

Chapter 02

Human Reproduction



RANKER'S STUFF



- Q.1** Seminal plasma contains the secretions of :
- (1) Follicles, uterus and prostate gland
 - (2) Prostate, Cowper's and Bartholin's gland
 - (3) Seminal vesicle, uterus and prostate gland
 - (4) Seminal vesicle, prostate and Cowper's gland

- Q.2** Match the column I with column II and select the correct option :

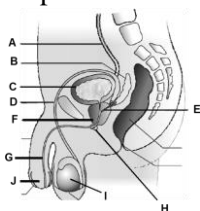
Column I		Column II	
A.	Hypothalamus	1.	Sperm lysins
B.	Acrosome	2.	Estrogen
C.	Graafian follicle	3.	Relaxin
D.	Leydig's cells	4.	GnRH
E.	Parturition	5.	Testosterone

- (1) A-4, B-1, C-2, D-3, E-5
- (2) A-2, B-1, C-4, D-3, E-5
- (3) A-2, B-1, C-5, D-4, E-3
- (4) A-4, B-1, C-2, D-5, E-3

- Q.3** Which of the following statements is **incorrect** w.r.t. **semen** ?

- (1) The seminal plasma along with sperms constitute semen
- (2) Semen is slightly alkaline with pH of 7.3
- (3) The average volume of semen in one ejaculation is 2.5 - 4.0 ml with sperm count of 200 to 300 million sperms
- (4) The milky appearance of semen is due to fluids from the seminal vesicles which also secrete fibrinolysin enzyme

- Q.4** Following is diagrammatic sectional view of male pelvis showing reproductive system with certain labelled parts.



Find out the **correct** options:

- (1) Male sex accessory ducts - D, A, E, G
- (2) Accessory glands - B, F, H
- (3) Primary sex organ - J
- (4) Endocrine structure - I, C

- Q.5** Correct order of **spermatogenesis** is :

- (1) Primary Spermatocytes → Spermatogonia → Spermatid → Sperm
- (2) Spermatogonia → Spermatid → Spermatocytes → Sperm
- (3) Spermatid → Spermatogonia → Spermatocytes → Sperm
- (4) Spermatogonia → Primary Spermatocytes → Secondary spermatocytes → Spermatid → Sperm

- Q.6** Which one of the following statements is **incorrect** about menstrual cycle ?

- (1) The first menstruation begins at the puberty and is called menarche.
- (2) Lack of menstruation may also occur due to some environmental factors like stress, poor health.
- (3) Corpus luteum secretes large amounts of progesterone which is essential for maintenance of endometrium
- (4) In absence of fertilisation, corpus luteum degenerates in luteal phase and new follicles starts developing immediately due to progesterone.

- Q.7** Which one of the following is **incorrect** ?

- (1) After gastrulation, cleavage is completely checked
- (2) Cleavage of fertilized ovum results in blastula
- (3) Fusion of sperm and ovum occurs in fallopian tube

- (4) Cleavage leads to increase in the mass of protoplasm

Q.8 Which statement is **wrong** ?

- (1) Mammary lobes containing clusters of cells called alveoli
- (2) Uterus is also called womb
- (3) The last part of the oviduct is called Ampulla
- (4) Stroma of ovary divided into two zones - cortex and medulla

Q.9 Spermatogenesis start at puberty due to significant increase in the secretion of :

- (1) GnRH (2) Androgen
- (3) Oxytocin (4) progesterone

Q.10 Read the following statement carefully and choose the **incorrect** statements :

- (1) The secretions of prostate glands also helps in the lubrication of the penis.
- (2) The stroma of ovary divided into two zones – a peripheral cortex and an inner medulla.
- (3) In between seminiferous tubules, leydig cells and some immunologically competent cells are present.
- (4) By the end of the second month of pregnancy, the foetus develops limbs and digits.

Q.11 Match the following and choose the **correct** options

Set-I		Set-II	
A. Trophoblast	(i)	Embedding of blastocyst in the endometrium	
B. Cleavage	(ii)	Group of the cells that would differentiate as embryo	
C. Inner cell mass	(iii)	Outer layer of blastocyst attached to the endometrium	
D. Implantation	(iv)	Mitotic division of zygote	

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

Q.12 Correct sequence in development is :

- (1) Fertilization → Zygote → Cleavage → Morula → Blastula → Gastrula
- (2) Fertilization → Zygote → Blastula → Morula → Cleavage → Gastrula
- (3) Fertilization → Cleavage → Morula → Zygote → Blastula → Gastrula
- (4) Cleavage → Zygote → Fertilization → Morula → Blastula → Gastrula

Q.13 After one month of pregnancy, the embryo's A is formed. By the end of the B month of pregnancy, the foetus develops limbs and digits. By the end of C most of the major organ systems are formed for example, the limbs and external genital organs are well-developed. By the end of D the body is covered with fine hair, eyelids separate, and eyelashes are formed. Here **A to D** refers to:

- (1) **A**–heart, **B**–second, **C**–first trimester, **D**–second trimester
- (2) **A**–heart, **B**–second, **C**–first month, **D**–second month
- (3) **A**–heart, **B**–second, **C**–first week, **D**– second week
- (4) **A**–heart, **B**–fourth, **C**–first trimester, **D**–second trimester

Q.14 Which statement is **not correct** ?

- (1) In the absence of fertilization, the corpus luteum degenerates
- (2) During pregnancy all events of menstrual cycle stop
- (3) The secretion of LH & FSH decreases gradually during the follicular phase
- (4) The menstrual flow results due to breakdown of endometrial lining

Q.15 Find out the **incorrect** match w.r.t. development in humans :

- (1) **By the end of 24 weeks** – Eye lids separate and eyelashes are formed
- (2) **By the end of 8 weeks** – Appearance of hair on head and first movement of foetus
- (3) **By the end of 12 weeks** – Limbs and external genital organs are well developed
- (4) **By the end of 4 weeks** – Heart is formed

Q.16 Select the **correct** sequence of the events occurring during ejection of milk from mammary gland:

- (a) Sensory impulses are transmitted through somatic nerves from the nipples to the mother's spinal cord and then to her hypothalamus
 - (b) Expulsion of milk from alveoli into the ducts
 - (c) Suckling action of baby on the breast
 - (d) Contraction of myoepithelial cells
 - (e) Secretion of oxytocin
- (1) (d) → (c) → (e) → (a) → (b)

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- (2) (c) → (a) → (e) → (b) → (d)
 (3) (c) → (a) → (e) → (d) → (b)
 (4) (d) → (c) → (a) → (e) → (b)

Q.17 Parturition is induced by :

- (1) A complex neuroendocrine mechanism
 (2) A simple neuroendocrine mechanism
 (3) A neuro exocrine mechanism
 (4) A physio-chemical mechanism

Q.18 Which group represents external genitalia of human female ?

- (1) Labium minora, labium majora, vagina
 (2) Labium majora, labium minora, oviduct
 (3) Labium minora, labium majora, cervix
 (4) Labium majora, minora, clitoris

Q.19 Placenta acts as an endocrine tissue and produces several hormones like :

- (A) Human chorionic gonadotropin (hCG)
 (B) Human placental lactogen (hPL)
 (C) Estrogens
 (D) Progesterone
 (E) FSH
 (F) LH

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

Q.20 Which of the following group of hormones are produced in women only during pregnancy ?

- (1) hCG, hPL, relaxin
 (2) Estrogen, progesterone, hCG
 (3) Cortisone, prolactin, thyroxine
 (4) Prolactin, progesterone, hCG

Q.21 Primary sex organ differ from the secondary sex organs in all the following except :

- (1) They produce gametes
 (2) They secrete sex hormones
 (3) They are concerned with the conduction of gametes
 (4) Testes in male and ovaries in female are the examples of primary sex organs

Q.22 The organ which produces gametes are called A and which neither produces gametes nor hormones are called B. Here **A** and **B** represent.

- (1) **A**-primary sex organs; **B**-Secondary Sex organs
 (2) **A**-Secondary sex organs; **B**-Primary Sex organs
 (3) **A**-Tertiary sex organs; **B**-Secondary Sex organs
 (4) **A**-Secondary sex organs; **B**-Tertiary Sex organs

Q.23 Correctly matched pairs are :

- I. **Clitoris**-Erectile body in female homologous to penis of male
 II. **Sexual intercourse** - coitus
 III. **Colostrum** - Secretion found in seminal fluid
 IV. **Areola** - Pigmented circular area around the nipple.

Codes are:

- (1) I and II are correct
 (2) II and IV are correct
 (3) I and III are correct
 (4) I, II and IV are correct

Q.24 Which of the following is **diploid** ?

- (1) Secondary spermatocytes, oogonia
 (2) Spermatozoa & ova
 (3) Spermatogonia, Oogonia, Primary spermatocyte
 (4) Secondary oocytes, Primary Spermatocyte

Q.25 Match the hormones in column I with their functions in column II. Choose the answer, which given the **correct** combination of the two columns.

	Column I		Column II
A.	FSH	1.	Prepare endometrium wall for implantation
B.	LH	2.	Develops female secondary sexual characters
C.	Progesterone	3.	Contraction of uterine wall
D.	Oestrogen	4.	Development of corpus luteum
		5.	Maturation of Graafian follicle

- A B C D A B C D**
 (1) 5 4 1 2 (2) 4 5 2 1
 (3) 4 3 2 5 (4) 5 1 2 4

Q.26 The female reproductive system includes:

- (A) Primary sex organ (B) Accessory duct
 (C) Accessory glands (D) External genitalia
 (1) A, B and D (2) A, C and D
 (3) A and D only (4) A, B, C and D

Q.27 The hymen can be torn by:

- (A) First coitus (intercourse)
 (B) Sudden fall or jolt
 (C) Insertion of vaginal tampon
 (D) Active participation in cycling and horseback riding
 (1) A, B and C (2) B, C and D
 (3) A, B and D (4) A, B, C and D

Q.28 Identify the correct match from the columns I, II, and III:

Column-I	Column-II	Column-III
A. Proliferative phase	a. 14 th day	i. Formation of corpus luteum
B. Secretory phase	b. 1 st - 3 rd day	ii. Development of Graafian follicle
C. Menstruation	c. 15 th -28 th day	iii. Shedding of stratum functionale
D. Ovulatory phase	d. 5 th -13 th day	iv. Release of secondary oocyte

- (1) A → d → iii; B → c → i; C → b → ii; D → a → iv
(2) A → c → ii; B → b → iii; C → a → i; D → d → iv
(3) A → d → ii; B → c → i; C → b → iii; D → a → iv
(4) A → d → iii; B → b → iv; C → a → ii; D → c → i

Q.29 “A” cells start division and enter in “B” stage of meiotic division and get temporarily “C” at this stage, called “D”. Identify A, B, C and D.

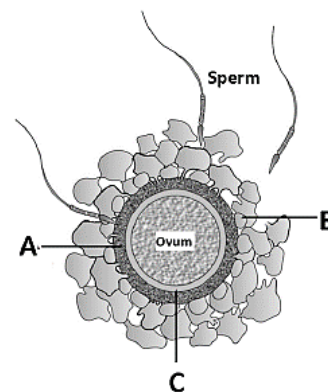
- (1) A: Oogonia; B: Metaphase I; C: Arrested; D: Primary oocyte.
(2) A: Oogonia; B: Anaphase I; C: Released; D: Secondary oocyte.
(3) A: Oogonia; B: Prophase I; C: Arrested; D: Primary oocyte.
(4) A: Oogonia; B: Telophase I; C: Released; D: Secondary oocyte.

Q.30 Each ovary is about 2-4 cm in length connected to the ...A... wall by ...B... Each ovary is covered by a thin epithelium which encloses the ovarian stroma. Stroma is divided into two zones ...C... and ...D...

Fill the suitable choices for A to D

- (1) A-inner medulla, B-peripheral cortex, C-ligament, D-pelvic wall
(2) A- pelvic, B- ligament, C- peripheral cortex, D- inner medulla
(3) A- pelvic, B-peripheral cortex, C-ligament, D- inner medulla
(4) A-inner medulla, B-peripheral cortex, C-ligament, D-pelvic wall

Q.31 Identify A, B and C in below diagram and choose the correct option.



- (1) A-Corona radiata cells, B-Perivitelline space, C-Zona Pellucida
(2) A-Zona Pellucida, B-Corona radiata cells, C-Perivitelline space
(3) A-Zona Pellucida, B-Perivitelline space, C-Corona radiata cells
(4) A-Perivitelline space, B-Corona radiata cells, C-Zona Pellucida

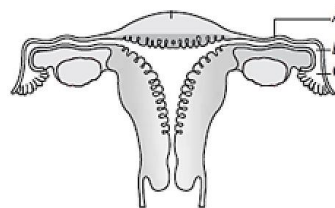
Q.32 In testis, the immature germ cells produce sperm by ...A... at puberty ...B... present on the inside wall of seminiferous tubules multiply by ...C... division and increase their number. Identify A, B and C from the above statement

- (1) A-secondary spermatocytes, B-primary spermatocytes, C-mitosis
(2) A-primary spermatocytes, B-secondary spermatocytes, C-mitosis
(3) A-spermatogenesis, B-spermatogonia, C-mitosis
(4) A-spermatogonia, B-spermatogenesis, C-meiosis

Q.33 Ovaries are the ...A... sex organs which produce ovum and several steroid hormones called ...B... Here A and B refers to:

- (1) A-secondary; B-testosterone
(2) A-tertiary; B-inhibin
(3) A-primary; B-ovarian hormones
(4) A-primary; B-testosterone

Q.34 The following diagram refers to the female reproductive system of humans. Identify A-C.



- (1) A-Ampulla, B-Isthmus, C-Infundibulum
(2) A-Isthmus, B-Infundibulum, C-Ampulla
(3) A-Isthmus, B-Ampulla, C-Infundibulum
(4) A-Ampulla, B-Infundibulum, C-Isthmus

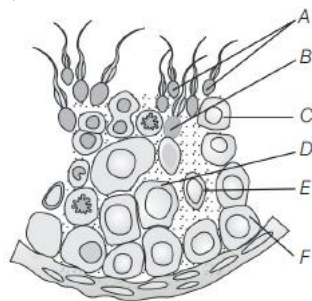
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- Q.35** A sectional view of mammary gland shows
 I. nipple and areola.
 II. mammary lobes (alveolus) and duct.
 III. ribs.
 IV. ampulla and lactiferous duct.

Choose the correct option from the above.

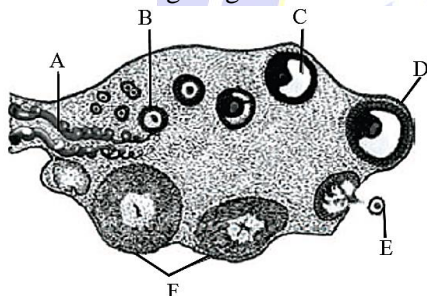
- (1) I, II, III and IV (2) I, II and III
 (3) III, IV and II (4) I, IV and III

- Q.36** Find out spermatid and Sertoli cell in given below diagram.



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

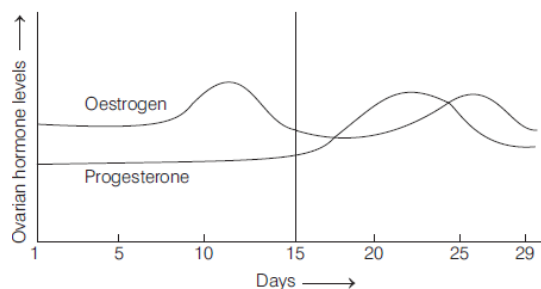
- Q.37** Consider the figure given below.



Select the option which correctly identifies the parts labelled as C, D and F.

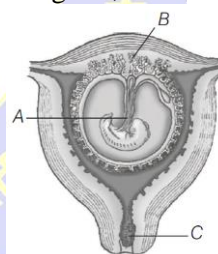
	C	D	F
(1)	Primary follicle	Secondary follicle	Corpus luteum
(2)	Secondary follicle	Graafian follicle	Corpus luteum
(3)	Tertiary follicle	Primary follicle	Secondary follicle
(4)	Tertiary follicle	Graafian follicle	Corpus luteum

- Q.38** Read the graph and correlate the uterine events that take place according to the hormonal levels on A. 6-15 days, B. 16-25 days, C. 3-5 days (if the ovum is not fertilised).



- (1) A–Degeneration of endometrium, B–Myometrium thickness, becomes vascularized ready to receive and implant embryo, C–Regeneration of endometrium
 (2) A–Degeneration of endometrium, B–Endometrium thickness increases, becomes vascularized, ready to receive and implant ovum, C–Regeneration of endometrium
 (3) A–Regeneration of endometrium, B–Endometrium becomes thick and becomes vascularized, ready to receive and implant ovum
 (d) A–Regeneration of myometrium, B–Endometrium becomes thick and vascularised, ready to receive and implant embryo, C–Degeneration of endometrium

- Q.39** In the given diagram, find out A, B and C.



- (1) A–Plug of mucus in cervix, B–Placental villi, C–Umbilical cord
 (2) A–Umbilical cord, B–Placental villi, C–Plug of mucus in cervix
 (3) A–Umbilical cord, B–Plug of mucus in cervix, C–Placental villi
 (4) A–Placental villi, B–Plug of mucus in cervix, C–Umbilical cord

- Q.40** Soon after implantation, the inner cell mass differentiates into outer ...A..., middle ...B... and an inner ...C... . A, B and C in the given sentence are

- (1) A–mesoderm, B–ectoderm, C–endoderm
 (2) A–ectoderm, B–mesoderm, C–endoderm
 (3) A–ectoderm, B–endoderm, C–mesoderm
 (4) A–mesoderm, B–endoderm, C–ectoderm

Q.41 Identify the correct sequence in which the various stages of parturition take place.

- (1) Shedding of placenta → Dilation of cervix → Delivery of the baby
- (2) Dilation of the cervix → Shedding of placenta → Delivery of the baby
- (3) Dilation of the cervix → Delivery of the baby → Shedding of placenta
- (4) None of the above

Q.42 Read the following statements.

- I. The uterus is present in single pair and is also called womb.
- II. The shape of uterus is like an inverted pear.
- III. The uterus opens into vagina through a narrow cervix.
- IV. Birth canal is formed by cervical canal and vagina.
- V. Perimetrium of uterus wall is external and thick, myometrium is middle thin layer of smooth muscles and endometrium is inner glandular layer.

Which of the above statements are correct?

- (1) I, II and III
- (2) II, III and IV
- (3) IV and V
- (4) I and V

Q.43 Read the following statements.

- I. Each testis has about 25 compartments called testicular lobules.
- II. Each testicular lobule contains one to three highly coiled seminiferous tubules in which sperms are produced.
- III. Sertoli cells act as nurse cells of testicles.
- IV. Sertoli cells are activated by FSH secreted by the adenohypophysis.

Which of the above statements are incorrect?

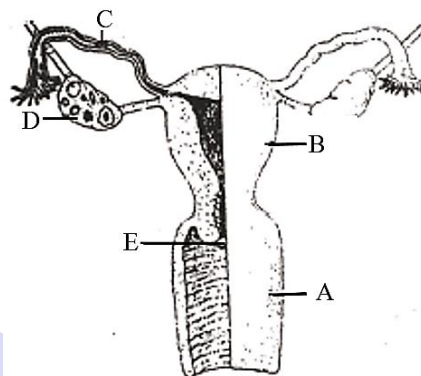
- (1) I and III
- (2) Only I
- (3) II and IV
- (4) III and IV

Q.44 Read the following statements carefully and select the correct statement(s).

- (i) hPL plays a major role in parturition.
- (ii) Fetus shows movements first time in the 7th month of pregnancy
- (iii) Signal for parturition comes from fully developed fetus and placenta.
- (iv) Embryo's heart is formed by the 2nd month of pregnancy.

- (1) (ii) and (iii)
- (2) (iii) only
- (3) (ii) and (iv)
- (4) (i) and (iv)

Q.45 Study the figure of the human female reproductive system given below.



Read the following statements and select the option containing the incorrect statement(s).

- I. A—ovary produces oestrogen required for the development of female primary sex characters.
- II. A—Vagina receives the penis during copulation.
- III. B—Uterus serves as the site for implantation of the fertilised egg.
- IV. C—Oviduct serves as the site for fertilisation of the egg.

- (1) I and II
- (2) Only I
- (3) Only II
- (4) II and IV

Q.46 Match the following columns.

Column I (Events)	Column II (Features)
A. Parturition	1. Attachment of zygote to Endometrium
B. Gestation	2. Release of egg
C. Ovulation	3. Delivery of baby
D. Implantation	4. Period between fertilisation and the birth
E. Fertilisation	5. Fusion of male and female gametes

- | | A | B | C | D | E |
|-----|---|---|---|---|---|
| (1) | 2 | 4 | 1 | 5 | 3 |
| (2) | 4 | 3 | 1 | 5 | 2 |
| (3) | 5 | 1 | 2 | 3 | 4 |
| (4) | 3 | 4 | 2 | 1 | 5 |

Q.47 Match the following columns.

Column I (Layers of uterus)	Column II (Features)
A. Perimetrium	1. Inner glandular layer of uterus
B. Endometrium	2. External thin membrane of uterus

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C. Myometrium	3. Middle thick membrane of uterus
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A B C	A B C
(1) 2 1 3	(2) 1 2 3
(3) 3 2 1	(4) 3 1 2

Q.48 Match the following columns.

Column I (Stages of menstrual cycle)	Column II (Names)
A. Stage-I	1. Menstrual phase
B. Stage-II	2. Follicular Proliferative
C. Stage-III	3. Ovulatory phase
D. Stage-IV	4. Luteal/Secretory phase

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

Q.49 Match the following columns.

Column I	Column II
A. Endometrium	1. Copulation site
B. Menopause	2. Site of implantation
C. Fallopian tube	3. Stopping of menstruation
D. Vagina	4. Site of fertilisation

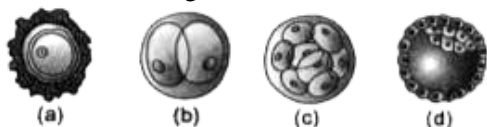
A B C D	A B C D
(1) 2 3 4 1	(2) 1 2 3 4
(3) 1 4 3 2	(4) 4 3 2 1

Q.50 Match the following columns.

Column I	Column II
A. Mons pubis	1. Embryo formation
B. Antrum	2. Sperm
C. Trophoblast	3. Female external genitalia
D. Nebenkern	4. Graafian follicle

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

Q.51 The figure below show four stage (a, b, c, d) of human development. Select option giving correct identification together with site of occurrence?



	Developmental stage	Site of occurrence
(1) (a)	Fertilised egg	Isthmus part of fallopian tube
(2) (b)	Zygote	End part of fallopian tube

(3) (c)	Morula	Starting point of fallopian tube
(4) (d)	Blastocyst	Uterine cavity

Q.52 Match between the following representing parts of the sperm and their functions and choose the correct option.

Column I	Column II
A. Head	1. Enzymes
B. Middle piece	2. Sperm motility
C. Acrosome	3. Energy
D. Tail	4. Genetic material

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

Direction (Q. No. 53-59) In each of the following questions, a statement of Assertion is given and followed by corresponding statement of Reason. Of the statements, mark the correct answer as

- (A) If both Assertion and Reason are true and Reason is the correct explanation of the Assertion
 (B) If both Assertion and Reason are true, but R is not the correct explanation of the Assertion
 (C) If Assertion is true, but Reason is false
 (D) If Assertion is false, but Reason is true

Q.53 Assertion : The testes are situated outside the abdominal cavity within scrotum.

Reason : Muscles in scrotum helps to maintain low temperature of testes, necessary for spermatogenesis.

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

Q.54 Assertion : The Sertoli cells are present in seminiferous tubules.

Reason : Sertoli cells provide nutrition to the germ cells and spermatozoa.

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

Q.55 Assertion : Fimbriae are finger-like projections of infundibulum part of oviduct which is closest to ovary.

Reason : They are important for the collection of ovum after ovulation from ovary.

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

Q.56 Assertion : Production of FSH and LH increases in the ovulation phase.

Reason : Due to decrease in the level of LH ovulation (releasing of ova) takes place.

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

Q.57 Assertion : Not all copulations lead to pregnancy.

Reason : Fertilisation can only occur if the ovum and sperms are transported simultaneously to the ampullary-isthmic junction.

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

Q.58 Assertion : Placenta has endocrine role also.

Reason : It secretes many hormones essential for pregnancy.

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

Q.59 Assertion : Breast feeding during initial period of infant growth is recommended.

Reason : Colostrum contains several antibodies, essential to render immunity in newborns.

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



ANSWER KEY

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

