

## Chapter 3 Human Reproduction

1. Select the correct sequence of stages of spermatogenesis in a human male.

- (a) Spermatogonium → Spermatids → Spermatocytes → Spermatozoa
  - (b) Spermatogonium → Spermatocytes → Spermatids → Spermatozoa
  - (c) Spermatids → Spermatogonium → Spermatocytes → Spermatozoa
  - (d) Spermatocytes → Spermatogonium → Spermatids → Spermatozoa
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2. Vas deferens receives the duct of seminal vesicle and forms the

- (a) epididymis
  - (b) urethra
  - (c) ejaculatory duct
  - (d) urethral meatus
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3. How many functional sperms and how many ova will be formed by a primary spermatocyte and a primary oocyte, respectively?

- (a) One, One
  - (b) One, Four
  - (c) Four, One
  - (d) Four, Four
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4. Proliferative phase of menstrual cycle, is also called

- (a) follicular phase
  - (b) luteal phase
  - (c) secretory phase
  - (d) ovulatory phase
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5. Ovulation occurs under the influence of

- (a) follicle-stimulating hormone
  - (b) luteinising hormone
  - (c) progesterone
  - (d) estrogen.
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6. There is no cell division involved in

- (a) spermatogenesis
  - (b) oogenesis
  - (c) embryogenesis
  - (d) spermiogenesis
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7. The cell division in secondary oocyte is suspended at

- (a) Anaphase II
- (b) Metaphase II

- (c) Prophase II
  - (d) Telophase II
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8. After the release of the secondary oocyte, the Graafian follicle develops into

- (a) corpus callosum
  - (b) corpus albicans
  - (c) corpus luteum
  - (d) primary follicle
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9. The outermost layer of a blastocyst is called

- (a) ectoderm
  - (b) mesoderm
  - (c) endoderm
  - (d) trophoblast
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10. Urethral meatus refers to the [NCERT Exemplar]

- (a) urinogenital duct
  - (b) opening of vas deferens into urethra
  - (c) external opening of the urinogenital duct
  - (d) muscles surrounding the urinogenital duct
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11. Morula is a developmental stage [NCERT Exemplar]

- (a) between the zygote and blastocyst
  - (b) between the blastocyst and gastrula
  - (c) after the implantation
  - (d) between implantation and parturition
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12. Spermiation is the process of the release of sperms from [NCERT Exemplar]

- (a) seminiferous tubules
  - (b) vas deferens
  - (c) epididymis
  - (d) prostate gland
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13. Which of the following hormones prepares the uterus for implantation?

- (a) Progesterone
  - (b) FSH
  - (c) Estrogen
  - (d) LH
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14. The cell which undergoes meiosis I during spermatogenesis, is the

- (a) spermatogonium

- (b) spermatid
- (c) primary spermatocyte
- (d) secondary spermatocyte

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15. Seminal plasma, the fluid part of semen is formed by

- (a) seminal vesicle and bulbourethral gland.
- (b) bulbourethral gland and prostate.
- (c) prostate and seminal vesicle.
- (d) seminal vesicles, prostate and bulbourethral gland.

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16. The secondary oocyte completes its meiosis II when a sperm comes in contact with it and forms a large cell, the \_\_\_\_\_ and a second polar body,

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17. The gonadotropin-releasing hormone (GnRH) from the \_\_\_\_\_ initiates spermatogenesis at puberty.

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18. The first movements of the foetus and appearance of hair on the head are observed during the \_\_\_\_\_ month of pregnancy.

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19. The menstrual phase is followed by \_\_\_\_\_ phase.

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20. \_\_\_\_\_ refers to the onset of menstruation at puberty.

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21. The outermost thin membranous part of uterine wall is called \_\_\_\_\_ .

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22. The part of the fallopian tube, which is closer to the ovary and is funnel-shaped, is called \_\_\_\_\_ .

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23. The cells formed as a result of cleavage of the zygote, are called \_\_\_\_\_ .

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24. The placenta is connected to the embryo through \_\_\_\_\_ .

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25. The process of delivery of the foetus, is called

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Directions (Q26 and Q27): Match Column I with Column II.

26.

Column I	Column II
Cleavage	1. Outer layer of the blastocyst that attaches to the endometrium during implantation.

Implantation	2. Mitotic divisions of the zygote in quick succession.
Inner cell mass	3. Embedding of the blastocyst in the endometrium of uterus.
Troph oblast	4. Release of secondary oocyte from the ovary.
	5. Group of cells attached to one end of trophoblast that differentiate into embryo proper.

27.

Column I	Column II
A. Acrosome	1. Motility of sperm towards the egg.
B. Head	2. Powerhouse of the sperm; contains a number of mitochondria.
C. Tail	3. Contains the genetic material.
D. Middle piece	4. Contains enzymes to dissolve egg envelopes

28. The finger-like projections, called fimbriae, help in the collection of ovum into the fallopian tube following ovulation. [True/False]

29. Endometrium undergoes cyclical changes and help in uterine movements. [True/False]

30. Oxytocin, necessary for parturition, is secreted by the fully-developed foetus and the placenta. [True/False]

31. The finger-like projections that appear on the trophoblast following implantation, are called chorionic villi. [True/False]

32. Relaxin is the hormone secreted by the placenta. [True/False]

Directions (Q33 to Q37): Mark the odd one in each of the following groups.

33. Fimbriae, Labia minora, Infundibulum, Isthmus.

34. Rete testis, Vasa efferentia, Epididymis, Ampulla

35. Bulbourethral gland, Prostate. Seminal vesicle, Seminiferous tubule.

36. Oogonia, Spermatogonia, Zygote, Ootid

37. Luteinizing hormone, Progesterone, Chorionic gonadotropin, Estrogen

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38. Name the cells that nourish the germ cells in the testes. Where are these cells located in the testes? [AI2013C]

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39. How is a primary spermatocyte different from a secondary spermatocyte?

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40. Where is acrosome present in humans? Write its function. [AI 2012]

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41. Why is the middle piece of human sperm considered as 'powerhouse of the sperm'? [HOTS]

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42. What is semen?

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43. Mention the difference between spermiogenesis and spermiation, [Delhi 2012]

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44. How many primary follicles are left in each ovary in a human female at puberty?

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45. List the changes the primary oocyte undergoes in the tertiary follicular stage in the human ovary. [Foreign 2011]

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46. Write the physiological reason, why a woman generally cannot conceive a child after 50 years of age. [AI 2013C]

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47. Not all copulations lead to pregnancy. Give reason. [HOTS]

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48. How does the sperm penetrate through the zona pellucida in human ovum? [Delhi 2013C]

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49. How is the entry of only one sperm and not many, ensured into an ovum during fertilisation in humans? [AI 2012]

Or

During fertilization, hundreds of sperm cells are in the vicinity of an egg cell; but only one sperm enters the ovum. How is this achieved? [HOTS]

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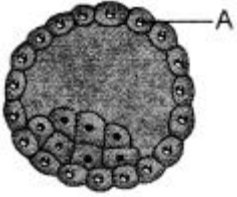
50. What is cleavage?

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

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52. Identify the figure given and the part labelled "A". [AI 2011]



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53. Mention the function of trophoblast in human embryo. [Delhi 2011]

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54. What are chorionic villi?

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55. How is the first sign of growing foetus noticed?

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56. What is meant by gestation period?

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57. State where the signals for parturition arise from, in humans. [AI 2017C]

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58. What stimulates the pituitary to release the hormone responsible for parturition? Name the hormone. [AI 2011]

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59. Define Lactation.

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60. How does the sperm penetrate through the zone pellucida in human ovum?

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