

# Chapter 02

## Human Reproduction



### NEET-FLASHBACK



- Q.1** In the human female, menstruation can be deferred by the administration of :- [AIPMT 2007]  
 (1) FSH only  
 (2) LH only  
 (3) Combination of FSH and LH  
 (4) Combination of estrogen and progesterone
- Q.2** In humans, at the end of the first meiotic division, the male germ cells differentiate into the :- [AIPMT 2008]  
 (1) Spermatids  
 (2) Spermatogonia  
 (3) Primary spermatocytes  
 (4) Secondary spermatocytes
- Q.3** Foetal ejection reflex in human female is induced by : [AIPMT 2009]  
 (1) Release of oxytocin from pituitary  
 (2) Fully developed foetus and placenta  
 (3) Differentiation of mammary glands  
 (4) Pressure exerted by amniotic fluid
- Q.4** A change in the amount of yolk and its distribution in the egg will effect : [AIPMT 2009]  
 (1) Pattern of cleavage  
 (2) Number of blastomeres produced  
 (3) Fertilization  
 (4) Formation of zygote
- Q.5** The part of fallopian tube closest to the ovary is [AIPMT 2010]  
 (1) Ampulla (2) Isthmus  
 (3) Infundibulum (4) Cervix
- Q.6** Signals from fully developed foetus and placenta ultimately lead to parturition which requires the release of : [AIPMT 2010]  
 (1) Estrogen from placenta  
 (2) Oxytocin from maternal pituitary  
 (3) Oxytocin from foetal pituitary  
 (4) Relaxin from placenta
- Q.7** Secretions from which one of the following are rich in fructose, calcium and enzymes? [AIPMT 2010]  
 (1) Male accessory glands  
 (2) Liver  
 (3) Pancreas  
 (4) Salivary glands
- Q.8** Which one of the following statements about morula in humans is **correct** ? [AIPMT 2010]  
 (1) It has more cytoplasm and more DNA than an uncleaved zygote  
 (2) It has almost equal quantity of cytoplasm as an uncleaved zygote but much more DNA  
 (3) It has far less cytoplasm as well as less DNA than in an uncleaved zygote  
 (4) It has more or less equal quantity of cytoplasm and DNA as in uncleaved zygote
- Q.9** The second maturation division of the mammalian ovum occurs : [AIPMT 2010]  
 (1) In the Graafian follicle following the first maturation division  
 (2) Shortly after ovulation before the ovum makes entry into the Fallopian tube  
 (3) After the ovum has been penetrated by a sperm  
 (4) After nucleus of the sperm has fused with that the ovum
- Q.10** Which one of the following statements about human sperm is **correct** ? [AIPMT 2010]  
 (1) Acrosome serves no particular function  
 (2) Acrosome has a conical pointed structure used for piercing and penetrating the egg resulting in fertilization  
 (3) The sperm lysins in the acrosome dissolve the egg envelope facilitating fertilization  
 (4) Acrosome serves as a sensory structure leading the sperm towards the ovum
- Q.11** Sertoli cells are found in : [AIPMT 2010]  
 (1) Pancreas and secrete cholecystokinin  
 (2) Ovaries and secrete progesterone

- (3) Adrenal cortex and secrete adrenaline
- (4) Seminiferous tubules and provide nutrition to developing sperms.

**Q.12** Vasa efferentia are the ductules leading from :  
[AIPMT 2010]

- (1) Epididymis to urethra
- (2) Testicular lobules to Rete testis
- (3) Rete testis to epididymis
- (4) Vas deferens to epididymis

**Q.13** Seminal plasma in human males is rich in :  
[AIPMT 2010]

- (1) Ribose and potassium
- (2) Fructose and calcium
- (3) Glucose and calcium
- (4) DNA and testosterone

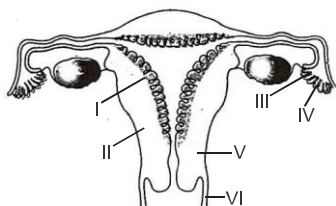
**Q.14** The first movements of the foetus and appearance of hair on its head are usually observed during which month of pregnancy ? [AIPMT 2010]

- (1) Third month      (2) Fourth month
- (3) Fifth month      (4) Sixth month

**Q.15** In human female the *blastocyst* : [AIPMT 2010]

- (1) Forms placenta even before implantation
- (2) Gets implanted into uterus 3 days after ovulation
- (3) Gets nutrition from uterine endometrial secretion only after implantation
- (4) Gets implanted in endometrium by the trophoblasts cells

**Q.16** The **figure** given below depicts a diagrammatic sectional view of the female reproductive system of humans. Which one set of three parts out of I - IV have been **correctly** identified?  
[AIPMT 2011]



- (1) (I) Perimetrium, (II) Myometrium, (III) Fallopian tube
- (2) (II) Endometrium, (III) Infundibulum, (IV) Fimbriae
- (3) (III) Infundibulum, (IV) Fimbriae, (V) Cervix
- (4) (IV) Oviduct funnel, (V) Uterus, (VI) Cervix

**Q.17** The testes in humans are situated outside the abdominal cavity inside a pouch called scrotum. The purpose served is for [AIPMT 2011]

- (1) Providing a secondary sexual feature for exhibiting the male sex

- (2) Maintaining the scrotal temperature lower than the internal body temperature
- (3) Escaping any possible compression by the visceral organs
- (4) Providing more space for the growth of epididymis

**Q.18** If for some reason, the vasa efferentia in the human reproductive system get blocked, the gametes will not be transported from:  
[AIPMT 2011]

- (1) Vagina to uterus
- (2) Testes to epididymis
- (3) Epididymis to vas deferens
- (4) Ovary to uterus

**Q.19** What happens during fertilisation in humans after many sperms reach close to the ovum ?  
[AIPMT 2011]

- (1) Cells of corona radiata trap all the sperms except one
- (2) Only two sperms nearest the ovum penetrate zona pellucida
- (3) Secretions of acrosome helps one sperm enter cytoplasm of ovum through zona pellucida
- (4) All sperm except the one nearest to the ovum lose their tails

**Q.20** About which day in a normal human menstrual cycle does rapid secretion of LH (Popularly called LH-surge) normally occurs : [AIPMT 2011]

- (1) 5<sup>th</sup> day      (2) 11<sup>th</sup> day
- (3) 14<sup>th</sup> day      (4) 20<sup>th</sup> day

**Q.21** The Leydig cells as found in the human body are the secretory source of : [AIPMT 2012]

- (1) Glucagon      (2) Androgens
- (3) Progesterone      (4) Intestinal mucus

**Q.22** In a normal pregnant woman, the amount of total gonadotropin activity was assessed. The result expected was : [AIPMT 2012]

- (1) High level of circulating hCG to stimulate estrogen and progesterone synthesis
- (2) High level of circulating FSH and LH in the uterus to stimulate implantation of the embryo
- (3) High level of circulating hCG to stimulate endometrial thickening
- (4) High level of FSH and LH in uterus to stimulate endometrial thickening

**Q.23** Signals for parturition originate from :  
[AIPMT 2012]

- (1) Fully developed foetus only
- (2) Both placenta as well as fully developed foetus
- (3) Oxytocin released from maternal pituitary
- (4) Placenta only

## BIOLOGY

**Q.24** Which one of the following statements is **false** in respect of viability of mammalian sperm?

[AIPMT 2012]

- (1) Sperms must be concentrated in a thick suspension
- (2) Sperm is viable for only up to 24 hours
- (3) Survival of sperm depends on the pH of the medium and is more active in alkaline medium
- (4) Viability of sperm is determined by its motility.

**Q.25** The secretory phase in the human menstrual cycle is also called :

[AIPMT Mains 2012]

- (1) Follicular phase and lasts for about 13 days
- (2) Luteal phase and lasts for about 6 days
- (3) Follicular phase lasting for about 6 days
- (4) Luteal phase and lasts for about 13 days

**Q.26** Which one of the following is **not** the function of placenta? It :

[NEET 2013]

- (1) Secretes estrogen
- (2) Facilitates removal of carbon dioxide and waste material from embryo
- (3) Secretes oxytocin during parturition
- (4) Facilitates supply of oxygen and nutrients to embryo

**Q.27** Menstrual flow occurs due to lack of :

[NEET 2013]

- (1) FSH
- (2) Oxytocin
- (3) Vasopressin
- (4) Progesterone

**Q.28** What is the **correct** sequence of sperm formation?

[NEET 2013]

- (1) Spermatogonia, spermatocyte, spermatozoa, spermatid
- (2) Spermatogonia, spermatozoa, spermatocyte, spermatid
- (3) Spermatogonia, spermatocyte, spermatid, spermatozoa
- (4) Spermatid, spermatocyte, spermatogonia, spermatozoa

**Q.29** The main function of mammalian corpus luteum is to produce :

[AIPMT 2014]

- (1) Estrogen only
- (2) Progesterone
- (3) Human chorionic gonadotropin
- (4) Relaxin only

**Q.30** The shared terminal duct of the reproductive and urinary system in the human male is:

[AIPMT 2014]

- (1) Urethra
- (2) Ureter
- (3) Vas deferens
- (4) Vasa efferentia

**Q.31** Select the **correct** option describing gonadotropin activity in a normal pregnant female:

[AIPMT 2014]

(1) High level of FSH and LH stimulates the thickening of endometrium.

(2) High level of FSH and LH facilitate implantation of the embryo.

(3) High level of hCG stimulates the synthesis of estrogen and progesterone.

(4) High level of hCG stimulates the thickening of endometrium.

**Q.32** Hysterectomy is surgical removal of:

- (1) Mammary glands
- (2) Uterus
- (3) Prostate glands
- (4) Vas-deferens

**Q.33** Which of these is **not** an important component of initiation of parturition in humans?

[AIPMT 2015]

- (1) Release of prolactin
- (2) Increase in estrogen and progesterone ratio
- (3) Synthesis of prostaglandins
- (4) Release of oxytocin

**Q.34** Capacitation refers to changes in the:

[AIPMT 2015]

- (1) Sperm after fertilization
- (2) Sperm before fertilization
- (3) Ovum before fertilization
- (4) Ovum after fertilization

**Q.35** Which of the following cells during gametogenesis is normally diploid?

[AIPMT 2015]

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

**Q.36** Ectopic pregnancies are referred to as:

[Re-AIPMT 2015]

- (1) Pregnancies terminated due to hormonal imbalance
- (2) Pregnancies with genetic abnormality
- (3) Implantation of embryo at site other than uterus
- (4) Implantation of defective embryo in the uterus

**Q.37** Which of the following events is not associated with ovulation in human female?

[Re-AIPMT 2015]

- (1) LH surge
- (2) Decrease in estradiol
- (3) Full development of Graafian follicle
- (4) Release of secondary oocyte

**Q.38** In human females, meiosis-II is not completed until :

[Re-AIPMT 2015]

- (1) Birth
- (2) Puberty
- (3) Fertilization
- (4) Uterine implantation

**Q.39** Which of the following layers in an antral follicle is acellular ?

[Re-AIPMT 2015]

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

**Q.40** Fertilization in humans is practically feasible only if :

[NEET (Phase-I) 2016]



- (1) The sperms are transported into vagina just after the release of ovum in fallopian tube
- (2) The ovum and sperms are transported simultaneously to ampullary isthmic junction of the fallopian tube
- (3) The ovum and sperms are transported simultaneously to ampullary - isthmic junction of the cervix.
- (4) The sperms are transported into cervix within 48 hrs of release of ovum in uterus.

**Q.41** Select the **incorrect** statement:

[NEET (Phase-I) 2016]

- (1) FSH stimulates the sertoli cells which help in spermiogenesis
- (2) LH triggers ovulation in ovary
- (3) LH and FSH decrease gradually during the follicular phase
- (4) LH triggers secretion of androgens from the Leydig cells

**Q.42** Which of the following is **incorrect** regarding vasectomy ? [NEET (Phase-II) 2016]

- (1) Vasa deferentia is cut and tied
- (2) Irreversible sterility
- (3) No sperm occurs in seminal fluid
- (4) No sperm occurs in epididymis

**Q.43** Which of the following depicts the **correct** pathway of transport of sperms? [NEET (Phase-II) 2016]

- (1) Rete testis → Vas deferens → Efferent ductules → Epididymis
- (2) Efferent ductules → Rete testis → Vas deferens → Epididymis
- (3) Rete testis → Efferent ductules → Epididymis → Vas deferens
- (4) Rete testis → Epididymis → Efferent ductules → Vas deferens

**Q.44** Several hormones like hCG, hPL, estrogen, progesterone are produced by :

[NEET (Phase-II) 2016]

- (1) Fallopian tube
- (2) Pituitary
- (3) Ovary
- (4) Placenta

**Q.45** Identify the **correct** statement on 'inhibin' :-

[NEET (Phase-II) 2016]

- (1) Inhibits the secretion of LH, FSH and Prolactin.
- (2) Is produced by granulosa cells in ovary and inhibits the secretion of FSH.
- (3) Is produced by granulosa cells in ovary and inhibits the secretion of LH.
- (4) Is produced by nurse cells in testes and inhibits the secretion of LH.

**Q.46** Capacitation occurs in : [NEET 2017]

- (1) Rete testis
- (2) Epididymis

- (3) Vas deferens
- (4) Female Reproductive tract

**Q.47** GnRH, a hypothalamic hormone, needed in reproduction, acts on : [NEET 2017]

- (1) Anterior pituitary gland and stimulates secretion of LH and FSH.
- (2) Posterior pituitary gland and stimulates secretion of oxytocin and FSH.
- (3) Posterior pituitary gland and stimulates secretion of LH and relaxin.
- (4) Anterior pituitary gland and stimulates secretion of LH and oxytocin.

**Q.48** Hormones secreted by the placenta to maintain pregnancy are : [NEET 2018]

- (1) hCG, hPL, progestogens, prolactin
- (2) hCG, hPL, estrogens, relaxin, oxytocin
- (3) hCG, hPL, progestogens, estrogens
- (4) hCG, progestogens, estrogens, glucocorticoids

**Q.49** 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, spermatozon are formed.
- (4) In spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from sertoli cells into the cavity of seminiferous tubules.

**Q.50** Select the correct sequence for transport of sperm cells in male reproductive system.

[NEET 2019]

- (1) Seminiferous tubules → Vasa efferentia → Epididymis → Inguinal canal → Urethra
- (2) Testis → Epididymis → Vasa efferentia → Vas deferens → Ejaculatory duct → Inguinal canal → Urethra → Urethral meatus
- (3) Testis → Epididymis → Vasa efferentia → Rete testis → Inguinal canal → Urethra
- (4) Seminiferous tubules → Rete testis → Vasa efferentia → Epididymis → Vas deferens Ejaculatory duct → Urethra → Urethral meatus

**Q.51** Extrusion of second polar body from egg nucleus occurs : [NEET 2019]

## BIOLOGY

- (1) Before entry of sperm into ovum
- (2) Simultaneously with first cleavage
- (3) After entry of sperm but before fertilization
- (4) After fertilization

**Q.52** Which of the following hormone levels will cause release of ovum (ovulation) from the Graafian follicle? **[NEET 2020]**

- (1) High concentration of Progesterone
- (2) Low concentration of LH
- (3) Low concentration of FSH
- (4) High concentration of Estrogen

**Q.53** Meiotic division of the secondary oocyte is completed: **[NEET 2020]**

- (1) At the time of copulation
- (2) After zygote formation
- (3) At the time of fusion of a sperm with an ovum
- (4) Prior to ovulation

**Q.54** Match the following columns and select the correct option **[NEET 2020]**

Column - I		Column - II	
A.	Placenta	(i)	Androgens
B.	Zona pellucida	(ii)	Human chorionic gonadotropin (hCG)
C.	Bulbo-urethral glands	(iii)	Layer of the ovum
D.	Leydig cells	(iv)	Lubrication of the penis

- |     |       |       |      |       |
|-----|-------|-------|------|-------|
|     | (A)   | (B)   | (C)  | (D)   |
| (1) | (i)   | (iv)  | (ii) | (iii) |
| (2) | (iii) | (ii)  | (iv) | (i)   |
| (3) | (ii)  | (iii) | (iv) | (i)   |
| (4) | (iv)  | (iii) | (i)  | (ii)  |

**Q.55** In human beings, at the end of 12 weeks (first trimester) of pregnancy, the following is observed: **[NEET 2020 Re-Covid]**

- (1) Most of the major organ systems are formed
- (2) The head is covered with fine hair
- (3) Movement of the foetus
- (4) Eyelids and eyelashes are formed

**Q.56** Select the correct option of haploid cells from the following groups: **[NEET 2020 Re-Covid]**

- (1) Secondary spermatocyte, First polar body, Ovum
- (2) Spermatogonia, Primary spermatocyte, Spermatid
- (3) Primary spermatocyte, Secondary spermatocyte, Second polar body
- (4) Primary oocyte, Secondary oocyte, Spermatid

**Q.57** Receptors for sperm binding in mammals are present on: **[NEET 2021]**

- (1) Corona radiata
- (2) Vitelline membrane
- (3) Perivitelline space
- (4) Zona pellucida

**Q.58** Which of these is not an important component of initiation of parturition in humans? **[NEET 2021]**

- (1) Increase in estrogen and progesterone ratio
- (2) Synthesis of prostaglandins
- (3) Release of Oxytocin
- (4) Release of Prolactin

**Q.59** Which of the following secretes the hormone, relaxin, during the later phase of pregnancy? **[NEET- 2021]**

- (1) Uterus
- (2) Graafian follicle
- (3) Corpus luteum
- (4) Fetus

**Q.60** 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 option given below: **[NEET-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 are incorrect
- (4) Statement -I is incorrect but Statement -II are correct

**Q. 61** Which of the following statements are true for spermatogenesis but do not hold true for oogenesis? **[NEET-2022]**

- (i) It results in the formation haploid gametes.
- (ii) Differentiation of gamete occurs after the completion of meiosis.
- (iii) Meiosis occurs continuously in a mitotically dividing stem cell population
- (iv) It is controlled by the Leuteinizing Hormone (LH) and Follicle Stimulating Hormone (FSH) secreted by the anterior pituitary
- (v) It is initiated at puberty.

Choose the most appropriate answer from the options given below:

- (1) (iii) & (v) only
- (2) (ii) & (iii) only
- (3) (ii), (iv) & (v) only
- (4) (ii), (iii) & (iv) only

**Q.62** At which stage of life the oogenesis process is initiated? [NEET-2022]  
(1) Puberty  
(2) Embryonic development stage  
(3) Birth  
(4) Adult

**Q.63** Which of the following statements are correct regarding female reproductive cycle?

- A. In non-primate mammals cyclical changes during reproduction are called oestrus cycle.
- B. First menstrual cycle begins at puberty and is called menopause.
- C. Lack of menstruation may be indicative of pregnancy.
- D. Cyclic menstruation extends between menarche and menopause.

Choose the **most appropriate** answer from the options given below: [NEET-2023]

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

**Q.64** Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R. [NEET-2023]

**Assertion A:** Endometrium is necessary for implantation of blastocyst.

**Reason R:** In the absence of fertilization, the corpus luteum degenerates that causes disintegration of endometrium.

In the light of the above statements, choose the **correct** answer from the options given below:

- (1) Both A and R are true but R is NOT the correct explanation of A.
- (2) A is true but R is false.
- (3) A is false but R is true.
- (4) Both A and R are true and R is the correct explanation of A.

**Q.65** Given below are two statements: [NEET-2023]

**Statement I:** Vas deferens receives a duct from seminal vesicle and opens into urethra as the ejaculatory duct.

**Statement II:** The cavity of the cervix is called cervical canal which along with vagina forms birth canal.

In the light of the above statements, choose the **correct** answer from the options given below:

- (1) Both Statement I and Statement II are false.
- (2) Statement I is correct but Statement II is false.

- (3) Statement I is incorrect but Statement II is true.
- (4) Both Statement I and Statement II are true.



## ANSWER KEY

### NEET - FLASHBACK

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	4	4	2	1	3	2	1	2	3	3	4	3	2	3	4
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	3	2	2	3	3	2	1	2	2	4	3	4	3	2	1
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	3	2	1	2	4	3	2	3	1	2	3	4	3	4	2
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	4	1	3	4	4	3	4	3	3	1	1	4	4	3	3
Que.	61	62	63	64	65										
Ans.	4	2	3	1	4										

