

PRACTICE QUESTION

- Correct sequence of cell stage in spermatogenesis
  - spermatocytes – spermatids – spermatogonia – spermatozoa
  - spermatogonia – spermatids – spermatocytes – spermatozoa
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  - spermatocytes – spermatogonia – spermatids – spermatozoa

**Ans: c. spermatogonia – spermatocytes – spermatids – spermatozoa**

- In spermatogenesis the phase of maturation involves
  - The formation of oogonia from the spermatocytes through meiosis
  - The formation of spermatids from primary spermatocytes through meiosis
  - The growth of spermatogonia into primary spermatocytes
  - The formation of spermatogonia from gonocytes through mitosis

**Ans: b. the formation of spermatids from primary spermatocytes through meiosis**

- Which part of sperm provides energy for its movement?
  - Head
  - Tail
  - Middle piece
  - Acrosome

**Ans: c. Middle piece**

- What happens during spermatogenesis?
  - mitosis
  - meiosis
  - mitosis and meiosis
  - none of the above

**Ans: c. mitosis and meiosis**

- Number of spermatozoa a single primary spermatocyte ultimately produces in spermatogenesis is
  - 8
  - 6
  - 4
  - 2

**Ans : c. 4**

- How many secondary spermatocytes are required to form 400 spermatozoa?
  - 100
  - 200
  - 400
  - 800

**Ans : b. 200**

- Spermatogenesis is induced by
  - MSH
  - TSH
  - FSH
  - ACTH

**Ans : c. FSH**

- The lytic enzyme released by sperm is
  - acrosome
  - ligase
  - hyaluronidase
  - None of these

**Ans : c. hyaluronidase**

- Following fertilization the blastocyst secretes a hormone called?
  - Human Chorionic Gonadotropin
  - Oxytocin
  - FSH
  - LH

**Ans : a. Human Chorionic Gonadotropin**

- In humans, the placenta is
  - Haemochorial
  - Endothelial
  - Epitheliochorial
  - Syndesmochorial

**Ans : a. Haemochorial**

- Implantation of blastocyst occurs on
  - 4<sup>th</sup> day
  - 5<sup>th</sup> day
  - 6<sup>th</sup> day
  - 7<sup>th</sup> day

**Ans : d. 7<sup>th</sup> day**

- The central fluid filled cavity of the blastula is known as
  - archenteron
  - blastocoel
  - blastocyst
  - morula

**Ans : b. blastocoels**

- Genetic identity of a human male is determined by
  - Autosomes
  - Nucleolus
  - Cell organelles
  - Sex chromosomes

**Ans : d. Sex chromosomes**

- Fertilizin is a chemical substance produced from
  - Mature eggs
  - acrosome
  - Polar bodies
  - Middle piece of sperm

**Ans : a. Mature eggs**

- Fertilization of ova in human take place in
  - ovary
  - Vagina
  - Fallopian tube
  - Uterus

**Ans : c. Fallopian tube**

- The morphogenetic movement change the hollow spherical blastula into a
  - Embryonic disc
  - Gastrula
  - Morula
  - Neurula

**Ans : b. Gastrula**

17. Undifferentiated spermatogenic cells are called
- spermatogonia.
  - primary spermatocytes.
  - secondary spermatocytes.
  - spermatids

**Ans : d. spermatogonia.**

18. Which of the following cells are diploid?
- secondary oocytes
  - secondary spermatocytes
  - primary spermatocytes
  - Spermatids

19. During spermatogenesis, which of the following undergoes a meiotic division to produce haploid cells?
- Spermatids
  - secondary spermatocytes
  - primary spermatocytes
  - spermatogonia

**Ans : c. primary spermatocytes**

20. The process of crossing-over, or recombination, of genes occurs during
- meiosis I
  - meiosis II
  - spermiogenesis
  - spermiation

**Ans : a. meiosis I**

21. Maintenance of the male secondary sex characteristics is the direct responsibility of
- estrogen.
  - testosterone.
  - FSH.
  - progesterone.

**Ans : b. testosterone.**

22. The first step in oogenesis is
- secondary oocyte divides to form a polar body and an egg cell.
  - primary oocyte divides to form a secondary oocyte and a first polar body.
  - follicle is converted to a corpus luteum.
  - corpus luteum is converted to a corpus albicans.

**Ans: b. primary oocyte divides to form a secondary oocyte and a first polar body**

23. The cell commonly called the egg, or ovum, is more correctly called
- primary oocyte.
  - secondary oocyte.
  - oogonium.
  - zygote.

**Ans : b. secondary oocyte.**

24. The first meiotic division in oogenesis occurs
- before ovulation.
  - only if the egg is fertilized.
  - after ovulation.
  - monthly after puberty in response to FSH and LH.

**Ans : a. before ovulation.**

25. If fertilization does not occur, the corpus luteum
- is expelled into the pelvic cavity.

- begins to secrete low levels of FSH.
- degenerates into the corpus albicans.
- continues to secrete progesterone until the next ovulation.

**Ans : c. degenerates into the corpus albicans.**

26. Following ovulation, a human egg cell can survive approximately
- 1 hour
  - 12 hours
  - 24 hours
  - 72 hours

**Ans : c. 24 hours**

27. About the time of ovulation, the anterior pituitary gland releases a relatively large quantity of
- estrogen
  - Progesterone
  - LH
  - Androgen

**Ans : c. LH**

28. The hormone mainly responsible for the development and maintenance of female secondary sexual characteristics is
- Estrogen
  - Progesterone
  - Androgen E
  - luteinizing hormone

**Ans : a. estrogen**

29. Fertilization takes place at
- Interstitial
  - Infundbulum
  - Ampulla
  - None of these

**Ans : c. Ampulla**

30. Which one is produced by mesoderm?
- Spinal cord and notochord
  - Heart and notochord
  - Brain and notochord
  - Heart and brain

**Ans : b. Heart and notochord**

31. The mesoderm gives rise to all the following structures in the fully developed fetus, EXCEPT
- Nervous system
  - Muscular system
  - Gonads
  - Circulatory system

**Ans : c. gonads**

32. Which test is found positive during fertility period of menstrual cycle?
- Pyroglobulin test
  - Spinnbarkeit test
  - Shick test
  - Ballotement test

**Ans : b. Spinnbarkeit test,** in which cervical mucus is slippery and can be drawn into a thread when stretched between two fingers.

33. After a sperm has entered on ovum, entry of other sperm is prevented by
- Condensation of the yolk

- b. Development of viteline membrane
- c. Formation of pigment coat
- d. Development of fertilization membrane

**Ans : d. Development of fertilization membrane**

34. Gonads develop from embryonic
- a. Ectoderm
  - b. Both mesoderm and endoderm
  - c. Endoderm
  - d. Mesoderm

**Ans : d. Mesoderm**

35. In development, nervous system is
- a. Endomesodermal
  - b. Ectodermal
  - c. Endodermal
  - d. Ectomesodermal

**Ans : b. Ectodermal**

36. Which of the following is the location where fertilization occurs?
- a. ovaries
  - b. vagina
  - c. uterus
  - d. fallopian tubes

**Ans : d. fallopian tubes**

37. Where does spermatogenesis occur?
- a. seminiferous tubules
  - b. corpus spongiosoma
  - c. prostate gland
  - d. scrotum

**Ans : a. seminiferous tubules**

38. Which of the following develops into: bone, connective tissue, blood, and the spleen?
- a. notochord
  - b. endoderm
  - c. mesoderm
  - d. ectoderm

**Ans : c. mesoderm**

39. Which of the following is not a germ layer during the 3<sup>rd</sup> week of development?
- a. mesoderm
  - b. ectoderm
  - c. endoderm
  - d. exoderm

**Ans : d. exoderm**

40. Ovulation occurs during which of the following phases?
- a. menstrual
  - b. secretory
  - c. proliferative
  - d. follicle

**Ans : c. proliferative**

41. Following fertilization the blastocyst secretes a hormone called?
- a. human chorionic gonadotropin
  - b. oxytocin
  - c. FSH
  - d. LH

**Ans : a. human chorionic gonadotropin**

42. Progesterone is secreted from a female's \_\_\_\_\_ to help the implanted embryo and continue the pregnancy.

- a. corpus luteum
- b. mesoderm
- c. endoderm
- d. thyroid

**Ans : a. corpus luteum**