Unit-VI

Chapter-3. Human Reproduction

IMPORTANT POINTS

The human is unisexual and viviparous. Reproduction is the mechanism by which continuation of generation is sustained. Like all other vertebrates human also exhibits sexual dimorphism. The male and female reproductive systems are organized by several types of organs. The organs of the male reproductive system are one pair of testes, one pair of epididymis, one pair of vas deferens, one pair of seminal vesicles, prostate gland, bulbourethral gland, urethra and penis. Female reproductive system consists of one pair of ovaries, the uterine tubes, uterus, vagina, external genitalia and mammary glands.

To produce gametes, gametogenesis occurs in both male and female. The male gamete is known as sperm and female gamete is known as ovum. The process of sperm production is known as spermatogenesis and ovum production is known as oogenesis.

Menstrual cycle is the events of the cyclic changes in the endometrium, which it goes through month after month as it responds to changes in the levels of female sex hormones in the blood.

The one sperm and one ovum become involved in fertilization. A diploid zygote nucleus is formed through the fusion of male and female pronucleus. Now fertilized ovum is called zygote. During movement of zygote in to oviduct cleavage occurs. The embryo with 16 cells is called morula. Now the process of implantation of embryo take place.

The period of development of young one in female reproductive system is known as pregnancy. It takes approximately 266 to 280 days. The process of child birth is called parturition. The mammary glands of the mother undergo differentiation during pregnancy and start producing milk after delivery. This process is called lactation.

M.C.Q.

1. Which of the following character is seen in female?
   (a) Muscles are strong  
   (b) Mammary gland is well developed  
   (c) Voice is heavy  
   (d) Mammary gland is namesake only
2. Which of the following character is seen in male?
   (a) Muscles are comparatively weak  
   (b) Voice is shrill  
   (c) Voice is heavy  
   (d) Beard and mustache is not seen
3. Where testes are situated?
   (a) Abdominal cavity  
   (b) Dorsal side of abdominal cavity  
   (c) (a) and (b) both  
   (d) Scrotal sac.
4. Which hormone is released from testes?
   (a) Testosterone  
   (b) Estrogen  
   (c) Progesterone  
   (d) Relaxin
5. Which hormone is released from ovaries?
   (a) Testosterone  
   (b) Estrogen  
   (c) Progesterone  
   (d) (b) and (c) both
6. Which of the following gland is seen in male reproductive system?
   (a) Seminal vesicle  (b) Prostate gland  (c) Bulbourethral gland  (d) All of these

7. How much lower the temperature of scrotal sac as compare to the normal body temperature?
   (a) 3°C  (b) 4°C  (c) 5°C  (d) 6°C

8. What is the size of testis?
   (a) 6 cm length and 2.5 cm diameter  (b) 5 cm length and 2.5 cm diameter
   (c) 5 cm length and 3.5 cm diameter  (d) 6 cm length and 3.5 cm diameter

9. Which connective tissue surrounds testis?
   (a) Fibrous tissue  (b) Spongy connective tissue
   (c) Tunica albuginea  (d) None of them

10. Seminiferous tubule in testis are lined with which type of cells?
    (a) Germinal cells  (b) only germinal cells  (c) Sertoli cell  (d) Both a and c

11. In testis which cells produce sperms?
    (a) Germinal cells  (b) Epithelial cell  (c) Sertoli cell  (d) Both a and c

12. Which cells provides nutrition to the sperms?
    (a) Germinal cells  (b) Epithelial cell  (c) Sertoli cell  (d) None of them

13. In testis which cells are present in the interstitial space between seminiferous tubules?
    (a) Sertoli cells  (b) Germinal cells  (c) Leydigs cells  (d) (a) and (b) both

14. Which cells secretes testosterone?
    (a) Sertoli cells  (b) Germinal cells  (c) Interstitial cells  (d) (a) and (b) both

15. Where seminiferous tubules of each lobe empty sperms?
    (a) Vas deference  (b) Vasa efferentia  (c) Epididymus  (d) Seminal vesicles

16. Where is situated epididymis?
    (a) External surface of the testis  (b) Above the testis
    (c) Below the testis  (d) Internal surface of the testis

17. What is length of epididymis?
    (a) 6 c.m  (b) 6 feet  (c) 6 meter  (d) 6 inch

18. Function of epididymis is ...
    (a) A temporary storagesite  (b) For the immature sperms complete their maturation process
    (c) Gain the ability of swimming (motility)  (d) All of these

19. When sperms are transported into vas deference from epididymis?
    (a) Male is not sexually stimulated  (b) Male is sexually stimulated
    (c) The walls of the epididymis contract  (d) First - b and after - c process occurs

20. What is length of vas deference?
    (a) 45 inch  (b) 45 mm  (c) 45 cm  (d) 4.5 meter
21. Through which of the following vas deferens runs upward from epididmis and enter the abdominal cavity?
   (a) Ejaculatory duct  (b) Inguinal canal  (c) Urethra  (d) (a)and(b)both

22. The distal end of vas deference is expanded and in this region the opens?
   (a) Prostate gland  (b) Bulbourethral gland  (c) Seminal vesicle  (d) Ejaculatory duct

23. What is the region present between part of seminal vesicle and duct of urinary bladder called?
   (a) Ejaculatory duct  (b) Duct of urinary  (c) Urethra  (d) Seminal vesicle duct

24. Duct of which gland join with urethra before it passed through penis?
   (a) Prostate gland  (b) Bulbourethral gland  (c) Seminal vesicle gland  (d) (a)and(b)both

25. In male accessory reproductive glands which is incorrect?
   (a) Seminal vesicle  (b) Prostate gland  (c) Urinary bladder  (d) Bulbourethral gland

26. The seminal vesicle are located at?
   (a) Over urinary bladder  (b) Base of the urinary bladder  (c) Near urinary bladder  (d) Besides urinary bladder

27. What percentage of semen is produced by seminal vesicles?
   (a) 50%  (b) 55%  (c) 60%  (d) 65%

28. Which substances present in seminal vesicles is thick and yellowish secretion?
   (a) Sugar  (b) Vitamin-c  (c) Fat  (d) (a)and(b)both

29. What is provided to sperms by secretion of seminal vesicles?
   (a) Nourishment  (b) Activating  (c) Lubricant  (d) (a)and(c)both

30. Where is prostate gland is located?
   (a) Over urinary bladder  (b) Base of the urinary bladder  (c) Posterior region of the urinary  (d) Side of the urinary bladder

31. What is provided to sperm by secretion of prostate gland?
   (a) Nourishes  (b) Activating  (c) Lubricant  (d) (a)and(c)both

32. Where is bulbourethral gland located?
   (a) Beneath the prostate  (b) Lateral side of urethra  (c) Over urinary bladder  (d) (a) and (b) both

33. Which gland secrete alkaline fluid?
   (a) Seminal vesicle gland  (b) Prostate gland  (c) Bulbourethral gland  (d) (b) and (c) both

34. What is the function of bulbourethral gland secretion?
   (a) Nourishes sperms  (b) role in activating sperms  (c) Serves as a lubricant during sexual intercourse  (d) Enhancing the motility of sperms
35. Mixture of which of the following constitute semen? OR
   (a) Sperms  (b) Secretion of accessory glands
   (c) Organic substance  (d) Both a and b

36. What is PH of semen?
   (a) 7.3 to 7.7  (b) 7.2 to 7.6  (c) 7.4 to 7.8  (d) 7.5 to 7.9

37. What is PH of vaginal fluid?
   (a) 3.5 to 4.0  (b) 3.6 to 4.1  (c) 3.7 to 4.2  (d) 3.8 to 4.3

38. The average volume of semen for each ejaculation is ......
   (a) 3 to 4 ml  (b) 3.5 to 4.5 ml  (c) 4 to 5 ml  (d) 4.5 to 5.5 ml

39. Which cylindrical organ is located at frontal region of scrotal sacs?
   (a) Epididymus  (b) V as deference  (c) Penis  (d) (a) and (b) both

40. Internally the penis is............
   (a) Composed of three cylindrical mass of connective tissue bound together
   (b) Composed of three cylindrical mass of tissue bound together by fibrus tissue
   (c) Composed of three cylindrical mass of epithelium tissue bound together
   (d) Composed of three mass of tissue only

41. When does penis get erected?
   (a) If masses of tissue filled with air  (b) If masses of tissue filled with blood
   (c) If masses of tissue filled with hormones  (d) (b) and (c) occurs both

42. Which is accessory part of female reproductive system?
   (a) Vulva  (b) Pudendum  (c) Mammary gland  (d) Vagina

43. What is size of ovaries?
   (a) 3 c.m long , 2 c.m wide , 1 c.m thick  (b) 3 c.m long , 2 c.m wide , 1 c.m thick
   (c) 3 c.m long , 2 c.m wide , 2 c.m thick  (d) 2 c.m long , 2 c.m wide , 2 c.m thick

44. Where are ovaries situated?
   (a) In upper pelvic cavity  (b) Below pelvic cavity
   (c) At one on each side of uterus  (d) (a) and (c) both

45. The ovaries maintain their position by ....
   (a) Series of ligaments  (b) Connective layer
   (c) Epithelium layer  (d) Muscular filament

46. What is the entry point for blood vessel and nerves into the ovaries called?
   (a) Hilus part  (b) Hilus
   (c) Hilus pors  (d) None of them

47. Which tissue layer covers the ovary?
   (a) Columnar epithelium  (b) Squamous epithelium
   (c) Cuboidal epithelium  (d) Ciliary epithelium

48. What is the surrounding layer of the ovary called?
   (a) Germinal epithelium  (b) Tunica albuginea
   (c) Stroma  (d) Collagenovs
49. What is called a capsule of collagenous connective tissue immediately after the germinal epithelium of ovaries?
   (a) Stroma  (b) Tunica albuginea  (c) Ovarian epithelium  (d) None of them

50. Which tissue layer of tunica albuginea
   (a) Connective tissue  (b) Collagenous connective tissue
   (c) Epithelial tissue  (d) Collagenous epithelium tissue

51. What is called a region of connective tissue deep to the tunica albuginea?
   (a) Stroma  (b) Follicular epithelium  (c) Graffian follicles  (d) Corpus luteum

52. Ovarian stroma is composed by ......?
   (a) Cortex  (b) Medulla  (c) Follicles  (d) (a) and (b) both

53. Stroma of ovarian cortex contains ......
   (a) Ovarian follicles  (b) Corpus luteum  (c) Graffian follicles  (d) (a) and (c) both

54. What is the structure consist of ova and their surrounding tissues in various stages of development its called?
   (a) Primary follicle  (b) Ovarian follicles  (c) Graffian follicles  (d) Corpus luteum

55. What is the structure consist of mature ovum and its surrounding tissues its called?
   (a) Mature ovum  (b) Ovarian follicles  (c) Graffian follicles  (d) Corpus luteum

56. Graffian follicle after ovulation produces glandular body, it is called ...
   (a) Graffian follicle  (b) Corpus luteum  (c) Mass of graffion follicle  (d) both a and b

57. Which hormones is produced by corpus luteum?
   (a) Estrogen  (b) Progesterone  (c) Testosterone  (d) (a) and (b) both

58. What is length of fallopion tube?
   (a) 10 cm  (b) 10 mm  (c) 12 cm  (d) 12 mm

59. The uterine tube from side runs forwards and becomes associated with it ...
   (a) Vagina  (b) Uterus  (c) Urethra  (d) Ovary

60. Where an ovum is fertilization occurs?
   (a) Vagina  (b) Uterus  (c) Fallopion tube  (d) Infundibulum

61. Where is uterus situated?
   (a) Between the urinary bladder and rectum  (b) Between the urinary bladder and urethra
   (c) Between the urinary bladder and ovary  (d) Between the urinary bladder and intestine

62. What is the shaped of uterus?
   (a) Inverted appleshaped  (b) Inverted pear shaped
   (c) Inverted mango shaped  (d) None of this

63. The wall of the uterus is made of ..........layer.
   (a) Three  (b) Two  (c) one  (d) Four
64. In which layer of uterus the fertilized egg is implanted?
   (a) Endometrium (b) Myometrium
   (c) Epimetrium (d) None of this

65. It is a bulky middle layer of the uterus and its plays an active role during the delivery of a baby...
   (a) Endometrium (b) Myometrium (c) Epimetrium (d) None of this

66. The distal narrow end of the uterus is called........
   (a) Vagina (b) Cervix (c) Hymen (d) (a) and (c) both

67. Which part is connected to the uterus through cervix?
   (a) Vagina (b) Hymen (c) Mucosal membrane (d) (a) and (c) both

68. It is a fold at the distal end of the vagina...
   (a) Hymen (b) Mucosal membrane (c) Cervix (d) Clitoris

69. What is called cushion of fatty tissue in female external genitalia?
   (a) Mons pubis (b) Labia majora (c) Labia minora (d) Clitoris

70. Which region of vulva are located below the mons pubis?
   (a) Labia majora (b) Labia minora (c) Clitoris (d) None of this

71. What is called a tiny finger like structure which lies at the upper junction of the two labia minora.
   (a) Penis (b) Hymen (c) Mons (d) Pubis

72. Which is part of vulva is considered equivalent to the male penis
   (a) Clitoris (b) Hymen (c) Mons (d) Pubis

73. During puberty stage, which sex hormone stimulate the enlargement of breast?
   (a) Progesterone (b) Estrogen (c) Testosterone (d) (a) and (b) both

74. What is called the process of gamete formation in the sexually reproducing animals
   (a) Spermatogenesis (b) oogenesis (c) Gametogenesis (d) None of this

75. Which cells produces of spermatids.
   (a) Secondary germinal cells (b) Primary germinal cells
   (c) Spermatogonium (d) Spermatocytes

76. Name the process involve in multiplication phase of spermatogenesis?
   (a) Mitotic (b) Meiosis (c) Amitosis (d) (a) and (b) both

77. In spermatogenesis which cells are produce at the end of multiplication phase?
   (a) Primary spermatocyte (b) Spermatagonia
   (c) Secondary spermatocyte (d) Spermatids

78. In spermatogenesis which cells are produce at the end of the growth phase?
   (a) Primary spermatocyte (b) Spermatagonia
   (c) Secondary spermatocyte (d) Spermatids

79. In spermatogenesis which processes occur for secondary spermatocyte?
   (a) Mitotic (b) Meiosis (c) Amitosis (d) (a) and (b) both

80. In spermatogenesis which cells are produced at the end of the maturation phase?
   (a) Primary spermatocyte (b) Spermatagonia
   (c) Secondary spermatocyte (d) Spermatids
81. The metamorphosis of the spermatids into the sperms is known as .......
(a) Multiplication phase (b) The growth phase (c) The maturation phase (d) Spermiogenesis

82. Which enzyme is produced by acrosome?
(a) Testosterone (b) Hyaluronidase (c) FSH (d) LH

83. The acrosome is formed by the.....
(a) Mitochondria (b) Golgicomplex (c) Ribosomes (d) Nucleus

84. These form a middle piece of the sperm
(a) Mitochondria (b) Golgicomplex (c) Ribosomes (d) Nucleus

85. In oogenesis which cells are produced at the end of multiplication phase?
(a) Primary oocyte (b) Secondary oocyte (c) First polar body (d) Secondary polar body

86. In oogenesis which substance are present in primary oocyte of growth phase
(a) Fat and proteins (b) DNA, RNA (c) ATP and enzyme (d) Above all

87. In oogenesis which cell body are concentrated in cytoplasm of primary oocyte of the growth phase?
(a) Mitochondrial (b) Golgicomplex (c) Ribosomes (d) Above all

88. In oogenesis which cells are produced at the first division of primary oocyte in maturation phase?
(a) Secondary oocyte (b) First polar body (c) Secondary polar body (d) (a) and (b) both

89. Which stage of cell at the time of ovulation.
(a) Secondary oocyte (b) First polar body (c) Secondary polar body (d) Primary oocyte

90. When sperm penetrate secondary oocyte during its unequal meiotic division, how many polar body (bodies) are produced?
(a) One (b) Two (c) Three (d) None of this

91. The events of the menstrual cycle are the cyclic changes in the....
(a) Endometrium (b) Myometrium (c) Epimetrium (d) All of this

92. The events of menstrual cycle are comprised of .... days.
(a) 27 days (b) 28 days (c) 29 days (d) 30 days

93. In menstrual cycle which period is known as menstrual phase?
(a) 1 to 5 days (b) 6 to 14 days (c) 15 to 28 days (d) 14 to 15 days

94. Which period of the cycle is known as a proliferative phase?
(a) 1 to 5 days (b) 6 to 14 days (c) 15 to 28 days (d) 14 to 15 days

95. In menstrual cycle on which day ovulation occurs?
(a) on 12th day (b) on 13th day (c) on 14th day (d) on 15th day
96. In menstrual cycle during which days rising estrogen levels?
   (a) 1 to 5 days   (b) 6 to 14 days   (c) 14 to 15 days   (d) 15 to 28 days

97. In menstrual cycle on which days rises progesterone levels?
   (a) 1 to 5 days   (b) 6 to 14 days   (c) 14 to 15 days   (d) 15 to 28 days

98. The sperms emptied in the vagina start moving towards oviducts through the uterus which is helpful in their locomotion
   (a) Contraction of uterine wall   (b) Contraction vagina passage
   (c) The slimy secretion of oviduct wall   (d) All these

99. What time is taken by the sperm emptied in vagina, to move toward uterus?
   (a) 4 to 5 hrs   (b) 5 to 6 hrs   (c) 3 to 4 hrs   (d) 2 to 3 hrs.

100. In fertilization which part of sperm enters the secondary oocyte?
    (a) Tail   (b) Head   (c) Middle part   (d) (b) and (c) both

101. After fertilization which changes prevents entry of other sperms in to the oocytes.
     (a) Egg membrane   (b) Fertilization membrane
     (c) Vitelline membrane   (d) (a) and (c) both

102. When fertilized ovum is convert into zygote?
     (a) On entry of sperm in ovum
     (b) On entry of sperm in secondary pronucleus
     (c) On fusion of male and female pronucleus
     (d) After change into fertilization membrane

103. During movement of zygote into oviduct the division of zygote in 2 to 16 daughter cells.
     This process called
     (a) Cleavage   (b) Gastrulation   (c) Morula   (d) (a) and (b) both

104. The division of it forms in to 16 daughter cells..called....
    (a) Blasto cell   (b) Blastomeres   (c) Morula   (d) (a) and (b) both

105. The embryo with 16 cells is called........
    (a) Blastocyst   (b) Blastomeres   (c) Morula   (d) Cleavage

106. What time period is required to form blastocyst ?
    (a) One week   (b) 8 days   (c) two week   (d) 9 days

107. The fluid within the blastocyst is formed by the cells of ________ ?
    (a) Blastomere   (b) Trophoblast   (c) Iner layer of blastocyte(d) None of this

108. Which cells secrete the enzymes for make implantation of embryo possible ?
    (a) Trophoblast   (b) Blastomere
    (c) Outer layer of uterus   (d) Outer layer of blastocyst

109. In human normally what is the period of pregnancy ?
    (a) 266 days   (b) 280 days   (c) 270 days   (d) 275 days

110. The fertilized ovum during the first 12 weeks is called ________.
     (a) Embryo   (b) Foetus
     (c) Blastocyte   (d) (a) & (b) both
111. In humans after implantation what is the elaborate projection developed from trophoblast called?  
   (a) Embryonic Layer  
   (b) Chorionic vili  
   (c) Placenta  
   (d) Umbilical cord  

112. In humans embryonic development chorionicvilli which co-operate with the tissue of the mothers uterus to forms ...  
   (a) Placenta  
   (b) Umbilical cord  
   (c) Amniotic cavity  
   (d) Embryonic disc  

113. Function of the placenta is ...  
   (a) to deliver nutrients to embryo  
   (b) to deliver oxygen to embryo  
   (c) remove wastes from the embryonic blood  
   (d) all of these  

114. Which part present between placenta and embryo ?  
   (a) Umbilical cord  
   (b) Amniotic cavity  
   (c) Embryonic disc  
   (d) (b) & (c) both  

115. Which hormones are not produced by placenta ?  
   (a) hCG  
   (b) hPL  
   (c) estrogens  
   (d) relaxin  

116. The signals for parturition originate from ______.  
   (a) Fully developed foetus  
   (b) placenta  
   (c) Uterus  
   (d) (a) & (b) both  

117. At the time of delivery which hormones stimulate more frequent and powerful construction of the uterus ?  
   (a) Oxytocin and Prostaglandins  
   (b) Estrogen and Progesterone  
   (b) Oxytocin and Vasopressin  
   (d) Estrogen and Prostaglandins  

118. During delivery which glands send signals for the release of oxytocin ?  
   (a) Posterior Pituitary  
   (b) Anterior Pituitary  
   (c) Hypothalamus  
   (d) None of this  

119. After delivery mammary gland start producing milk, In milk which necessary substance is present for immunity?  
   (a) Lactose  
   (b) Protein  
   (c) Fat  
   (d) Antibodies  

120. How much blood is lost during menstrual cycle period?  
   (a) 25 to 100 ML  
   (b) 50 to 150 ML  
   (c) 75 to 175 ML  
   (d) 20 to 75 ML
121. Match Column-I and Column-II correctly and choose the right answer.

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Male</td>
<td>(i) Scrotal sac</td>
</tr>
<tr>
<td>(Q) Female</td>
<td>(ii) Upper pelvic cavity</td>
</tr>
<tr>
<td>(R) Testes</td>
<td>(iii) Mammary gland is namesake only</td>
</tr>
<tr>
<td>(S) Ovary</td>
<td>(iv) Voice is shrill</td>
</tr>
</tbody>
</table>

(a) P-iii, Q-iv, R-ii, S-i  
(b) P-ii, Q-i, R-iv, S-iii  
(c) P-iii, Q-iv, R-i, S-ii  
(d) P-iv, Q-iii, R-i, S-ii

122. Match Column-I and Column-II correctly and choose the right answer.

<table>
<thead>
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<tbody>
<tr>
<td>(P) Tunica Albuginea</td>
<td>(i) Nutrition</td>
</tr>
<tr>
<td>(Q) Semini feroustobule</td>
<td>(ii) Collagenous connective tissue</td>
</tr>
<tr>
<td>(R) Sertoli cell</td>
<td>(iii) Secretes testosterone</td>
</tr>
<tr>
<td>(S) Leydig's cell</td>
<td>(iv) Produces sperms</td>
</tr>
</tbody>
</table>

(a) P-ii, Q-iv, R-iii, S-i  
(b) P-ii, Q-iv, R-i, S-iii  
(c) P-iii, Q-i, R-ii, S-iv  
(d) P-iv, Q-iii, R-i, S-i

123. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(P) Seminal vesicle</td>
<td>(i) Serves as Lubricant</td>
</tr>
<tr>
<td>(Q) Prostate gland</td>
<td>(ii) Delicate sperms and enhancing their motility</td>
</tr>
<tr>
<td>(R) Bulbourethral gland</td>
<td>(iii) Nourishes the sperm</td>
</tr>
<tr>
<td>(S) Semen</td>
<td>(iv) Activating sperms</td>
</tr>
</tbody>
</table>

(a) P-iii, Q-iv, R-i, S-ii  
(b) P-iii, Q-iv, R-ii, S-i  
(c) P-i, Q-ii, R-iii, S-iv  
(d) P-iv, Q-iii, R-i, S-ii

124. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(P) Germinal epithelium</td>
<td>(i) Ova and their surrounding tissues</td>
</tr>
<tr>
<td>(Q) Ovarian follicles</td>
<td>(ii) Mature ovum and its surrounding tissues</td>
</tr>
<tr>
<td>(R) Graffian follicle</td>
<td>(iii) After ovulation produce glandular body</td>
</tr>
<tr>
<td>(S) Corpus luteum</td>
<td>(iv) Cuboidal epithelium</td>
</tr>
</tbody>
</table>

(a) P-iv, Q-i, R-iii, S-ii  
(b) P-iv, Q-iii, R-ii, S-i  
(c) P-iv, Q-iii, R-ii, S-i  
(d) P-iv, Q-i, R-ii, S-iii
125. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
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<th>Column-II</th>
</tr>
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<tbody>
<tr>
<td>(P) Endometrium</td>
<td>(i) Uterus outer layer</td>
</tr>
<tr>
<td>(Q) Myometrium</td>
<td>(ii) Uterus innermost layer</td>
</tr>
<tr>
<td>(R) Epimetrium</td>
<td>(iii) Fold at distal end of the vagina</td>
</tr>
<tr>
<td>(S) Hymen</td>
<td>(iv) Uterus middle layer</td>
</tr>
</tbody>
</table>

(a) P-ii, Q-iv, R-i, S-iii  
(b) P-iii, Q-i, R-ii, S-iv  
(c) P-i, Q-iii, R-iv, S-ii  
(d) P-iv, Q-iii, R-i, S-ii

126. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Mons Pubis</td>
<td>(i) Tiny Finger like structure</td>
</tr>
<tr>
<td>(Q) Labia majora</td>
<td>(ii) Folds of tissue</td>
</tr>
<tr>
<td>(R) Labia Minora</td>
<td>(iii) Cushion of fatty tissue</td>
</tr>
<tr>
<td>(S) Clitoris</td>
<td>(iv) Surrounding the vulva</td>
</tr>
</tbody>
</table>

(a) P-iv, Q-iii, R-ii, S-i  
(b) P-iii, Q-iv, R-ii, S-i  
(c) P-ii, Q-iii, R-i, S-iv  
(d) P-ii, Q-iv, R-iii, S-i

127. Choose the correct option for the prosses of spermatoyenesis from column I, column II

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Multiplication Phase</td>
<td>(i) Sperm</td>
</tr>
<tr>
<td>(Q) The growth Phase</td>
<td>(ii) Spermatogonium</td>
</tr>
<tr>
<td>(R) The maturation Phase</td>
<td>(iii) Primary Spermatocyte</td>
</tr>
<tr>
<td>(S) Spermiogenesis</td>
<td>(iv) Spermatids</td>
</tr>
</tbody>
</table>

(a) P-iv, Q-iii, R-ii, S-i  
(b) P-iii, Q-iv, R-ii, S-i  
(c) P-ii, Q-iii, R-i, S-iv  
(d) P-ii, Q-i, R-iv, S-iii

128. Choose the correct option for the prosses of spermatoyenesis from column I, column II

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Days 1-5</td>
<td>(i) Proliferative Phase</td>
</tr>
<tr>
<td>(Q) Days 6-13</td>
<td>(ii) Ovulation</td>
</tr>
<tr>
<td>(R) Day 14</td>
<td>(iii) Corpusluteum Develope</td>
</tr>
<tr>
<td>(S) Day 15-28</td>
<td>(iv) Endometrium Disintegrantes</td>
</tr>
</tbody>
</table>

(a) P-i, Q-iv, R-iii, S-ii  
(b) P-ii, Q-iii, R-iv, S-i  
(c) P-iii, Q-ii, R-iv, S-i  
(d) P-iv, Q-i, R-ii, S-iii
129. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Foetus Cells</td>
<td>(i) Relaxian</td>
</tr>
<tr>
<td>(Q) Placenta</td>
<td>(ii) Hyaluronidase</td>
</tr>
<tr>
<td>(R) Acrosome</td>
<td>(iii) Prostaglandins</td>
</tr>
<tr>
<td>(S) Ovary</td>
<td>(iv) Oxytocin</td>
</tr>
</tbody>
</table>

(a) P-iv, Q-iii, R-ii, S-i  
(b) P-iii, Q-iv, R-ii, S-i  
(c) P-ii, Q-iii, R-iv, S-i   
(d) P-ii, Q-iii, R-iv, S-i

130. Which of the following option shows correctly matched pairs for column I and column II

<table>
<thead>
<tr>
<th>Column-I</th>
<th>Column-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) The egg membrane becomes</td>
<td>(i) Blastocyst</td>
</tr>
<tr>
<td>slightly separated from</td>
<td></td>
</tr>
<tr>
<td>proto plasam</td>
<td></td>
</tr>
<tr>
<td>(Q) The division of zygote</td>
<td>(ii) Fertilization membrane</td>
</tr>
<tr>
<td>(R) 16 daughter cells</td>
<td>(iii) Cleavage</td>
</tr>
<tr>
<td>(S) Morula stage continues to divide and transforms into</td>
<td>(iv) Blastomeres</td>
</tr>
</tbody>
</table>

(a) P-iii, Q-ii, R-iv, S-i  
(b) P-ii, Q-iii, R-iv, S-i  
(c) P-ii, Q-i, R-iv, S-iii  
(d) P-iii, Q-iv, R-i, S-ii

Note: - Q No. 131 to 145 Read the assertion and the reason carefully to mark the correct option out of the options given.

(a) Assertion are true and the reason is a correct explanation of the assertion.  
(b) Assertion are true and the reason is not a correct explanation of the assertion.  
(c) The assertion is true but the reason is false.  
(d) The assertion is false but the reason is true.

131. Assertion: - Testes in male shows internal dimorphism.  
Reason: - The testes are situated in the scrotal sac.  
(a)  (b)  (c)  (d)

132. Assertion: - Scrotal sac is located out side of the body.  
Reason: - It's helps to maintain the temperature of the testes.  
(a)  (b)  (c)  (d)

133. Assertion: - Each lobule contains one to four tightly coiled seminiferous tubules in each testis.  
Reason: - Seminiferous tubule is lined by one type of cells.  
(a)  (b)  (c)  (d)
134. Assertion: Sertoli cells produces sperms.
   Reason: Leydigs cells secretes the male sex hormone testosterone.
   (a) (b) (c) (d)

135. Assertion: The epididymis is a highly coiled tube about 6 meters long
   Reason: It provides a temporary storage site for the immature sperms.
   (a) (b) (c) (d)

136. Assertion: The vas deferens is about 45 M long tube.
   Reason: It runs upward from the epididymis through the inguinal canal.
   (a) (b) (c) (d)

137. Assertion: The duct of urinary bladder joins the ejaculatory duct.
   Reason: Now it is known as urinary canal.
   (a) (b) (c) (d)

138. Assertion: Seminal vesicle produce 50% fluid volume of semen.
   Reason: Semen is thick and yellowish secretion.
   (a) (b) (c) (d)

139. Assertion: In ovary graffian follicle after ovulation produces glandular body.
   Reason: It produces the hormone progesterone.
   (a) (b) (c) (d)

140. Assertion: Myometrium is middle layer of the uterus.
   Reason: It is composed of bundles of smooth muscle.
   (a) (b) (c) (d)

141. Assertion: Clitoris is female external genitalia
   Reason: Which lies at the upper junction of the two labia majora.
   (a) (b) (c) (d)

142. Assertion: In spermatogenesis primary spermatocyte is produce at end of the multiplication phase.
   Reason: Primary spermatocyte is diploid.
   (a) (b) (c) (d)

143. Assertion: In menstrual cycle endometrium disintegrates during day 1-5.
   Reason: Due to lower concentration of female sex hormones in blood.
   (a) (b) (c) (d)

144. Assertion: In ovary end of the oogenesis process secondary oocyte and one first polar body divides in it.
   Reason: Ovulation take place at the secondary oocyte stage.
   (a) (b) (c) (d)

   Reason: All these changes take place in a period of one week
   (a) (b) (c) (d)
146. Which is incorrect for sexual dimorphism of male?
   (a) Mammary gland is name sake only
   (b) Voice is shrill
   (c) Muscle are strong
   (d) Beard and mustache develops

147. Which pair is not correct?
   (a) testis - scrota sac
   (b) ovary - upper pelvic cavity
   (c) vas deferens - ejaculatory duct
   (d) Fallopian tube - Ovulation

148. Which option shows correct chronology of cell production during spermatogenesis?
   (a) Germinal epithelium --> Spermatogonium --> Primary Spermatocyte --> Secondary Spermatocyte --> Spermatids.
   (b) Germinal epithelium --> Spermatids --> Spermatagonium --> Primary Spermatocyte --> Secondary Spermatocyte
   (c) Germinal epithelium --> Primary Spermatocyte --> Secondary Spermatocyte --> Spermatids.
   (d) Germinal epithelium --> Primary Spermatocyte --> Spermatagonium --> Secondary Spermatocyte --> Spermatids.

149. Which option is incorrect for the centriole function in spermiogenesis?
   (a) The two centroiles of the spermatids
   (b) The anterior one is known as proximal centriole
   (c) One is known as distal centriole
   (d) The distal centriole changes into the tail.

150. The correct order of the changes in hormone levels at first day to 28th day of menstrual cycle.
   (a) estrogen and progesterone level is lower --> Estrogen rising --> Progesterone rising.
   (b) estrogen and progesterone level is higher --> Estrogen lower --> Progesterone rising.
   (c) estrogen and progesterone level is lower --> Estrogen rising --> Progesterone lower.
   (d) estrogen and progesterone level is higher --> Estrogen rising --> Progesterone rising.

* Identify the parts from given diagram (151 to 155)

151. Identify the part-a
   (a) Spermatid
   (b) Secondary spermatocyte
   (c) Primary Spermatocyte
   (d) Sertoli cell
152. Identify the part (a) and (b) in the given diagram respectively
(a) Vas Deferens --> epididymis
(b) Vas Deferens --> testes
(c) Epididymis --> testes
(d) Vas Deferens --> Epididymis

153. Identify the part (a) and (b) in the given diagram respectively
(a) Oviducal funnel - Ovary
(b) Oviducal funnel - Cervix
(c) Ovary - cervix
(d) Uterus - Oviducal funnel

154. Identify the part (a) and (b) which organelle is present maximum.
(a) Middle piece --> Golgicomplex
(b) Middle piece --> Centrioles
(c) Tail piece --> Nucleus
(d) Middle piece --> Mitochondria

155. Identify stage of part (e) in the given diagram respectively
(a) Cleavage
(b) Morula
(c) 16 cells stage
(d) Blastocyst

156. In human the unpaired male reproductive structure is ... ... (Kerala PMT 2010)
(a) Seminal vesicle
(b) Prostate
(c) Bulbourethral gland
(d) Testes

157. Which of the following is an accessory reproductive gland in male mammals. (CPMT 1988, MPPMT 1988)
(a) Prostate gland
(b) Gastric gland
(c) Mushroom shaped gland
(d) Inguinal gland

158. The seminiferous tubules of the testes are lined by the germinal epithelium consisting...
(CPMT 1999, Orrissa-Jee 2011)
(a) Cells of sertoli
(b) Spermatocytes
(c) Spermatogonium
(d) Spermatids
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
</table>
| 159. Sperms cells are produced in | (a) Semini ferous tubules  
(b) Interstitial space  
(c) Epididymis  
(d) Prostate gland |
| 160. In the absence of acrosome the sperm | (a) Cannot penetrate the egg  
(b) Cannot get energy  
(c) Cannot get food  
(d) Cannot swim |
| 161. If after ovulation no pregnancy result the corpus luteum | (a) Is maintained by the presence of progesterone  
(b) Degenerates in a short time  
(c) Becomes active and secretes lot of FSH and LH  
(d) Produces lot of oxytocin and relaxin |
| 162. How many secondary spermatocyte will be required to form 400 spermatozoans. | (a) 100  
(b) 200  
(c) 40  
(d) 400 |
| 163. 1st polar body is formed at which stage of oogenesis | (a) 1st Meiosis  
(b) 2nd Mitosis  
(b) 1st Mitosis  
(d) Differentiation |
| 164. In oogenesis diploid cell produce _______ ovum. | (a) 1  
(b) 2  
(c) 3  
(d) 4 |
| 165. The process of delivery of the foetus is called | (a) Parturition  
(b) Implantation  
(c) Fertilisation  
(d) Lactation |
### ANSWER KEY

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 b</td>
<td>2 c</td>
<td>3 d</td>
<td>4 a</td>
<td>5 d</td>
<td>6 d</td>
<td>7 a</td>
<td>8 b</td>
<td>9 c</td>
<td>10 d</td>
<td>11 a</td>
<td>12 c</td>
<td>13 c</td>
<td>14 c</td>
<td>15 b</td>
<td>16 a</td>
<td>17 c</td>
<td>18 d</td>
<td>19 d</td>
<td>20 c</td>
<td>21 b</td>
<td>22 c</td>
<td>23 a</td>
<td>24 b</td>
<td>25 c</td>
<td>26 b</td>
</tr>
</tbody>
</table>