate from

- A. Both placenta as well fully developed foetus
- B. Oxytocin released from maternal pituitary
- C. Placenta Only
- D. Fully developed foetus only

Answer: a



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73. In a normal pregnant woman, the amount of total gonadotropin activity was assessed. The result expected was

- A. High level of circulating FSH and LH in the uterus to stimulate implantation of the embryo
- B. High level of circulating HCG to stimulate endometrial thickening
- C. High level of FSH and LH in uterus to stimulate endometrial thickening
- D. High level of circulating HCG to stimulate estrogen and progesterone synthesis

Answer: d

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74. The Leyding cells as found in the human body are the secretory source of

- A. Progesterome
- B. intestinal mucus
- C. glucagon
- D. androgens

Answer: d

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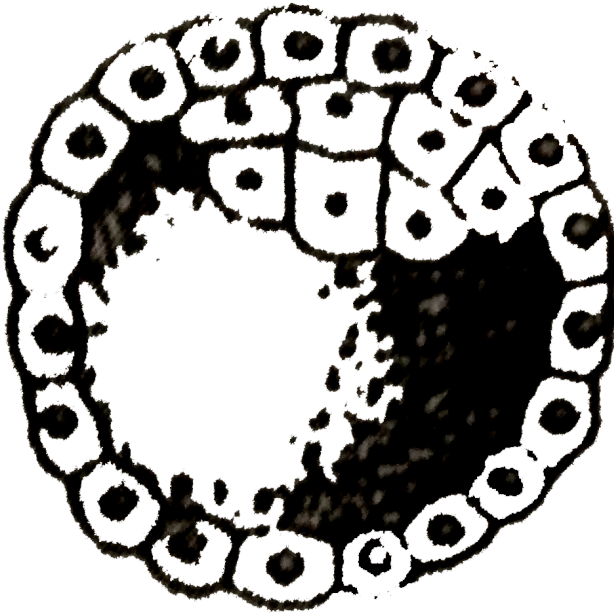
75. which one of the following statements is false in respect of viability of mammalian sperm ?

- A. Sperm is viable for only up to 24 hours .
- B. Survival of sperm depends on the pH of the medium and is more depends in alkaline medium
- C. Viability of sperm is determined by its motility
- D. Sperms must be concentrated in a thick suspension

Answer: d



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76.

Identify the human developmental stage shown as well as the related right place of its occurrence in a normal pregnant woman and select the right options for the two, together.

- | | | |
|----|-------------------|-------------------------------|
| A. | development stage | site of Occurrence |
| | Late morula | Middle part of fallopian tube |
| B. | development stage | site of Occurrence |
| | Blastocyst | end part of Fallopian tube |

C. development stage site of Occurrence
Blastocyst Uterine wall

D.

development stage site of Occurrence
8-celled morula Starting point of Fallopian tube

Answer: c

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77. The secretory phase in the human menstrual cycle is also called

- A. Lutral phase and lasts for about 6 days
- B. Follicular phase and lasts for about 6 days
- C. Luteal phase and lasts for about 13 days
- D. Follicular phase and lasts for about 13 days

Answer: c



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78. Menstrual flow occurs due to lack of

A. FSH

B. Oxytocin

C. Vasopressin

D. Progesterone

Answer: d



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79. What is the correct sequence of sperm formation?

A. Spermatogonia , spermatocyte ,spermatozoa
spermatid

B. Spermatogonia,spermatozoa ,spermatocyte
,spermatid

C. Spermatoania, spermatocyte ,spermatid spermatozoa

D. spermatid-spematocyte , spermatogonia ,
spermatozoa

Answer: c



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80. Which one of the following is not the function of placenta?

A. secretes estradiol.

B. Facilitates removal of carbon dioxide and waste material from embryo

C. secretes oxytocin during parturition .

D. Facilitates supply of oxygen and nutrients to embryo.

Answer: c



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81. The shared terminal duct of the reproductive and urinary system in the human male is

- A. Urethra
- B. Ureter
- C. Vas deferens
- D. Vasa efferentia

Answer: a



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82. The main function of mammalian corpus luteum is to produce

- A. Estrogen only
- B. Progesterone
- C. Human chorionic gonadotropin
- D. relaxin only

Answer: b

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83. Select the correct option describing gonadotropin activity in a normal pregnant female:

- A. High level of FSH and LH stimulates the thickening of endometrium .

B. High level of FSH and LH facilitate implantation of the embryo.

C. High level of hCG stimulates the synthesis of estrogen and progesterone .

D. High level of hCG stimulates the synthening of endometrium .

Answer: c



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84. Atretic follicles are found in the :-

A. Fallopian tubes

B. Uterus

C. Labia majora

D. Ovary

Answer: d



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85. Which of the following events is not associated with ovulation in human female ?

A. LH surge

B. Decrease in estradiol

C. Full development of Graaffin follicle

D. Release of secondary oocyte

Answer: b



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86. In human females, meiosis-II is not completed until

- A. Birth
- B. Puberty
- C. Fertilization
- D. Uterine implantation

Answer: c



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87. Which of the following layers in an antral follicle is acellular?

A. Zona pellucida

B. Granulosa

C. Theca interna

D. Stroma

Answer: a



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88. Correct hormonal sequence in the case of menstruation is

A. Oestrogen ,FSH , progesterone

B. Oestrogen , progesterone ,FSH

C. FSH,progesterone, oestrogen

D. FSH,Oestrogen progesterone

Answer: d



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89. Fertilization in humans is practically feasible only if

A. The ovum and sperms are transported simultaneously
to ampullary -isthmie junction of the fallopian tube

- B. The ovum and sperms are transported simultaneously to ampullary-isthmic junction of the cervix
- C. The sperms are transported into cervix within 48 hrs of release of ovum in uterus
- D. The sperms are transported into vagina just after the release of ovum in fallopian tube

Answer: a



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90. Changes in GnRH pulse frequency in females is controlled by circulating levels of

- A. estrogen and inhibin

- B. progesterone only
- C. Progesterone and inhibin
- D. estrogen and progesterone

Answer: d

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91. Identify the correct statement on 'inhibin'.

- A. Is produced by granulose cells in ovary and inhibits the secretion of FSH
- B. Is produced by granulose cells in ovary and inhibits the secretion of LH

C. Is produced by nurse cells in testes and inhibits the secretion of LH

D. Inhibits the secretion of LH ,FSH and prolactin

Answer: a

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92. Select the incorrect statement :

A. LH triggers ovulation in ovary

B. LH and FSH decrease gradually during the follicular phase .

C. LH triggers secretion of androgens from the Leydig cells

D. FSH stimulates the sertoli cells which help in spermiogenesis .

Answer: b

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93. Embryo with more than 16 blastomeres formed due to in vitro fertilization is transferred into

A. uterus

B. Fallopian tube

C. Fimbriae

D. cervix

Answer: a

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94. Which of the following depicts the correct pathway of transport of sperms?

A. Rete testis → Efferent ductules → Epididymis →

Vas deferens

B. Rete testis → Epididymis → Efferent ductules →

Vas deferens

C. Rete testis → Vas deferens → Efferent ductules

→ Epididymis

D. Efferent ductules → Rete testis → Vas deferens
→ Epididymis

Answer: a



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95. Capacitation occurs in

- A. epididymis
- B. Vas deferens
- C. Female reproductive tract
- D. Rete testis

Answer: c

96. Select the correct route for the passage of sperms in male frogs

A. Testes → Vasa efferentia → Kidney → seminal vesicle → Urogenital duct → Cloaca

B. Testes → Vasa efferentia → Bidder's canal → Ureter → Cloaca

C. Testes → Vasa efferentia → Kidney → Bidder's canal → Urinogenital duct → Cloaca

D. Testis → Bidder's canal → kidney → Vasa efferentia → urinogenital duct → Cloaca

Answer: c



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97. Hormones secreted by the placenta to maintain pregnancy are

- A. hCG ,hPL , progestoges , prolactin
- B. hCG ,hPL , estrogens , relaxin , oxytocin
- C. hCG ,hPL , progestogens, estrogens
- D. hCG , progestones , estrogens , glucocorticoids

Answer: c



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98. The difference between spermiogenesis and spermiation is

A. In spermiogenesis spermatids are formed while in spermiation spermatozoa are formed

B. in spermiogenesis spermatozoa are formed while in spermiation spermatids are formed

C. In spermiogenesis spermatozoa from sertoli cells are released into the cavity of seminiferous tubules , while in spermiation spermatozoa tubules are formed

D. In spermiogenesis spermatozoa are formed while in spermiation spermatozoa are released from sertoli cells into the cavity of seminiferous tubules .

Answer: d



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99. The amnion of mammalian embryo is derived from

- A. ectroderm and mesoderm
- B. endoderm and mesoderm
- C. mesoderm andm trophoblast
- D. ectoderm and endoderm.

Answer: a



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100. Match the items given in column I with those in column

II and select the correct option given below :

Column I

A. Proliferative phase

B. Secretory phase

C. Menstruation

Column II

(i) Breakdown of
endometrial lining

(ii) Follicular phase

(iii) Luteal phase

A. $A \quad B \quad C$
 $iii \quad ii \quad i$

B. $A \quad B \quad C$
 $i \quad iii \quad ii$

C. $A \quad B \quad C$
 $ii \quad iii \quad i$

D. $A \quad B \quad C$
 $iii \quad i \quad ii$

Answer: c



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Assertion Reason Type Questions

1. Assertion :- Parthenogenesis is a kind or variation of sexual reproduction .

Reason :- In parthenogenesis , a young one develops from ovum but without fertilization

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is false but the Reason is true.

D. If Both Assertion and Reason Are false

Answer: a



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2. [A] : Spermatogenesis occurs in the seminiferous tubules of the testes which also produce testosterone in interstitial cells.

[R]: Testosterone maintains the secondary sex characteristics of males, such as low voice, facial hair and increased muscle strength.

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: b



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3. Statement 1 : In a Graafian follicle, the primary cell, the and the follicle cells may be regarded sibling cells.

Statement 2 : Both arise from the same parent cell, the oogonium, by mitotic divisions.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: a



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4. Assertion :- Testes originate in the abdomen but but later descend into the scrotum under the influence of testoserone

Reason :- The interstitial (Leydig's) cells of the testes secrete male sex hormone , the testoserone .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: b

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5. Assertion :- Testes are located in the scrotum outside the coelom,

Reason :- A vaginal coelom partly surrounds the testis in the scrotum .

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: a



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6. Assertion :- Infection of urethra is more common in the males than in the females

Reason:- Urethra is shorter in the males than in the females

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: d



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7. Assertion :- Cervix contains the largest and the most powerful sphincter muscle in the body

Reason:- Ovum needs energy to go about in search of a spermatozoa for fertilizaion .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: b



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8. Assertion :- Ovum retains most of the contents of the primary oocyte and is much larger than a spermatozoa.

Reason:- Ovum needs energy to go about in search of a spermatozoa for fertilization .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: c



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9. Assertion :- A woman passes out hCG in the urine during pregnancy.

Reason :- Excess hormones are excreted by the kidneys , presence of hCG in urine is the basis for pregnancy test .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: a



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10. Assertion :- Failure of testes to descend into the scrotum sterility in man.

Reason:- Higher temperature in the abdomen than in the scrotum is not suitable for sperm development .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: a





11. Assertion : In humans, the gamete contributed by the male determines whether the child produced will be male or female

Reason : Sex in human is a polygenic trait depending upon a cumulative effect of some genes on X-chromosome and some on Y-chromosome .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: c



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12. A : in morula stage the cells divide without any increase in size

R : zona pellucida remains intact till cleavage is completed

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: b



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13. Assertion :- the third cleavage in frog is latitudinal(horizontal) .

Reason :- The mitotic spindle orients parallel to the polar axis in each blastomere

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: a



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14. Assertion :- Sperm entry causes a rearrangement of materials in the ooplasm .

Reason:-Path of the male pronucleus toward the female pronucleus is made in the ovum as a copulation path .

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: b



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15. Assertion :- Placenta is connected to the foetus by an umbilical cord.

Reason :- Foetal components of the placenta are derived from the chondroblast.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: c

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16. Assertion :- A sperm sticks to an egg for fertilization .

Reason :- interaction of surface receptors fertilizin on the egg and antifertilizin on the sperm head , makes them adhere to gether .

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: a



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17. Assertion :- Human body is pigment less at the time birth .

Reason :- pigment disappears before the birth of a baby.

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: d

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18. Assertion :- All members of bee society are diploid except the drones .

Reason:- Drones are produced parthenogenetically.

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: a



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19. Assertion: Holoblastic cleavage with almost equal sized blastomeres is a characteristic of placental animals.

Reason: Eggs of most mammals, including humans, are of centrolecithal type.

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: d



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20. Assertion Only a single functional female gamete is formed from each primary oocyte cell.

Reason Meiosis in each primary oocyte gives rise to only one cell which functions as ovum.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: a



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21. Assertion (A) Generally, a woman do not conceive during lactation period.

Reason (R)the hormone prolactin initiates and maintains laccation in a woman.

- A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .
- B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .
- C. If Assertion is true but the Reason is false .
- D. If Both Assertion and Reason Are false

Answer: b



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22. Assertion:Holoblastic cleavage with almost equal sized blastomeres is a characteristic of placental animals.

Reason: Eggs of most mammals, including humans, are of centrolecithal type.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion .

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion .

C. If Assertion is true but the Reason is false .

D. If Both Assertion and Reason Are false

Answer: c



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Notable Question

1. What provides additional stiffness to penis in many mammals ?

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2. How can impotence be reversed ?

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3. What is the source of centrioles in an egg. ?

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