SYSTEMATIC ANATOMY: REPRODUCTIVE SYSTEMS

1. The external genitalia or vulva of the female include the ___?___. (a) clitoris  (b) labia minora  (c) labia majora  (d) all of these  (e) none of these

2. Which of the following is not a component of the clitoris?  (a) corpora cavernosa  (b) glans  (c) erectile tissue  (d) crura  (e) urethra

3. The clitoris is ___?___. (a) composed of two corpora cavernosa and a glans  (b) has a hood or prepuce formed by the labia minora  (c) has a frenulum formed by the labia minora  (d) contains erectile tissue  (e) all of these

4. The labia minora ___?___. (a) are glabrous folds of skin  (b) bound the vestibule  (c) are medial to the labia majora  (d) all of these  (e) none of these

5. The labia majora ___?___. (a) are homologs of the male scrotum  (b) are more deeply pigmented than the surrounding skin  (c) enclose the labia minora  (d) are covered externally with pubic hairs  (e) all of these

6. The greater vestibular glands ___?___. (a) are also called Bartholin's glands  (b) secrete into the vestibule near the vaginal orifice  (c) are homologs of the male bulbourethral glands  (d) all of these  (e) none of these

7. The bulbs of the vestibule ___?___. (a) consist of two masses of erectile tissue  (b) are covered by the bulbospongious muscles  (c) are located on either side of the vaginal orifice  (d) are the homolog of the male bulb of the penis  (e) all of these

8. The vagina ___?___. (a) lies posterior and parallel to the urethra  (b) lies anterior and parallel to the rectum and anal canal  (c) opens into the vestibule posterior to the external urethral meatus  (d) all of these  (e) none of these

9. The vaginal mucosa ___?___. (a) consists of stratified squamous epithelium and connective tissue  (b) is thrown into transverse folds called rugae  (c) undergoes cyclic changes in response to ovarian hormones  (d) all of these  (e) none of these

10. The vaginal wall contains ___?__ muscle. (a) no  (b) skeletal  (c) smooth  (d) smooth and skeletal

11. The hymen ___?___. (a) is a fold of vaginal mucosa  (b) is always intact in virgins  (c) narrows the vaginal orifice  (d) a and b  (e) a and c

12. The upper end of the vagina encloses the ___?__ of the uterus. (a) fundus  (b) corpus  (c) cervix  (d) all of these  (e) none of these

13. The vaginal fornices form a gutter-like space between the ___?__ and the ___?__. (a) cervix, upper end of the vagina  (b) urethra, vaginal orifice  (c) rectum, upper end of the vagina  (d) labia minora, labia majora  (e) none of these

14. Which of the following is not a part of the uterus?  (a) fundus  (b) corpus  (c) cervix  (d) isthmus  (e) pylorus

15. The inferior, constricted part of the uterus is called the ___?___. (a) fornix  (b) fundus  (c) cervix  (d) body  (e) salpinx

16. The uterus is usually ___?___. (a) vertical  (b) tilted forward over the urinary bladder  (c) tilted backward over the rectum  (d) none of these

17. The uterus is enveloped by a fold of peritoneum called the ___?___. (a) ovarian ligament  (b) broad ligament  (c) uterosacral ligaments  (d) greater omentum  (e) mesentery proper
18. The myometrium __?__ (a) is composed of spiral wrappings of smooth muscle (b) forms the middle layer of the uterine wall (c) contracts during orgasms and parturition (= childbirth) (d) contracts in response to the pituitary hormone oxytocin (e) all of these

19. The endometrium undergoes cyclic changes called the uterine or menstrual cycle. The cycle is divided into __?__ phases. (a) menstrual (b) proliferative (c) secretory (d) all of these (e) none of these

20. Only the stratum __?__ of the endometrium is shed during menstruation. (a) basalis (b) corneum (c) luteum (d) functionalis (e) menstrualis

21. During the proliferative phase of the uterine cycle __?__. (a) the stratum functionalis is regenerated from the stratum basalis (b) spiral arteries and veins develop and grow (c) glands develop and grow (d) all of these (e) none of these

22. The proliferative phase of the uterine cycle is controlled by __?__ produced and released into the bloodstream by ovarian granulosa and theca cells. (a) progesterone (b) LH (c) FSH (d) estrogen (e) none of these

23. During the secretory phase of the uterine cycle __?__. (a) the endometrium becomes thicker and moister (b) the glands enlarge and begin secreting glycoproteins (c) the arteries and veins become more elaborate (d) all of these (e) none of these

24. The secretory phase of the uterine cycle is controlled by __?__ produced and released into the bloodstream by the __?__. (a) estrogens, follicles (b) progesterone, corpus luteum (c) LH, adenohypophysis (d) FSH, adenohypophysis (e) none of these

25. The secretory phase of the uterine cycle lasts as long as the __?__ phase of the ovarian cycle. (a) follicular (b) ovulatory (c) luteal

26. The menstrual phase of the uterine cycle is caused by __?__. (a) degeneration of the corpus luteum (b) a drop in the blood levels of progesterone (c) alternating vasoconstriction and vasodilation of the spiral arteries resulting in destruction of the functional layer of the endometrium (d) all of these (e) none of these

27. The menstrual flow (= menstruum) consists of blood from ruptured blood vessels and chunks of the degenerated functional layer of the endometrium. (a) true (b) false

28. The cervical canal opens into the uterine cavity at the __?__. (a) external os (b) internal os (c) posterior fornix (d) anterior fornix (e) infundibulum

29. The uterine tube is also called the __?__. (a) Fallopian tube (b) mesosalpinx (c) ductus deferens (d) epiophoron (e) ovarian tube

30. Which part of the uterine tube is attached to the uterus? (a) isthmus (b) ampulla (c) infundibulum (d) vulva (e) fimbriae

31. Which part of the uterine tube is closest to the ovary? (a) isthmus (b) ampulla (c) infundibulum (d) none of these

32. The mucosa of the uterine tube __?__ (a) is lined with a simple columnar epithelium (b) contains both ciliated and secretory cells (c) is thrown into branching, longitudinal folds (d) all of these (e) none of these

33. The smooth muscle in the uterine tube __?__ (a) is arranged in circular and longitudinal layers (b) produces peristaltic contractions (c) helps to propel the ovum towards the uterine cavity (d) all of these (e) none of these

34. If you traced an ovum from the ovary to the uterine cavity, through which of the following listed spaces or structures would it pass thirdly? (a) peritoneal cavity (b) ampulla (c) infundibulum (d) isthmus (e) uterine cavity
35. Fertilization of an ovum usually takes place in the ___?___ of the uterine tube. (a) fimbriae  (b) ampulla  (c) isthmus  (d) infundibulum  (e) none of these

36. Which of the following does not attach to the uterus at the junction of the fundus and the corpus?  (a) uterine tube  (b) round ligament  (c) ovarian ligament  (d) uterosacral ligament  (e) none of these

37. Which of the following contains the ovarian artery and veins?  (a) ovarian ligament  (b) suspensory ligament of the ovary  (c) round ligament  (d) uterosacral ligament  (e) none of these

38. The ovaries ___?___. (a) are located in the pelvis minor  (b) are attached to the broad ligament  (c) are suspended by folds called mesovaria  (d) all of these  (e) none of these

39. Follicles are located in the ___?___ of the ovary. (a) tunica albuginea  (b) germinal epithelium  (c) cortex  (d) medulla  (e) hilus

40. From birth until puberty, the cortex of the ovary contains only ___?___. (a) primordial follicles  (b) primary follicles  (c) secondary follicles  (d) corpora lutea (singular = corpus luteum)  (e) corpora albicantes (singular = corpus albicans)

41. As a follicle progresses from primordial to primary, ___?___. (a) the oocyte enlarges  (b) the granulosa cells become cuboidal and multiply  (c) a zona pellucida envelopes the oocyte  (d) a theca folliculi condenses around the granulosa  (e) all of these

42. In a mature or vesicular ovarian follicle, ___?___. (a) the antrum is a single, large fluid-filled cavity  (b) the oocyte is pushed to one side of the follicle  (c) the oocyte is surrounded by a cluster of cells, the corona radiata  (d) all of these  (e) none of these

43. Which structure is largest and closest to ovulation?  (a) oocyte  (b) primordial follicle  (c) primary follicle  (d) secondary follicle  (e) vesicular follicle

44. The ovaries produce ___?___. (a) LH and FSH  (b) estrogens and oxytocin  (c) estrogens and progesterone  (d) progesterone and FSH  (e) LH and estrogens

45. The ovaries undergo cyclic changes referred to as the ovarian cycle. The cycle is divided into ___?___ and ___?___ phases, separated by ovulation. (a) proliferative, secretory  (b) follicular, luteal  (c) menstrual, secretory  (d) follicular, secretory  (e) proliferative, menstrual

46. During follicular development, the granulosa and the theca cells secrete mostly ___?___. (a) estrogens  (b) progesterone  (c) luteinizing hormone  (d) follicle stimulating hormone  (e) none of these

47. Follicular development is stimulated by the the hormones ___?___ and ___?___ released by the adenohypophysis (= anterior pituitary). (a) estrogen, progesterone  (b) FSH, LH  (c) estrogen, testosterone  (d) growth hormone, oxytocin  (e) ACTH, growth hormone

48. At ovulation ___?___. (a) the follicle wall ruptures  (b) the theca externa cells contract  (c) the oocyte and corona radiata are expelled into the peritoneal cavity  (d) all of these  (e) none of these

49. Ovulation is initiated by a sudden increase in the amount of ___?___ released from the adenohypophysis. (a) FSH  (b) LH  (c) ACTH  (d) PTH  (e) progesterone

50. The post-ovulatory phase of the ovarian cycle is called the ___?___. (a) proliferative  (b) secretory  (c) luteal  (d) follicular  (e) menstrual

51. After ovulation, the granulosa and the theca cells ___?___. (a) enlarge  (b) form a yellowish structure called the corpus luteum  (c) secrete progesterone and estrogens  (d) all of these  (e) none of these
52. If pregnancy does not occur, the corpus luteum __?__. (a) slowly degenerates (b) ceases to function fourteen days after ovulation (c) forms a scar known as a corpus albicans in the ovarian cortex (d) all of these (e) none of these

53. The scrotum __?__. (a) is the male homolog of the female labia majora (b) is divided into two compartments by a median septum (c) is more deeply pigmented than the surrounding skin (d) all of these (e) none of these

54. The scrotum contains __?__. (a) the testes (b) the epididymes (c) parts of the spermatic cords (d) all of these (e) none of these

55. The cremaster muscle __?__. (a) is located between the external and the internal spermatic fascia (b) surrounds the spermatic cord and the testis (c) is derived from the Internal abdominal oblique muscle (d) all of these (e) none of these

56. The tunica vaginalis __?__. (a) is a double-walled, serous sac (b) partially encloses the testis (c) allows the testis to move freely in the scrotum (d) is derived from the peritoneum of the abdominopelvic cavity (e) all of these

57. The dense fibrous connective tissue capsule of the testis is called the __?__. (a) tunica vaginalis (b) testicular capsule (c) tunica albuginea (d) external spermatic fascia (e) none of these

58. Each lobule of the testis contains two to four looped and coiled __?__. (a) straight tubules (b) seminiferous tubules (c) efferent ductules (d) epididymes (e) rete testis

59. Sperm are produced in __?__. (a) the rete testis (b) the seminal vesicles (c) seminiferous tubules (d) the epididymis (e) the prostate gland

60. Seminiferous tubules contain __?__. (a) spermatogonia (b) primary and secondary spermatocytes (c) sustentacular cells (d) spermatids (e) all of these

61. Type B spermatogonia __?__. (a) move away from the basal lamina of the seminiferous tubule (b) enlarge (c) are converted into primary spermatocytes (d) all of these (e) none of these

62. Type A spermatogonia __?__. (a) stay near the basal lamina of the seminiferous tubule (b) divide mitotically (c) produce new Type A and Type B spermatogonia (d) all of these (e) none of these

63. Primary spermatocytes divide to produce __?__. (a) two secondary spermatocytes (b) four secondary spermatocytes (c) two spermatids (d) four spermatids (e) none of these.

64. Secondary spermatocytes are located __?__ the lumen of the seminiferous tubule than primary spermatocytes. (a) closer to (b) farther from

65. Secondary spermatocytes divide to produce two __?__. (a) spermatogonia (b) spermatids (c) spermatozoa (d) primary spermatocytes (e) Sertoli cells

66. During its conversion into a spermatozoon (= sperm), a spermatid __?__. (a) forms an acrosome (b) forms a flagellum (c) loses most of its cytoplasm (d) all of these (e) none of these

67. DNA is located in the __?__ of a sperm. (a) acrosome (b) head (c) neck (d) middle piece of the tail (e) principal piece of the tail

68. In which part of a sperm would you find the enzymes involved in penetration of the zona pellucida ? (a) acrosome (b) head (c) middle piece (d) neck (e) tail

69. The general term for sperm production is __?__ and the term applied to the conversion of a spermatid into a spermatozoon is __?__. (a) spermiogenesis and spermatogenesis (b)spermatogenesis and spermiogenesis (c) oogenesis and meiosis (d) spermatogenesis and capacitation (e) none of these
70. Sustentacular cells _?_. (a) are located in seminiferous tubules (b) surround developing spermatogonia, spermatocytes, and spermatids (c) extend from the basal lamina to the tubule lumen (d) are also called Sertoli cells (e) all of these

71. The blood-testis barrier _?_. (a) is produced by the tight junctions between Sertoli cells (b) prevents the developing spermatids from contacting the blood vessels in the connective tissues around the seminiferous tubules (c) prevents an auto-immune reaction to the spermatids (d) all of these (e) none of these

72. Sustentacular cells _?_. (a) phagocytize the cellular materials shed by spermatids (b) control the movement of spermatocytes and spermatids towards the lumen of a seminiferous tubule (c) produce inhibin and androgen-binding protein (d) produce testicular fluid (e) all of these

73. The spermatogenesis is controlled by _?_. (a) FSH released by the adenohypophysis (anterior pituitary) (b) testosterone produced by interstitial cells (c) both (d) neither

74. Androgen-binding hormone produced by sustentacular cells _?_. (a) inhibits FSH (b) concentrates testosterone in the seminiferous tubules (c) decreases the amount of testosterone in the seminiferous tubules (d) kills defective sperm (e) none of these

75. Testosterone is produced by _?_. located in the connective tissues around the seminiferous tubules. (a) sustentacular cells (b) Sertoli cells (c) interstitial cells (d) all of these (e) none of these

76. The epididymis _?_. (a) is a highly coiled tube (b) sits on the back of the testis (c) is divided into a head, body, and tail (d) is the major storage site for sperm (e) all of these

77. The epithelial cells lining the epididymis _?_. (a) reabsorb excess testicular fluids (b) secrete proteins necessary for sperm maturation (c) supply stored sperm with nutrients (d) phagocytize sperm stored for more than a few months (e) all of these

78. The ductus deferens _?_. (a) starts at the tail of the epididymis (b) enters the spermatic cord (c) ends at the prostate gland (d) all of these (e) none of these

79. The ampulla of the ductus deferens _?_. (a) is an expanded part of the tube (b) connects with duct of a seminal vesicle (c) ends in an ejaculatory duct at the prostate gland (d) all of these (e) none of these

80. The smooth muscles in the walls of the epididymis and the ductus deferens contract during ejaculation. (a) true (b) false

81. Which sequence best describes the movement of sperm away from the seminiferous tubules? (a) straight tubules > rete testis > efferent ducts > ductus epididymis > ductus deferens (b) ductus epididymis > rete testis > efferent ducts > straight tubules > ductus deferens (c) efferent ductules > rete testis > straight tubules > ductus deferens > ductus epididymis (d) rete testis > straight tubules > efferent ductules > ductus epididymis > ductus deferens

82. The spermatic cord contains _?_. (a) the ductus deferens (b) the testicular artery and pampiniform plexus of veins (c) lymphatics and nerves (d) all of these (e) none of these

83. The pampiniform plexus _?_. (a) is a network of veins formed by the testicular veins (b) cools the blood in the testicular artery (c) is located in the spermatic cord (d) all of these (e) none of these

84. The seminal vesicles _?_. (a) are located on the back of the urinary bladder (b) empty their secretions into the ejaculatory ducts (c) are responsible for about 60% of the volume of the semen (d) all of these (e) none of these

85. The seminal vesicle walls _?_. (a) are lined with pseudostratified columnar epithelium (b) contain smooth muscles which force secretions from the gland during ejaculation (c) are thrown into folds which give the gland a honeycombed appearance (d) all of these (e) none of these
86. The prostate __?__ (a) sits below the urinary bladder (b) surrounds the first part of the urethra (c) empties through several ducts into the floor of the urethra (d) all of these (e) none of these

87. The glands making up the prostate are called __?__ glands. (a) main (b) submucosal (c) mucosal (d) all of these (e) none of these

88. Prostatic secretions __?__. (a) are thin and milky (b) enhance sperm mobility (c) first clot and then liquefy ejaculated semen (d) all of these (e) none of these

89. Prostatic secretions __?__. (a) make up about 30% of the volume of ejaculated semen (b) contain citric acid and fibrinolysin, a hydrolytic enzyme (c) are forced into the urethra by smooth muscle contractions (d) all of these (e) none of these

90. The bulbourethral glands __?__. (a) are located in the UG diaphragm (b) are also called Cowper's glands (c) empty into the penile urethra (d) all of these (e) none of these

91. Semen is a mixture of __?__. (a) sperm (b) prostatic secretions (c) seminal vesicle secretions (d) seminiferous tubule secretions (e) all of these

92. The penis consists of __?__ and __?__. (a) two corpora cavernosa, one corpus spongiosum (b) two corpora spongiosa, one corpus cavernosum (c) one corpus spongiosum, one corpus cavernosum (d) two corpora cavernosa, two corpora spongiosum

93. The corpus spongiosum __?__. (a) begins at the bulb of the penis (b) ends at the glans of the penis (c) contains the urethra (d) contains erectile tissue (e) all of these

94. The three corpora of the penis are surrounded by a dense white fibrous connective tissue called the __?__. (a) tunica vaginalis (b) tunica albuginea (c) tunica intima (d) tunica serosa (e) tunica muscularis

95. The crura of the penis __?__. (a) are the proximal ends of the corpora cavernosa penis (b) lie on the ischiopubic rami (c) are covered by the Ischiocavernosus muscles (d) all of these (e) none of these

96. The bulb of the penis __?__. (a) is covered by the Bulbocavernosus muscles (b) is the homolog of the bulb of the vestibule (c) rests against the UG diaphragm (d) all of these (e) none of these

97. The prepuce __?__. (a) is a fold of penile skin (b) covers the glans penis (c) is also called the foreskin (d) is removed by circumcision (e) all of these

98. The corpora cavernosa do not contain __?__. (a) erectile tissue (b) deep arteries (c) helicine arteries (d) the urethra (e) all of these

99. The arteries to the penis are branches of the __?__ artery. (a) obturator (b) inferior gluteal (c) rectal (d) internal pudendal (e) none of these

100. During erection, the erectile tissue of the penis becomes engorged with blood because __?__. (a) its arteries and veins vasodilate (b) its arteries vasoconstrict and its veins vasodilate (c) its arteries vasodilate and its veins are compressed against the tunica albuginea (d) its arteries and veins vasoconstrict (e) none of these