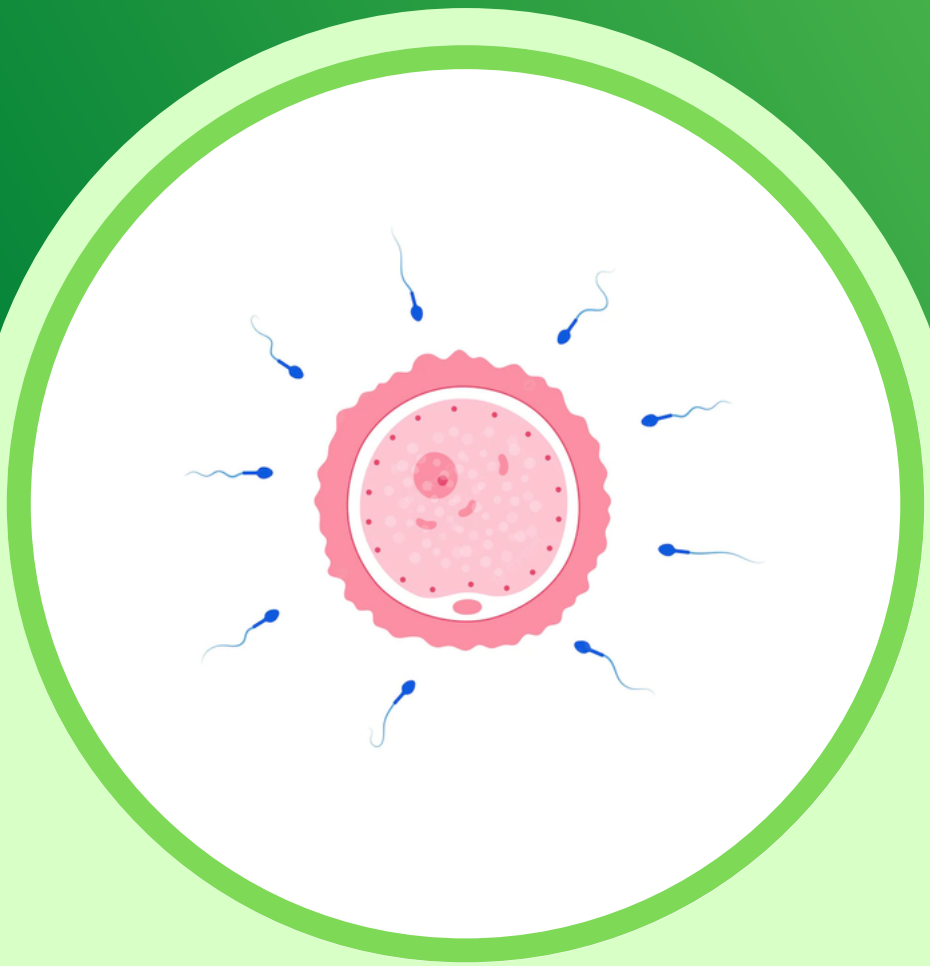
ALLEN CAREER INSTITUTE KOTA (RAJASTHAN)

path to success

PRE-MEDICAL

BIOLOGY

ENTHUSIAST | LEADER | ACHIEVER



EXERCISE

Human Reproduction

ENGLISH MEDIUM

EXERCISE-I (Conceptual Questions) — Build Up Your Understanding

THE MALE REPRODUCTIVE SYSTEM

1. Which one of the following is a primary sex organ of human male ?
(1) Scrotum (2) Penis
(3) Testis (4) Prostate gland
HR0001

2. Secondary sex organ in human male is :-
(1) testis (2) ovary
(3) beard (4) vas deferens
HR0002

3. Vasa efferentia connect the :-
(1) testis with epididymis
(2) kidney with urinary bladder
(3) testis with scrotal wall
(4) None of the above
HR0006

4. In human, failure of testes to descend into scrotum is known as :-
(1) paedogenesis (2) castration
(3) cryptorchidism (4) impotency
HR0007

5. Common duct formed by union of vas deferens and duct from seminal vesicle is :-
(1) urethra (2) tunica vasculosa
(3) ejaculatory duct (4) spermatic duct
HR0008

6. Scrotum communicates with abdominal cavity through :-
(1) urethra (2) inguinal canal
(3) vas deferens (4) epididymis
HR0009

7. Tunica albuginea is the covering around :-
(1) oviduct (2) testis
(3) kidney (4) heart
HR0010

8. The functional unit of testis is :-
(1) uriniferous tubules
(2) malpighian tubules
(3) seminiferous tubules
(4) acini or lobules
HR0011

9. Penile urethra traverses through :-
(1) corpus cavernosum
(2) corpus spongiosum
(3) corpus callosum
(4) corpus striatum
HR0012

10. Seminiferous tubules are composed of :-
(1) spermatogonia
(2) glandular epithelium
(3) sensory epithelium
(4) germinal epithelium
HR0013

11. In human, the testes are located in :-
(1) abdominal cavity
(2) thoracic cavity
(3) extra-abdominal cavity
(4) pericardial cavity
HR0014

12. Bundles of erectile tissues in penis are :-
(1) corpora cavernosa
(2) corpus spongiosum
(3) Both (1) & (2)
(4) None of the above
HR0016

13. Glans penis is covered by :-
(1) areolar membrane (2) prepuce
(3) metrium (4) None of these
HR0017

14. In human, the testes occur in scrotal sacs, outside the viscera because of the :-
(1) presence of urinary bladder
(2) presence of rectum
(3) long vas-deferens
(4) requirement of low temperature for spermatogenesis
HR0019

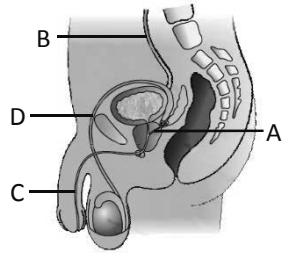
15. Read the following statements.
(a) It is paired structure
(b) It is present on lateral side of male urethra
(c) It help in lubrication of penis
In above statements 'it' refers to :-
(1) seminal vesicle
(2) Bartholin's gland
(3) bulbourethral gland
(4) prostate
HR0020

16. Cells of Leydig occur in :-
(1) liver (2) ovary
(3) testis (4) spleen
HR0021

17. Seminiferous tubules occur in the :-
(1) liver (2) kidney
(3) ovary (4) testis
HR0024

18. Fructose is present in the secretion of:-
(1) seminal vesicle (2) perineal gland
(3) Cowper's gland (4) Bartholin's gland
HR0025

19. It is a diagrammatic sectional view of male reproductive system. Identify common duct which forms from the fusion of duct of seminal vesicle and vas deferens.



(1) A (2) B (3) D (4) C
HR0027

20. Temperature of scrotum as compared to abdominal cavity is less by :-
(1) 1^0C (2) 5^0C
(3) 3^0C (4) 10^0C
HR0028

21. Outer coat of seminiferous tubules is composed of fibrous connective tissue and is called as :-
(1) tunica propria (2) lamina propria
(3) plica semilunaris (4) tunica albuginea
HR0031

22. Secretions from which one of the following glands are rich in fructose, calcium and some enzymes ?
(1) Salivary glands
(2) Female sex accessory glands
(3) Male sex accessory glands
(4) Liver
HR0032

23. Which is an unpaired gland of male reproductive system ?
(1) Bartholin's gland
(2) Seminal vesicle
(3) Prostate gland
(4) Cowper's gland
HR0033

24. In human, maturation of sperms take place at a temperature :-
(1) equal to that of body
(2) higher than that of body
(3) lower than that of body
(4) at any temperature
HR0034

25. Circumcission is the procedure of :-
(1) cutting the glans penis
(2) removal of whole skin of penis
(3) removal of movable skin (prepuce) of glans penis
(4) reduction of the body part of penis
HR0035

26. Prostate gland produces a secretion for :-
(1) attracting sperms
(2) stimulating sperm activity
(3) attracting egg
(4) None of the above
HR0036

27. Testes descend into scrotum in human for:-
(1) spermatogenesis
(2) fertilization
(3) development of sex organs
(4) development of visceral organs
HR0038

28. Tunica vaginalis is found in :-
(1) ovary of female
(2) testis of male
(3) vagina of female
(4) None of the above
HR0039

29. Spermatozoa are nourished during their development by :-
(1) Sertoli cells
(2) interstitial cells
(3) connective tissue cells
(4) None of the above
HR0040

30. Release of sperms from testis is called as :-
(1) spermiation
(2) semination
(3) insemination
(4) ejaculation
HR0061

THE FEMALE REPRODUCTIVE SYSTEM

31. A secondary sexual character of human female is :-
(1) breasts (2) ovaries
(3) testes (4) thyroid gland
HR0042

32. Which is not a secondary sex organ in human ?
(1) Vagina (2) Penis
(3) Prostate (4) Mammary gland
HR0043

33. At puberty, woman starts producing :-
(1) sperms (2) urine
(3) young ones (4) ova
HR0044

34. Eggs from ovary are released in :-
(1) oviduct (2) kidney
(3) ureter (4) coelom
HR0045

35. Lower narrow end of uterus is called as :-
(1) urethra (2) cervix
(3) clitoris (4) vulva
HR0046

36. Germinal epithelial cells are cuboidal and these are found in :-
(1) testes
(2) ovaries
(3) Both (1) & (2)
(4) None of the above
HR0047

37. Degenerative process of follicles or eggs in ovary is called :-
(1) metagenesis
(2) atresia
(3) regression
(4) None of the above
HR0052

38. Endometrium is lining of :-
(1) testis (2) urinary bladder
(3) uterus (4) ureter
HR0054

39. Clitoris is present at the upper junction of :-
(1) labia majora (2) mons pubis
(3) perineum (4) labia minora
HR0055

40. Which of the following is not related to vulva?
(1) Mons veneris
(2) Clitoris
(3) Labia majora
(4) Epididymis
HR0056

41. Parturition canal in female is :-
(1) uterus (2) oviduct
(3) vagina (4) urethra
HR0161

SPERMATOGENESIS AND STRUCTURE OF HUMAN SPERM

42. During differentiation, the spermatids remain associated with :-
(1) Leydig's cells
(2) Kupffer's cells
(3) spermatogonia
(4) Sertoli cell
HR0058

43. In gametogenesis, reduction division takes place during :-
(1) multiplication phase
(2) growth phase
(3) first maturation division
(4) second maturation division
HR0059

44. Which type of division takes place during second maturation division ?
(1) Reduction division
(2) Equational division
(3) Amitosis
(4) None of the above
HR0060

45. Longest phase of spermatogenesis is :-
(1) multiplication phase
(2) growth phase
(3) maturation phase
(4) germinal phase
HR0062

46. During spermatogenesis, how many spermatozoa are formed from a single primary spermatocyte ?
(1) 1 (2) 2
(3) 4 (4) 8
HR0063

47. Correct order of spermatogenesis is :-
(1) Spermatids → Spermatogonium → Spermatocytes → Sperms
(2) Spermatogonium → Primary spermatocyte → Secondary Spermatocytes → Spermatids→ Sperms
(3) Primary spermatocyte → Spermatogonium → Secondary spermatocytes → Sperms → Spermatids
(4) Spermatogonium → Secondary spermatocytes → Primary spermatocyte → Spermatids → Sperms

HR0399

48. Which part of sperm is called power house ?
(1) Head
(2) Neck
(3) Middle piece
(4) Tail

HR0066

49. The acrosome plays a role in :-
(1) fusion of nuclei of gametes
(2) motality of sperm
(3) penetration of sperm into ovum
(4) All of the above

HR0071

50. The head of a mature sperm is mainly composed of :-
(1) elongated nucleus and acrosomal material
(2) mitochondria, cytoplasm and nucleus
(3) two centrioles and the axial filament
(4) All of the above

HR0072

51. A mature sperm has :-
(1) a pair of flagella
(2) a nucleus, an acrosome and a centriole
(3) a nucleus, an acrosome and a pair of centrioles
(4) a nucleus, an acrosome and a pair of centrioles and a tail

HR0073

52. Which part of the spermatid forms acrosome of sperm ?
(1) Mitochondria (2) Golgi body
(3) Nucleus (4) Lysosome

HR0074

53. Which of the following sets of vitamins is essential for gametogenesis ?
(1) Vitamin A and vitamin E
(2) Vitamin C and vitamin D
(3) Vitamin E and vitamin K
(4) Vitamin E and vitamin B complex

HR0077

OOGENESIS

54. At the time of birth, egg is arrested in the form of :-
(1) oogonia
(2) primary oocyte
(3) secondary oocytes
(4) ovum

HR0079

55. A human female has the maximum number of primary oocytes in her ovaries :-
(1) at menopause
(2) at puberty
(3) at birth
(4) early in her fertile years

HR0080

56. Egg is librated from ovary in human at :-
(1) secondary oocyte stage
(2) primary oocyte stage
(3) oogonial stage
(4) mature ovum stage

HR0081

57. During oogenesis, first meiotic division starts in :-
(1) first polar body
(2) second polar body
(3) primary oocyte
(4) secondary oocyte

HR0082

58. Which of the following are haploid cells ?
(1) Primary spermatocytes and primary oocytes
(2) Secondary spermatocytes and secondary oocytes
(3) Spermatogonia and oogonia
(4) Germinal cells.

HR0083

59. The process of spermatogenesis and oogenesis in human are under the influence of which hormone ?
(1) Oxytocin (2) FSH
(3) ACTH (4) ICSH

HR0084

60. During which stage of gametogenesis meiosis occurs?
(1) Growth phase
(2) Multiplication phase
(3) Maturation phase
(4) None of the above

HR0085

61. The primary egg membrane of human egg is :-
(1) chorion
(2) corona radiata
(3) zona pellucida
(4) None of the above

HR0086

62. Which of the following are diploid cells ?
(1) Secondary spermatocytes
(2) Spermatozoa and ova
(3) Spermatogonia, oogonia and primary spermatocytes
(4) Secondary oocytes

HR0087

63. Stored food of oocyte is :-
(1) nucleus (2) cytoplasm
(3) corticle granules (4) yolk

HR0088

64. Polar body is produced during the formation of :-
(1) sperm
(2) secondary oocyte
(3) oogonium
(4) spermatocytes

HR0089

INTERNAL STRUCTURE OF OVARY, FOLLICULAR DEVELOPMENT AND MENSTRUAL CYCLE

65. Central stroma of ovary is made up of :-
(1) fibrous connective tissue
(2) reticular tissue
(3) adipose connective tissue
(4) None of the above

HR0053

66. Ovarian follicles are present in :-
(1) medulla
(2) germinal epithelium
(3) cortex
(4) mesovarium

HR0057

67. Graafian follicle contains :-
(1) many oocytes
(2) many sperms
(3) a single oocyte
(4) site for fertilisation of egg

HR0104

68. In human, corpus luteum is found in :-
(1) brain (2) ovary
(3) liver (4) eyes

HR0105

69. Antrum is filled with fluid and is found in :-
(1) bone marrow of bone
(2) cavity of brain
(3) Graffian follicle of ovary
(4) pericardium of heart

HR0106

70. Which one of the following is fibrous layer of follicle ?
(1) Theca externa
(2) Zona pellucida
(3) Membrana granulosa
(4) Vitelline membrane

HR0107

71. In case of non fertilization, corpus luteum :-
(1) stops secreting progesterone
(2) changes into corpus albicans
(3) starts producing progesterone
(4) None of the above
HR0108

72. Lutein cells are found in :-
(1) primary follicle
(2) corpus albicans
(3) corpus luteum
(4) All of the above
HR0109

73. Corpus luteum is a/an :-
(1) excretory structure
(2) endocrine structure
(3) digestive structure
(4) respiratory structure
HR0111

74. Luteal phase is the other name of :-
(1) follicular phase
(2) proliferative phase
(3) menstrual flow phase
(4) secretory phase
HR0112

75. Follicular phase of menstrual cycle is also known as :-
(1) proliferative phase
(2) secretory phase
(3) luteal phase
(4) menstruation phase
HR0113

76. Loss of reproductive capacity in women after age of approximately 45 years is known as :-
(1) menstruation (2) ageing
(3) menopause (4) menarche
HR0114

77. Which of the following hormones induces the development of corpus luteum ?
(1) LH (2) Oestrogen
(3) FSH (4) LTH
HR0115

78. The process of releasing the mature female gamete from the ovary is called as :-
(1) ovulation (2) parturition
(3) implantation (4) fertilisation
HR0116

79. Ovulation hormone is :-
(1) FSH (2) ICSH
(3) LH (4) testosterone
HR0117

80. Onset of pregnancy :-
(1) stimulates testosterone secretion
(2) inhibits further ovulation
(3) leads to degeneration of ovary
(4) inhibits fusion nuclei of egg and sperm
HR0118

81. Which of the following statements is correct ?
(1) Menstrual cycle is present in all mammals.
(2) Menstrual cycle is present in all primates.
(3) Estrous cycle occurs in all mammals.
(4) Most of the mammals are ovoviviparous.
HR0119

82. Yellow corpus luteum occurs in a human in :-
(1) heart to initiate heart beat
(2) skin to function as pain receptor
(3) brain and connects cerebral hemispheres
(4) ovary for secretion of progesterone
HR0120

83. The fall in progesterone level leads to :-
(1) gestation
(2) menopause
(3) lactation
(4) mensturation
HR0121

84. In uterus, endometrium proliferates in response to :-
(1) relaxin (2) oxytocin
(3) progesterone (4) oestrogen
HR0122

85. Pregnancy hormone is :-
(1) estrogen (2) progesterone
(3) LH (4) FSH
HR0123

86. Pregnancy is detected with the help of presence of which hormones in urine of a pregnant female ?
(1) LH (2) Progesterone
(3) FSH (4) hCG
HR0124

STRUCTURE OF HUMAN EGG AND FERTILIZATION

87. Site of fertilization in human is :-
(1) ovary (2) uterus
(3) vagina (4) fallopian tube
HR0125

88. During fertilization, intermixing of chromosome of male and female gametes is called :-
(1) syngamy (2) plasmogamy
(3) karyogamy (4) amphimixis
HR0130

89. After cortical reaction, formation of fertilization membrane occurs :-
(1) outside of corona radiata
(2) inside of corona radiata
(3) in perivitelline space
(4) inside of membrane of oocyte
HR0131

90. Which of the following is responsible for division in fertilised egg ?
(1) Centriole of ovum
(2) Proximal centriole of sperm
(3) Distal centriole of sperm
(4) Mitochondria of sperm
HR0400

91. Capacitation of sperm occurs in :-
(1) urethra (2) vas deferens
(3) vagina (4) seminal vesicle
HR0051

92. Which part of sperm enters in egg in human ?
(1) Complete sperm
(2) Only head
(3) Head and middle piece
(4) Head and acrosome
HR0067

EMBRYONIC DEVELOPMENT

93. Cleavage starts in :-
(1) fallopian tube (2) uterus
(3) vagina (4) None of these
HR0134

94. Cells formed as a result of cleavage are called as :-
(1) megameres (2) micromeres
(3) blastocyst (4) blastomeres
HR0137

95. Which of the following characteristics does not belong to cleavage ?
(1) Decrease in size of blastomeres
(2) Rapid mitotic cell division
(3) Interphase of very short duration
(4) Differention of blastomeres
HR0138

96. How many of the following structures may found in fallopian tube ?
Morula, Secondary oocyte, Primary oocyte, Secondary follicle, Ovum, Zygote, Blastocyst, Gastrula.
(1) 3 (2) 2 (3) 4 (4) 5
HR0401

97. What is true for cleavage ?
(1) Size of embryo is increased
(2) Size of cells is decreased
(3) Size of cells is increased
(4) Size of embryo is decreased
HR0144

98. Solid ball of cell produced by repeated cleavage is called as :-
(1) gastrula
(2) blastocyst
(3) morula
(4) None of the above
HR0145

99. In gastrula stage, which layer(s) is/are formed ?
(1) ectoderm (2) mesoderm
(3) endoderm (4) All of the above
HR0147

100. Morphogenetic movements of blastomeres result in:-
(1) morula stage
(2) blastocyst stage
(3) gastrula stage
(4) zygote

HR0148

101. Gastrulation is a process :-
(1) which starts the formation of germ layers
(2) that occurs just after morulation
(3) that occurs just after cleavage
(4) of rapid growth in blastomeres

HR0151

102. In which stage of development, the embryonic cells form the germinal layers?
(1) Morula
(2) Blastocyst
(3) Gastrula
(4) Zygote

HR0152

103. Sexually reproducing multicellular animals start their embryonic development from :-
(1) gastrula stage
(2) morula stage
(3) unicellular zygote
(4) ovum

HR0157

104. Placenta is a region where :-
(1) foetus is attached to mother by spermatic cord
(2) foetus is provided with mother's blood
(3) foetus receives nourishment from mother's blood
(4) foetus is covered by membranes

HR0158

105. In human embryo, the extra embryonic membranes are formed by :-
(1) inner cell mass
(2) trophoblast
(3) formative cells
(4) follicular cells

HR0159

PARTURITION

106. The expulsion of fully developed foetus from the uterus is known as :-
(1) ovulation
(2) menstruation
(3) gestation
(4) parturition

HR0160

107. Which of the following is not true about parturition process ?
(1) Secretion of oxytocin hormone by posterior pituitary
(2) Narrowing of pelvic cavity by relaxin hormone
(3) Secretion of progesterone hormone is stopped
(4) General position of foetus is occipito-anterior

HR0162

108. Foetal ejection reflex in human female is induced by :-
(1) differentiation of mammary glands
(2) pressure exerted by amniotic fluid
(3) release of oxytocin from pituitary gland
(4) fully developed foetus and placenta

HR0163

109. Oxytocin helps in mainly :-
(1) milk production
(2) child birth
(3) urine formation
(4) gametogenesis

HR0164

EXTRA POINTS

110. A female gland corresponding to prostate of males is :-
(1) Bartholin's' gland
(2) bulbourethral gland
(3) clitoris
(4) paraurethral gland of Skene

HR0030

111. In the female, which structure is homologous to penis of male ?
(1) Cervix (2) Vagina
(3) Uterus (4) Clitoris

HR0048

112. Puberty occurs in females at the age of :-
(1) 8 - 10 years (2) 11-14 years
(3) 15-17 years (4) 18-20 years

HR0049

113. Which is not correct about secondary sexual characters of female ?
(1) Development of mammary glands
(2) Presence of pubic hair
(3) Voice of low pitch
(4) Menarche

HR0166

114. Which of the following is not a correct match of homologous structures ?
(1) Clitoris and penis
(2) Vagina and prostatic utricle
(3) Scrotum and labia majora
(4) Fallopian tube and prostate

HR0302

115. Orchidectomy is the surgical removal of :-
(1) liver (2) kidney
(3) ovary (4) testis

HR0314

116. Development of animal embryo from egg without fertilization is called as :-
(1) parthenogenesis (2) parthenocarpy
(3) apospory (4) apomixis

HR0325

117. Identical twins will be produced when :-
(1) one spermatozoon fertilises two ova
(2) one ovum is fertilised by two spermatozoa
(3) two eggs are fertilised
(4) one fertilised egg divides into two blastomeres and they become separate

HR0336

EXERCISE-I (Conceptual Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**3**	**4**	**1**	**3**	**3**	**2**	**2**	**3**	**2**	**4**	**3**	**3**	**2**	**4**	**3**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**3**	**4**	**1**	**1**	**3**	**1**	**3**	**3**	**3**	**3**	**2**	**1**	**2**	**1**	**2**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**1**	**4**	**4**	**4**	**2**	**3**	**2**	**3**	**4**	**4**	**3**	**4**	**3**	**2**	**3**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**3**	**2**	**3**	**3**	**1**	**4**	**2**	**1**	**2**	**3**	**1**	**3**	**2**	**2**	**3**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**3**	**3**	**4**	**2**	**1**	**3**	**3**	**2**	**3**	**1**	**2**	**3**	**2**	**4**	**1**
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Ans.	**3**	**1**	**1**	**3**	**2**	**2**	**4**	**4**	**4**	**2**	**4**	**4**	**4**	**3**	**2**
Que.	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Ans.	**3**	**1**	**1**	**4**	**4**	**3**	**2**	**3**	**4**	**3**	**1**	**3**	**3**	**3**	**2**
Que.	106	107	108	109	110	111	112	113	114	115	116	117			
Ans.	**4**	**2**	**4**	**2**	**4**	**4**	**2**	**3**	**4**	**4**	**1**	**4**			

EXERCISE-II (Previous Year Questions) AIPMT/NEET

AIPMT 2006

1. Sertoli cells are regulated by the pituitary hormone known as :-
(1) FSH (2) GH
(3) Prolactin (4) LH

HR0167

2. Withdrawal of which of the following hormones is the immediate cause of menstruation ?
(1) Estrogen (2) FSH
(3) FSH–RH (4) Progesterone

HR0168

AIPMT 2007

3. In the human female, menstruation can be deferred by the administration of :-
(1) FSH only
(2) LH only
(3) Combination of FSH and LH
(4) Combination of estrogen and progesterone

HR0169

4. Which part of ovary in mammals acts as an endocrine gland after ovulation ?
(1) Vitelline membrane
(2) Graffian follicle
(3) Stroma
(4) Germinal epithelium

HR0170

AIPMT 2008

5. Which one of the following statements is ***incorrect*** about menstruation ?
(1) At menopause in the female, there is especially abrupt increase in gonadotropic hormones
(2) The beginning of the cycle of menstruation is called menarche
(3) During normal menstruation about 40 ml blood is lost
(4) The menstrual fluid can easily clot

HR0171

6. Which extraembryonic membrane in humans prevents desiccation of the embryo inside the uterus ?
(1) Yolk sac (2) Amnion
(3) Chorion (4) Allantois

HR0172

7. In human adult females oxytocin :-
(1) Stimulates pituitary to secrete vasopressin
(2) Causes strong uterine contractions during parturition
(3) is secreted by anterior pituitary
(4) stimulates growth of mammary glands

HR0173

8. In humans, at the end of the first meiotic divison, the male germ cells differentiate into the :-
(1) Spermatids
(2) Spermatozonia
(3) Primary spermatocytes
(4) Secondary spermatocytes

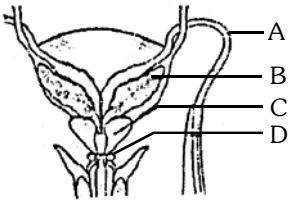
HR0174

AIPMT 2009

9. Seminal plasma in humans is rich in :-
(1) Fructose and certain enzymes but poor in calcium
(2) Fructose, calcium and certain enzymes
(3) Fructose and calcium but has no enzymes
(4) Glucose and certain enzymes but has no calcium

HR0175

10. Given below is a diagrammatic sketch of a portion of human male reproductive system. Select the correct set of the names of the parts labelled A, B, C, D :-



	A	B	C	D
(1)	Ureter	Seminal vesicle	Prostate	Bulboure-thral gland
(2)	Ureter	Prostate	Seminal vesicle	Bulboure-thral gland
(3)	Vas deferens	seminal vesicle	Prostate	Bulboure-thral gland
(4)	Vas deferens	seminal vesicle	Bulboure-thral gland	Prostate

HR0176

11. Which one of the following is the *correct* matching of the events occuring during menstrual cycle ?
(1) Menstruation : Breakdown of myometrium and ovum not fertilised
(2) Ovulation : LH and FSH attain peak level and sharp fall in the secretion of progesterone.
(3) Proliferative phase : Rapid regeneration of myometrium and maturation of Graafian follicle.
(4) Development of corpus luteum : Secretory phase and increased secretion of progesterone.

HR0177

12. The *correct* sequence of spermatogenetic stages leading to the formation of sperms in a mature human testis is :-
(1) Spermatogonia – Spermatid – Spermatocyte – Sperms
(2) Spermatocyte – Spermatogonia – Spermatid – Sperms
(3) Spermatogonia – Spermatocyte – Spermatid – Sperms
(4) Spermatid – Spermatocyte – Spermatogonia – Sperms

HR0178

13. A change in the amout of yolk and its distribution in the egg will affect :-
(1) Fertilization
(2) Formation of zygote
(3) Pattern of cleavage
(4) Number of blastomeres produced

HR0179

AIPMT 2010

14. Which one of the following statements about human sperm is *correct?*
(1) Acrosome serves no particular function
(2) Acrosome has a conical pointed structure used for piercing and penetrating the egg, resulting in fertilisation
(3) The sperm lysins in the acrosome dissolve the egg envelope facilitating fertilisation
(4) Acrosome serves as a sensory structure leading the sperm towards the ovum

HR0180

15. The part of Fallopian tube closest to the ovary is :-
(1) Ampulla (2) Isthmus
(3) Infundibulum (4) Cervix

HR0181

16. The signals for parturition originate from :
(1) Fully developed foetus only
(2) Placenta only
(3) Placenta as well as fully developed foetus
(4) Oxytocin released from maternal pituitary

HR0182

17. The second maturation division of the mammalian ovum occurs :-
(1) In the Graafian follicle following the first maturation division
(2) Shortly after ovulation before the ovum makes entry into the Fallopian tube
(3) Until after the ovum has been penetrated by a sperm
(4) Until the nucleus of the sperm has fused with that of the ovum

HR0183

18. Which one of the following statements about morula in humans is *correct* ?
(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

HR0184

AIPMT 2011

19. Given below is an incomplete table about certain hormones, their source glands and one major effect of each on the body in humans. Identify the correct option for the three blanks A, B and C :-

Gland	Secretion	Effect on Body
A	Oestrogen	Maintenance of secondary sexual characters
Alpha cells of Islets of Langerhans	B	Raises blood sugar level
Anterior pituitary	C	Over secretion leads to gigantism

Options :

	A	B	C
(1)	Ovary	Glucagon	Growth hormone
(2)	Placenta	Insulin	Vasopressin
(3)	Ovary	Insulin	Calcitonin
(4)	Placenta	Glucagon	Calcitonin

HR0186

20. If for some reason, the vasa efferentia in the human reproductive system get blocked, the gametes will not be transported from :-

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

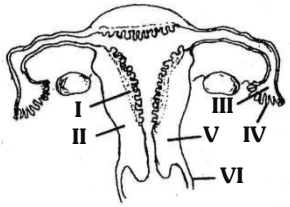
HR0187

21. The testes in humans are situated outside the abdominal cavity inside a pouch called scrotum. The purpose served is for :-

(1) Maintaining the scrotal temperature lower than the internal body temperature
(2) Escaping any possible compression by the visceral organs.
(3) Providing more space for the growth of epididymis
(4) Providing a secondary sexual feature for exhibiting the male sex.

HR0188

22. 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–VI have been correctly identified ?



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

HR0189

AIPMT 2012

23. In a normal pregnant woman, the amount of total gonadotropin activity was assessed. The result expected was :-

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

HR0190

24. Signals for parturition originate from :-

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

HR0191

25. Which one of the following statements is false in respect of viability of mammalian sperm ?
(1) Viability of sperm is determined by its motility
(2) Sperms must be concentrated in a thick suspension
(3) Sperm is viable for only up to 24 hours
(4) Survival of sperm depends on the pH of the medium and is more active in alkaline medium

HR0192

AIPMT 2013

26. Select the answer which correctly matches the endocrine gland with the hormone it secretes and its function/deficiency symptom :-

	Endocrine gland	Hormone	Function/deficiency symptoms
(1)	Corpus luteum	Testosterone	Stimulates spermatogenesis
(2)	Anterior pituitary	Oxytocin	Stimulates uterus contraction during child birth
(3)	Posterior pituitary	Growth Hormone (GH)	Overseer etion stimulates abnormal growth
(4)	Thyroid gland	Thyroxine	Lack of iodine in diet results in goitre

HR0195

27. Which one of the following is **not** the function of placenta ? It :-
(1) secretes oxytocin during parturition
(2) facilitates supply of oxygen and nutrients to embyro
(3) secretes estrogen
(4) facilitates removal of carbon dioxide and waste material from embryo

HR0196

28. Menstrual flow occurs due to lack of :-
(1) Vasopressin (2) Progesterone
(3) FSH (4) Oxytocin

HR0197

AIPMT 2014

29. The main function of mammalian corpus luteum is to produce : -
(1) estrogen only
(2) progesterone
(3) human chorionic gonadotropin
(4) relaxin only

HR0199

30. Select the correct option describing gonadotropin activity in a normal pregnant female :-
(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.

HR0200

AIPMT 2015

31. Capacitation refers to changes in the :-
(1) Ovum before fertilization
(2) Ovum after fertilization
(3) Sperm after fertilization
(4) Sperm before fertilization

HR0203

32. Hysterectomy is surgical removal of :-
(1) Prostate gland (2) Vas-deferense
(3) Mammary glands (4) Uterus

HR0204

33. Which of the following cells during gametogenesis is normally diploid?
(1) Spermatid
(2) Spermatogonia
(3) Secondary polar body
(4) Primary polar body

HR0205

34. Which of these is **not** an important component of initiation of parturition in humans ?
(1) Synthesis of prostaglandins
(2) Release of oxytocin
(3) Release of prolactin
(4) Increase in estrogen and progesterone ratio

HR0206

Re-AIPMT 2015

35. Ectopic pregnancies are referred to as :-
(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

HR0207

36. Which of the following events is **not** associated with ovulation in human female?
(1) LH surge
(2) Decrease in estradiol
(3) Full development of Graafian follicle
(4) Release of secondary oocyte

HR0208

37. In human females, meiosis-II is not completed until?
(1) birth
(2) puberty
(3) fertilization
(4) uterine implantation

HR0209

38. Which of the following layers in an antral follicle is acellular ?
(1) Zona pellucida (2) Granulosa
(3) Theca interna (4) Stroma

HR0210

NEET-I 2016

39. Fertilization in humans is practically feasible only if:-
(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

HR0214

40. Select the incorrect statement :-
(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

HR0215

41. Changes in GnRH pulse frequency in females is controlled by circulating levels of
(1) estrogen and progesterone
(2) estrogen and inhibin
(3) progesterone only
(4) progesterone and inhibin

HR0216

42. Identify the **correct** statement on 'inhibin'
(1) Inhibits the secretion of LH, FSH and Prolactin.
(2) Is produced by granulose cells in ovary and inhibits the secretion of FSH.
(3) Is produced by granulose cells in ovary and inhibits the secretion of LH.
(4) Is produced by nurse cells in testes and inhibits the secretion of LH.

HR0217

NEET-II 2016

43. Which of the following depicts the **correct** pathway of transport of sperms ?
(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

HR0218

44. Match **Column-I** with **Column-II** and select the correct option using the codes given below :-

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

Codes :

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

HR0219

45. Several hormones like hCG, hPL, estrogen, progesterone are produced by :-

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

HR0220

NEET(UG) 2017

46. Capacitation occurs in :-

(1) Epididymis
(2) Vas deferens
(3) Female reproductive tract
(4) Rete testis

HR0223

47. A temporary endocrine gland in the human body is:-

(1) Corpus cardiacum (2) corpus luteum
(3) Corpus allatum (4) Pineal gland

HR0224

48. GnRH, a hypothalamic hormone, needed in reproduction, acts on:-

(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.

HR0225

NEET(UG) 2018

49. Hormones secreted by the placenta to maintain pregnancy are :-

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

HR0228

50. The difference between spermiogenesis and spermiation is :-

(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.

HR0229

51. The amnion of mammalian embryo is derived from :-

(1) ectoderm and mesoderm
(2) endoderm and mesoderm
(3) mesoderm and trophoblast
(4) ectoderm and endoderm

HR0230

NEET(UG) 2019

52. Select the **correct** sequence of transport of sperm cells in male reproductive system :-

(1) Testis → Epididymis → Vasa efferentia → Rete testis → Inguinal canal → Urethra

(2) Seminiferous tubules → Rete testis → Vasa efferentia → Epididymis → Vas deferens → Ejaculatory duct → Urethra → Urethral meatus

(3) Seminiferous tubules → Vasa efferentia → Epididymis → Inguinal canal → Urethra

(4) Testis → Epididymis → Vasa efferentia → Vas deferens → Ejaculatory duct → Inguinal canal → Urethra → Urethral meatus

HR0395

53. Extrusion of second polar body from egg nucleus occurs :-

(1) after entry of sperm but before completion of fertilization

(2) after fertilization

(3) before entry of sperm into ovum

(4) simultaneously with first cleavage

HR0396

NEET(UG) 2019 (Odisha)

54. No new follicles develop in the luteal phase of the menstrual cycle because :-

(1) Follicles do not remain in the ovary after ovulation

(2) FSH levels are high in the luteal phase

(3) LH levels are high in the luteal phase

(4) Both FSH and LH levels are low in the luteal phase

HR0397

NEET(UG) 2020

55. Which of the following hormone levels will cause release of ovum (ovulation) from the graffian follicle?

(1) Low concentration of FSH

(2) High concentration of Estrogen

(3) High concentration of Progesterone

(4) Low concentration of LH

HR0402

56. Match the following columns and select the **correct** option.

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)	(ii)	(iii)	(iv)	(i)
(2)	(iv)	(iii)	(i)	(ii)
(3)	(i)	(iv)	(ii)	(iii)
(4)	(iii)	(ii)	(iv)	(i)

HR0403

57. Meiotic division of the secondary oocyte is completed :-

(1) At the time of fusion of a sperm with an ovum

(2) Prior to ovulation

(3) At the time of copulation

(4) After zygote formation

HR0404

NEET(UG) 2020 (Covid-19)

58. In human beings, at the end of 12 weeks (first trimester) of pregnancy, the following is observed:-

(1) Eyelids and eyelashes are formed

(2) Most of the major organ systems are formed

(3) The head is covered with fine hair

(4) Movement of the foetus

HR0405

59. Select the correct option of haploid cells from the following groups :-

(1) Primary oocyte, Secondary oocyte, Spermatid

(2) Secondary spermatocyte, First polar body, Ovum

(3) Spermatogonia, Primary spermatocyte, Spermatid

(4) Primary spermatocyte, Secondary spermatocyte, Second polar body

HR0406

60. Match the following columns and select the correct option :-

Column - I	Column - II
(a) Ovary	(i) Human chorionic Gonadotropin
(b) Placenta	(ii) Estrogen & Progesterone
(c) Corpus luteum	(iii) Androgens
(d) Leydig cells	(iv) Progesterone only

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

HR0407

NEET(UG) 2021

61. Receptors for sperm binding in mammals are present on:-
(1) Corona radiata
(2) Vitelline membrane
(3) Perivitelline space
(4) Zona pellucida

HR0408

62. Which of these is not an important component of initiation of parturition in humans?
(1) Increase in estrogen and progesterone ratio
(2) Synthesis of prostaglandins
(3) Release of Oxytocin
(4) Release of Prolactin

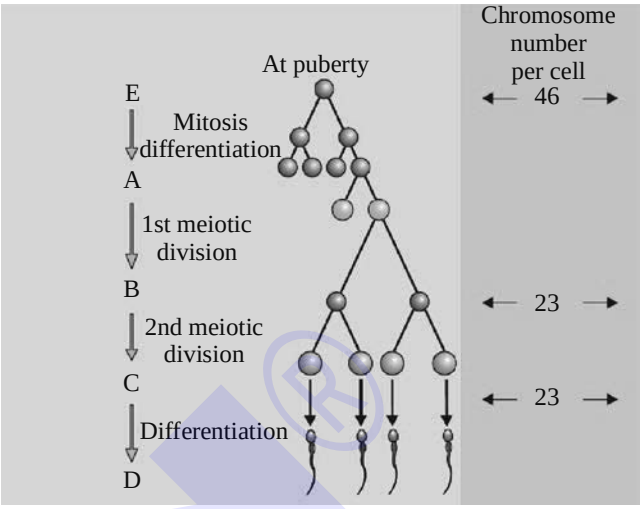
HR0409

63. Which of the following secretes the hormone, relaxin, during the later phase of pregnancy?
(1) Graafian follicle
(2) Corpus luteum
(3) Foetus
(4) Uterus

HR0410

NEET(UG) 2021 (PAPER-2)

64. Spermeiogenesis is the process of transformation of



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

HR0418

NEET(UG) 2022

65. 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:
(1) Both **Statement I** and **Statement II** are incorrect
(2) **Statement I** is correct but **Statement II** is incorrect
(3) **Statement I** is incorrect but **Statement II** is correct
(4) Both **Statement I** and **Statement II** are correct

HR0419

66. 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:

(1) (b) and (c) only

(2) (b), (d) and (e) only

(3) (b), (c) and (e) only

(4) (c) and (e) only

HR0420

67. At which stage of life the oogenesis process is initiated ?

(1) Embryonic development stage

(2) Birth

(3) Adult

(4) Puberty

HR0421

NEET(UG) 2022 (OVERSEAS)

68. Arrange the following male sex accessory ducts in the correct sequence for the transport of sperms from the testes.

(a) Epididymis

(b) Ejaculatory duct

(c) Vasa efferentia

(d) Rete testis

(e) Vas deferens

Choose the **most appropriate** answer from the options given below :

(1) (d), (c), (e), (a), (b)

(2) (d), (c), (a), (e), (b)

(3) (d), (e), (a), (c), (b)

(4) (d), (a), (c), (e), (b)

HR0422

69. How many Y-chromosomes are present in 2^{nd} polar body in human beings?

(1) 00

(2) 23

(3) 02

(4) 01

HR0423

70. Which of the following hormones are secreted in women only during pregnancy?

(a) Relaxin

(b) Oxytocin

(c) hCG

(d) hPL

(e) Progesterone

Choose the **most appropriate** answer from the options given below :

(1) (b) and (e) only

(2) (b), (c) and (d) only

(3) (a), (c) and (d) only

(4) (c), (d) and (e) only

HR0424

Re-NEET(UG) 2022

71. Arrange the components of mammary gland. (from proximal to distal)

(a) Mammary duct

(b) Lactiferous duct

(c) Alveoll

(d) Mammary ampulla

(e) Mammary tubules

Choose the most appropriate answer from the options given below :

(1) (c) → (a) → (d) → (e) → (b)

(2) (b) → (c) → (e) → (d) → (a)

(3) (c) → (e) → (a) → (d) → (b)

(4) (e) → (c) → (d) → (b) → (a)

HR0425

72. How many secondary spermatocytes are required to form 400 million spermatozoa ?

(1) 50 million (2) 100 million

(3) 200 million (4) 400 million

HR0426

73. Given below are two statements : one is **labelled** as **Assertion (A)** and the other is labelled as **Reason (R).**

Assertion (A) :

During pregnancy the level of thyroxine is increased in the maternal blood.

Reason (R) :

Pregnancy is characterised by metabolic changes in the mother.

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

(1) Both **(A)** and **(R)** are correct and **(R)** is the correct explanation of **(A)**

(2) Both **(A)** and **(R)** are correct but **(R)** is not the correct explanation of **(A)**

(3) **(A)** is correct but **(R)** is not correct

(4) **(A)** is not correct but **(R)** is correct

HR0427

EXERCISE-II (Previous Year Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	1	4	4	2	4	2	2	4	2	3	4	3	3	3	3
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	3	3	2	1	1	1	2	2	3	3	4	1	2	2	3
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	4	4	2	3	3	2	3	1	2	3	1	2	3	4	4
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	3	2	1	3	4	1	2	1	4	2	1	1	2	2	4
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73		
Ans.	4	4	2	3	2	3	1	2	1	3	3	3	1		

EXERCISE-III(A) (NCERT BASED QUESTIONS)

1. How many testicular lobules are present in each testis ?
(1) About 100 (2) About 150
(3) About 250 (4) Infinite
HR0237

2. The male accessory glands include :-
(1) prostate gland
(2) bulbourethral glands
(3) seminal vesicles
(4) All of the above
HR0238

3. In male, penis is covered by a loose fold of skin called as :-
(1) foreskin
(2) urethral meatus
(3) external genitalia
(4) fimbriae
HR0239

4. The function of fimbriae is :-
(1) to collect ovum after ovulation
(2) to maintain the shape of ovary
(3) to provide the path to sperm during fertilization
(4) None of the above
HR0240

5. Which of the following statements is wrong ?
(1) Mammary lobes contain clusters called as alveoli.
(2) Uterus is also called as womb.
(3) The last part of the oviduct is called as ampulla.
(4) Stroma of ovary is divided into two zones.
HR0241

6. Secretion of which of the following hormones induces spermatogenesis ?
(1) GnRH (2) LTH
(3) Oxytocin (4) Relaxin
HR0242

7. Antrum is :-
(1) follicular cavity filled with fluid
(2) an inner theca layer
(3) the mature follicle
(4) follicular cavity with no fluid
HR0243

8. Ovulation is :-
(1) Release of secondary oocyte from ovary
(2) Release of primary oocyte from ovary
(3) Release of polar body
(4) Release of Graafian follicle
HR0244

9. For normal fertility, how much percentage of total sperms must have normal shape and size ?
(1) 50 % (2) 25 %
(3) 40 % (4) 60 %
HR0245

10. When do both LH & FSH attain a peak level in a menstrual cycle ?
(1) In last week of the cycle
(2) In mid of the cycle
(3) During Initial days of cycle
(4) On 4^{th} day of cycle
HR0246

11. Which of the following statements is not correct ?
(1) In the absence of fertilization, the corpus luteum is degenerated.
(2) During pregnancy, all events of menstrual cycle are stopped.
(3) The secretion of LH and FSH decreases gradually during the follicular phase.
(4) The menstrual flow results due to breakdown of endometrial lining.
HR0247

12. In which phase of menstrual cycle Graafian follicle is transformed into corpus luteum ?
(1) Luteal phase
(2) Proliferative phase
(3) Follicular phase
(4) Growth phase

HR0248

13. Which of the hormones is essential for maintenance of the endometrium ?
(1) FSH (2) LH
(3) Progesterone (4) Testosterone

HR0249

14. Which of the following is an indicator of normal reproductive phase and extends between menarche and menopause ?
(1) Menstrual cycle (2) Estrous cycle
(3) Ovulation (4) Implantation

HR0250

15. In human, fertilization takes place in :-
(1) cervix (2) ampulla
(3) isthmus (4) vagina

HR0251

16. The embryo with 8 to 16 blastomeres is called as :-
(1) morula (2) blastocyst
(3) gastrula (4) foetus

HR0252

17. During Implantation, the blastocyst gets embedded in which layer of the uterus?
(1) Trophoblast
(2) Endometrium
(3) Myometrium
(4) Perimetrium

HR0253

18. The mitotic division starts as the zygote moves through the _____ of the oviduct called cleavage towards the uterus.
(1) ampulla (2) isthmus
(3) fimbriae (4) infundibulum

HR0254

19. During fertilization, a sperm comes in contact with which layer of the ovum ?
(1) Jelly coat
(2) Zona pellucida
(3) Vitelline membrane
(4) Perivitelline space

HR0255

20. Function of placenta is to :-
(1) supply O_2 to embryo
(2) removal CO_2 produced by the embryo
(3) produce several hormones
(4) All of the above

HR0256

21. Stem cells are found in :-
(1) inner cell mass
(2) ectoderm
(3) endoderm
(4) mesoderm

HR0257

22. The first sign of growing foetus may be noticed by :-
(1) listening to the heart sound carefully with the help of stethoscope
(2) appearance of hair
(3) appearance of head
(4) appearance of eye lids

HR0258

23. Placenta contains :-
(1) only chorionic villi
(2) only uterine tissue
(3) chorionic villi and uterine tissue
(4) trophoblast and chorionic villi

HR0259

24. The average duration of human pregnancy is about nine months which is known as :-
(1) gestation period
(2) parturition
(3) lactation
(4) implantation

HR0260

25. The signals for parturition originate from :-
(1) fully developed foetus
(2) placenta
(3) both fully developed foetus and placenta
(4) uterus

HR0261

26. Which hormone acts on uterine myometrium during parturition ?
(1) Oxytocin (2) LH
(3) Estrogen (4) Relaxin

HR0262

27. Which gland of female human undergoes differentiation during pregnancy ?
(1) Adrenal gland
(2) Mammary gland
(3) Pituitary gland
(4) Thymus gland

HR0263

28. Which of the following is correct for colostrum ?
(1) It contains severel antibodies.
(2) It is produced during the last few days of lactation.
(3) It is a pheromone.
(4) It is white in colour.

HR0264

29. Human beings are :-
(1) ovoviviparous
(2) oviparous
(3) parthenogenetic
(4) viviparous

HR0165

EXERCISE-III(B) (ANALYTICAL QUESTIONS)

30. What does happen if vasa deferentia are cut in a man ?
(1) Sperms become non nucleated.
(2) Spermatogenesis does not occur.
(3) Semen is ejaculated without sperms.
(4) Sperms have no motality.

HR0265

31. If epididymis is removed, then what does happen in a man ?
(1) Sperms have shorter life span.
(2) Sperms travel the pathway in lesser time.
(3) Functional maturation of sperms takes lesser time.
(4) Sperms are incapable for fertilization.

HR0266

32. Which of the following is not correct about sustentacular cells ?
(1) These are present in between the germinal epithelial cells.
(2) These are related with the nutrition of sperm.
(3) These form blood testis barrier.
(4) These form testosterone from oestrogen.

HR0267

33. After some time of ejaculation, semen liquefies due to presence of an enzyme which is found in the secretion of :-
(1) vagina (2) seminal vesicle
(3) prostate gland (4) Cowper's gland

HR0415

34. If Cowper's gland is removed, then which of the following would be affected ?
(1) Sexual attraction
(2) Capacitation of sperms
(3) Hardness of penis
(4) Copulation and fertilization

HR0269

35. Which of the following releases inhibin to control spermatogenesis ?
(1) Rete testis
(2) Follicular cells
(3) Leydig's cells
(4) Sustentacular cells

HR0270

36. Correct order of spermatogenesis is :-
(1) Spermatocytes, Spermatogonium, Spermatids, Sperms
(2) Spermatogonium, Spermatids, Spermatocytes, Sperms
(2) Spermatids, Spermatogonium, Spermatocytes, Sperms
(4) Spermatogonium, Primary Spermatocytes, Secondary Spermatocytes, Spermatids, Sperms

HR0272

37. Hyaluronic acid which binds cells of corona radiata is a :-
(1) homopolysaccharide
(2) amino acid
(3) mucopolysaccharide
(4) glycoprotein

HR0273

38. How many secondary spermatocytes form 400 spermatozoa ?
(1) 100 (2) 400 (3) 40 (4) 200

HR0274

39. Match the column-A with column-B.

Column A		Column B	
A	Mons pubis	i	Fleshy folds of tissue
B	Labia majora	ii	Paired folds of tissue
C	Labia minora	iii	Finger-like structure
D	Clitoris	iv	Cushion of fatty tissue

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

HR0275

40. At which stage of spermatogenesis, sperms acquire their whole structural maturity and now these contain a haploid nucleus & other organelles ?
(1) Spermiogenesis
(2) Growth phase
(3) Multiplication phase
(4) Maturation phase

HR0276

41. How many sperms and ova are formed respectively from 50 secondary oocytes and 50 secondary spermatocytes in human ?
(1) 50 ova and 200 sperm
(2) 50 ova and 100 sperm
(3) 100 ova and 200 sperm
(4) 100 ova and 400 sperm

HR0278

42. Human egg has :-
(1) one Y-chromosome
(2) one X-chromosome
(3) two Y-chromosome
(4) one X-chromosome and one Y-chromosome.

HR0279

43. Primary egg membrane in human egg is formed by :-
(1) secondary oocyte
(2) Ovary
(3) primodial follicle
(4) mature Graffian follicle

HR0411

44. Oocyte is liberated from ovary under the influence of LH, after completing :
(1) meiosis and before liberating polar bodies
(2) meiosis I and before liberating second polar body
(3) meiosis
(4) meiosis II after release of first polar body

HR0282

45. Extrusion of second polar body from egg nucleus occurs :-
(1) after entry of sperm but before completion of fertilization
(2) after completion of fertilization
(3) before entry of sperm
(4) without any relation to sperm entry.

HR0283

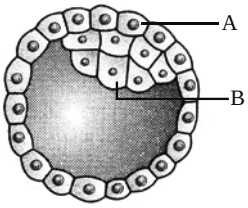
46. If both ovaries are removed from human then level of which hormone is decreased in blood ?
(1) Oxytocin
(2) Prolactin
(3) Estrogen
(4) Gonadotrophic releasing factor

HR0284

47. In a 30 years old lady, eggs are released in the form of :-
(1) oogonia (2) primary oocyte
(3) secondary oocyte (4) atretic follicle

HR0285

48. In following structure, identify A & B and their respective functions.



Blastocyst

	A	B	Function of	
			A	B
(1)	Trophoblast	Inner cell mass	Attachment with endometrium	Differentiation as embryo
(2)	Trophoblast	Inner cell mass	Differentiation as embryo	Attachment with endometrium
(3)	Mesoderm	Inner cell mass	Differentiation as embryo	Attachment with endometrium
(4)	Ectoderm	Mesoderm	Attachment with endometrium	Differentiation as embryo

HR0412

49. Phases in a menstrual cycle are :-
(1) Recovery phase and proliferative phase
(2) Proliferative phase and secretory phase
(3) Proliferative phase, secretory phase and menstrual phase
(4) Recovery phase, secretory phase and menstrual phase

HR0287

50. After ovulation, follicles are converted into:-
(1) corpus luteum
(2) corpus albicans
(3) corpus cavernosa
(4) corpus callosum

HR0289

51. In a menstrual cycle, ovulation normally takes place :-
(1) at the end of proliferative phase
(2) at the mid of secretory phase
(3) just before the end of secretory phase
(4) at the beginning of the proliferative phase

HR0290

52. In a menstrual cycle, hormones start increasing in which order from the beginning of menstruation ?
(1) FSH, progesterone, estrogen
(2) Estrogen, FSH, progesterone
(3) FSH, estrogen, progesterone
(4) Esterogen, progesterone, FSH

HR0291

53. At the time of ovulation, the human egg is covered by a membrane called as :-
(1) chorion (2) zona pellucida
(3) corona radiata (4) Both (2) & (3)

HR0292

54. How many cleavage divisions are required for the formation of 16 blastomeres ?
(1) 2 (2) 4 (3) 6 (4) 8

HR0293

55. The blastomeres in the blastocyst are arranged into an outer layer called ____**A**_____, and inner group of cells attached to trophoblast called the ____**B**___. What are 'A' and 'B' respectively ?
(1) trophoblast, inner cell mass
(2) inner cell mass, trophoblast
(3) chorion, amnion
(4) amnion, chorion

HR0294

56. What is true about cleavage ?
(1) Nucleocytoplasmic ratio remains unchanged.
(2) Size of an embryo does not increase.
(3) There is less consumption of oxygen.
(4) The division is similar to meiosis.
HR0295

57. What is true about cleavage in a fertilized egg of human ?
(1) It is of meroblastic type.
(2) It starts when egg reaches in uterus.
(3) It starts in fallopian tube.
(4) It is identical to normal mitosis.
HR0297

58. Which type of cell division occurs during cleavage?
(1) Amitosis (2) Mitosis
(3) Closed mitosis (4) Meiosis
HR0298

59. Fertilisation has following processes :-
(a) Plasmogamy
(b) Karyogamy
(c) Syngamy
(d) Amphimixis
Arrange these in correct sequence.
(1) a → b → c → d (2) b → a → d → c
(3) c → a → b → d (4) c → a → d → b
HR0413

60. Correct sequence of embryonic 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
HR0301

61. Production of gametes may be affected due to deficiency of :-
(1) Vitamin D (2) Vitamin B
(3) Vitamin K (4) Vitamin E
HR0303

62. The lytic enzyme present in semen is :-
(1) ligase
(2) estrogenase
(3) androgenase
(4) hyaluronidase
HR0305

63. Which one of following parts is present in male but not in female ?
(1) Urethra (2) Fallopian tube
(3) Vagina (4) Vas deferens
HR0306

64. Which hormone is not involved in the process of parturition ?
(1) Oxytocin (2) Prolactin
(3) Estrogen (4) Cortisol
HR0307

65. Accessory sexual characters in female is promoted by :-
(1) androgen
(2) progesterone
(3) estrogen
(4) testosterone
HR0308

66. The cellular layer that disintegrates and regenerates again and again in human is :-
(1) endometrium of uterus
(2) cornea of eye
(3) dermis of skin
(4) endothelium of blood vessels
HR0309

67. The functional maturation of sperms takes place in :-
(1) oviduct (2) epididymis
(3) vagina (4) All of these
HR0310

68. The follicle that ruptures at the time of ovulation promptly fills with blood and forms :-
(1) corpus haemorrhagicum
(2) corpus luteum
(3) corpus albicans
(4) corpus callosum

HR0312

69. In human, the estrogen is secreted by the Graafian follicle from its :-
(1) external theca
(2) internal theca
(3) zona pellucida
(4) corona radiata

HR0313

70. Supporting cells found in the germinal epithelium of testis are called as :-
(1) Interstitial cells of Leydig
(2) Sertoli cells
(3) granular cells
(4) phagocytes

HR0315

71. Atretic follicles are found in the :-
(1) fallopian tube (2) uterus
(3) labia majora (4) ovary

HR0316

72. Which of the following hormones are produced in women only during pregnancy ?
(a) hPL (b) Relaxin
(c) Androgen (d) FSH
(e) hCG (f) LH
(1) a,b,e (2) b & e
(3) c,d,e,f (4) a,b,c,d,e,f

HR0416

73. Which of the following cells undergoes spermiogenesis ?
(1) Spematids
(2) Spermatogonia
(3) Primary spermatocytes
(4) Secondary spermatocytes

HR0318

74. Various changes in human sperm which prepare it to fertilise the ovum are called collectively as :-
(1) capacitation (2) regeneration
(3) growth (4) None of these

HR0319

75. During oogenesis, the small structure separated from egg is known as :-
(1) polar body
(2) secondary endosperm
(3) Herring body
(4) Hela cell

HR0321

76. In human foetus, the heart begins to beat at developmental age of :-
(1) 4 weeks (2) 3 weeks
(3) 6 weeks (4) 8 weeks

HR0324

77. Polar bodies are produced during the formation of :-
(1) sperms
(2) oogonia
(3) spermatocytes
(4) secondary oocytes

HR0327

78. Which of the following does not occur during natural menopause in a female ?
(1) Progesterone level in blood is decreased.
(2) FSH and LH levels in blood are decreased.
(3) Estrogen level in blood is decreased.
(4) Uterine changes are stopped.

HR0414

79. Which of the following layers is developed first during embryonic development ?
(1) Ectoderm (2) Mesoderm
(3) Endoderm (4) Both (1) & (3)

HR0331

80. In a sperm, the mitochondria are occured :-
(1) in tail (2) in acrosome
(3) in middle piece (4) in head

HR0335

81. Which of the following sets of enzymes is found in the acrosome of human sperm ?
(1) Hyaluronidase, Collagenase
(2) Hyaluronidase, Zona lysin
(3) Hyaluronidase, Peptidase
(4) Only hyaluronidase

HR0417

82. Fixing up of the blastocyst in the wall of the uterus is known as :-
(1) fertilization
(2) implantation
(3) impreganation
(4) placentation

HR0338

83. Placenta in human beings is formed by :-
(1) amnion
(2) chorion
(3) allantois
(4) chorion and uterine wall

HR0340

84. The phenomenon of nuclear fusion of sperm and egg is known as :-
(1) karyogamy (2) parthenogenesis
(3) vitellogenesis (4) oogenesis

HR0341

85. Sertoli cells are involved in :-
(1) respiration
(2) nutrition of sperms
(3) excretion
(4) development of sex organs

HR0346

EXERCISE-III ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**3**	**4**	**1**	**1**	**3**	**1**	**1**	**1**	**4**	**2**	**3**	**1**	**3**	**1**	**2**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**1**	**2**	**2**	**2**	**4**	**1**	**1**	**3**	**1**	**3**	**1**	**2**	**1**	**4**	**3**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**4**	**4**	**3**	**4**	**4**	**4**	**3**	**4**	**1**	**1**	**2**	**2**	**1**	**2**	**1**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**3**	**3**	**1**	**3**	**1**	**1**	**3**	**4**	**2**	**1**	**2**	**3**	**3**	**3**	**1**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**4**	**4**	**4**	**2**	**3**	**1**	**2**	**1**	**2**	**2**	**4**	**1**	**1**	**1**	**1**
Que.	76	77	78	79	80	81	82	83	84	85					
Ans.	**1**	**4**	**2**	**4**	**3**	**2**	**2**	**4**	**1**	**2**					