

NEET HUMAN REPRODUCTION — GAMETOGENESIS: SPERMATOGENESIS AND OOGENESIS — PYQS

Max. Marks: 84

Questions: 21

Section A (MCQ) — 21 questions

Q.1 Arrange the following cell layers/structures around the female gamete, from outer to inner side :

- A. Zona pellucida
- B. Perivitelline space
- C. Corona radiata
- D. Plasma membrane of ovum

Choose the correct answer from the options given below :

[NEET (UG) 2026]

- (1) D, B, A, C (2) A, C, B, D
(3) C, A, D, B (4) C, A, B, D

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Q.2 Spermatogonia undergo a series of cell divisions to produce sperms.

- A. Spermatogonia always undergo meiotic cell division.
- B. Primary spermatocytes divide mitotically to produce secondary spermatocytes.
- C. Secondary spermatocytes, through their second meiotic division, produce haploid spermatids.
- D. Spermatids produce spermatozoa through mitosis.
- E. Spermatids transform into spermatozoa by spermiogenesis.

Select the correct statements from the following:
Choose the correct answer from the options given below :

[NEET (UG) 2026]

- (1) A, C and E only (2) C and E only
(3) A and E only (4) B, C and D only

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Q.3 The covering of ovum at ovulation is _____.

[RE-NEET (UG) 2026]

- (1) chorion (2) endometrium
(3) zona radiata (4) zona pellucida

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Q.4 Match List-I with List-II.

List - I		List - II	
A.	Head	I.	Enzymes
B.	Middle piece	II.	Sperm motility

List - I		List - II	
C.	Acrosome	III.	Energy
D.	Tail	IV.	Genetic material

Choose the correct answer from the options given below :

[NEET (UG) 2025]

- (1) A-III, B-IV, C-II, D-I (2) A-III, B-II, C-I, D-IV
(3) A-IV, B-III, C-I, D-II (4) A-IV, B-III, C-II, D-I

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Q.5 Consider the following :

- A. The reductive division for the human female gametogenesis starts earlier than that of the male gametogenesis.
- B. The gap between the first meiotic division and the second meiotic division is much shorter for males compared to females.
- C. The first polar body is associated with the formation of the primary oocyte.
- D. Luteinizing Hormone (LH) surge leads to disintegration of the endometrium and onset of menstrual bleeding.

Choose the correct answer from the options given below:

[NEET (UG) 2025]

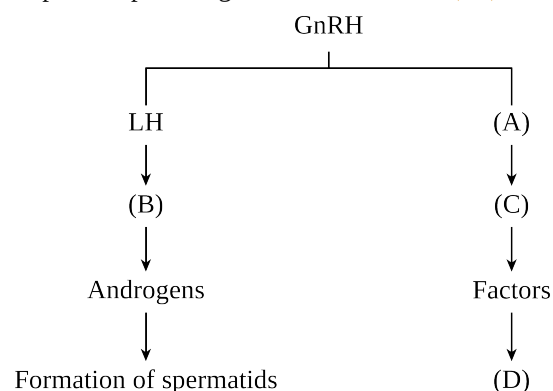
- (1) B and D are true (2) B and C are true
(3) A and B are true (4) A and C are true

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Q.6 Identify the correct option (A), (B), (C), (D) with respect to spermatogenesis.

[NEET (UG) 2024]



- (1) FSH, Leydig cells, Sertoli cells, spermiogenesis.
- (2) ICSH, Interstitial cells, Leydig cells, spermiogenesis.
- (3) FSH, Sertoli cells, Leydig cells, spermatogenesis.
- (4) ICSH, Leydig cells, Sertoli cells, spermatogenesis.

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- Q.7** Which of the following statements are true for spermatogenesis but do not hold true for Oogenesis?
- A. It results in the formation of haploid gametes
 - B. Differentiation of gamete occurs after the completion of meiosis
 - C. Meiosis occurs continuously in a mitotically dividing stem cell population
 - D. It is controlled by the Luteinising Hormone (LH) and Follicle Stimulating Hormone (FSH) secreted by the anterior pituitary
 - E. It is initiated at puberty
- Choose the most appropriate answer from the options given below : [NEET (UG) 2022]
- (1) C and D only (2) B and C only
 - (3) B, D and E only (4) B, C and E only

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- Q.8** Given below are two statements:
- Statement-I:** The release of sperms into the seminiferous tubules is called spermiation.
- Statement-II:** Spermiogenesis is the process of formation of sperms from spermatogonia.
- In the light of the above statements, choose the most appropriate answer from the options given below: [NEET (UG) 2022]
- (1) Both Statement-I and Statement-II are correct
 - (2) Both Statement-I and Statement-II are incorrect
 - (3) Statement-I is correct but Statement-II is incorrect
 - (4) Statement-I is incorrect but Statement-II is correct

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- Q.9** At which stage of life the oogenesis process is initiated? [NEET (UG) 2022]
- (1) Puberty
 - (2) Embryonic development stage
 - (3) Birth
 - (4) Adult

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- Q.10** How many secondary spermatocytes are required to form 400 million spermatozoa? [NEET (UG) 2022 (Phase 2)]
- (1) 400 million (2) 50 million
 - (3) 100 million (4) 200 million

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- Q.11** The difference between spermiogenesis and spermiation is [NEET 2018]
- (1) in spermiogenesis spermatids are formed, while in spermiation spermatozoa are formed
 - (2) in spermiogenesis spermatozoa are formed, while in spermiation spermatids are formed
 - (3) in spermiogenesis spermatozoa from Sertoli cells are released into the cavity of seminiferous tubules, while in spermiation spermatozoa are formed
 - (4) in spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from Sertoli cells into the cavity of seminiferous tubules

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- Q.12** Identify the correct statement on 'inhibin'. [NEET 2016 (Phase 1)]
- (1) Is produced by granulosa cells in ovary and inhibits the secretion of LH
 - (2) Is produced by nurse cells in testes and inhibits the secretion of LH
 - (3) Inhibits the secretion of LH, FSH and prolactin
 - (4) Is produced by granulosa cells in ovary and inhibits the secretion of FSH

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- Q.13** Match **column I** with **column II** and select the correct option using the codes given below.

[NEET 2016 (Phase 2)]

Column I		Column II	
a.	Mons pubis	i.	Embryo formation
b.	Antrum	ii.	Sperm
c.	Trophectoderm	iii.	Female external genitalia
d.	Nebenkern	iv.	Graafian follicle

- (1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (4) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)

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Q.14 In human females, meiosis-II is not completed until

[AIPMT 2015]

- (1) uterine implantation (2) birth
(3) puberty (4) fertilisation

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Q.15 Which of the following layers in an antral follicle is acellular?

[AIPMT 2015]

- (1) Stroma (2) Zona pellucida
(3) Granulosa (4) Theca interna

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Q.16 Which of the following cells during gametogenesis is normally diploid?

[AIPMT 2015 (Cancelled)]

- (1) Spermatogonia (2) Secondary polar body
(3) Primary polar body (4) Spermatid

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Q.17 What is the correct sequence of sperm formation?

[NEET 2013]

- (1) Spermatogonia, spermatozoa, spermatocytes, spermatids
(2) Spermatogonia, spermatocytes, spermatids, spermatozoa
(3) Spermatids, spermatocytes, spermatogonia, spermatozoa
(4) Spermatogonia, spermatocytes, spermatozoa, spermatids

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Q.18 Which one of the following statements about human sperm is correct?

[AIPMT 2010 (Prelims)]

- (1) Acrosome has a conical pointed structure used for piercing and penetrating the egg, resulting in fertilisation
(2) The sperm lysins in the acrosome dissolve the egg envelope facilitating fertilisation
(3) Acrosome serves as a sensory structure leading the sperm towards the ovum
(4) Acrosome serves no particular function

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Q.19 The correct sequence of spermatogenetic stages leading to the formation of sperms in a mature human testis is:

[AIPMT 2009]

- (1) spermatocyte - spermatogonia - spermatid - sperms
(2) spermatogonia - spermatid - spermatocyte - sperms
(3) spermatid - spermatocyte - spermatogonia - sperms
(4) spermatogonia - spermatocyte - spermatid - sperms

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Q.20 In humans, at the end of the first meiotic division, the male germ cells differentiate into the:

[AIPMT 2008]

- (1) secondary spermatocytes
(2) spermatogonia
(3) primary spermatocytes
(4) spermatids

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Q.21 Sertoli cells are regulated by the pituitary hormone known as-

[AIPMT 2006]

- (1) LH (2) FSH (3) GH (4) Prolactin

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	2	4	3	3	1	4	3	2	4	4
Ques.	12	13	14	15	16	17	18	19	20	21	
Ans.	4	2	4	2	1	2	2	4	1	2	