МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ
«ГОМЕЛЬСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ»

Кафедра гистологии, цитологии и эмбриологии

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ТЕСТОВЫЕ ЗАДАНИЯ ПО ГИСТОЛОГИИ

Учебно-методическое пособие
для студентов 2 курса факультета по подготовке специалистов
для зарубежных стран, обучающихся по специальности
«Лечебное дело», медицинских вузов

В двух частях

Часть 2

HISTOLOGY TESTS

Teaching workbook in English for 2nd year students
of Faculty on preparation of experts for foreign countries,
studying on specialty of «General Medicine»,
of medical higher educational institutions

In two parts

Part 2

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ББК 48.32 (2Англ) я 73
С 60

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В учебно-методическом пособии представлены три типа заданий тестового контроля по частной гистологии и эмбриологии на английском языке. К каждому разделу прилагаются варианты правильных ответов на тестовые вопросы.

Предназначено для студентов 2 курса факультета по подготовке специалистов для зарубежных стран, обучающихся на английском языке в медицинских вузах.

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I. CHOOSE ONE CORRECT ANSWER

1. The blood-air barrier includes all components, except for:
Variants of the answer:
a) cytoplasm of the pneumocytes type I;
b) surfactant;
c) cytoplasm of the endotheliocyte;
d) basal laminae of the alveolar epithelium and capillary endothelium;
e) cytoplasm of the pneumocytes type II.

2. The lungs are covered from outside with:
a) mesothelium;
b) pseudostratified epithelium;
c) connective tissue capsule;
d) stratified squamous epithelium;
e) elastic membrane.

3. Pseudostratified epithelium of the trachea and bronchi contains all the cells, except for:
a) ciliary cells;
b) goblet cells;
c) basal cells;
d) endocrine cells;
e) Paneth cells.

4. There are all layers in walls of the trachea and the bronchi, except for:
a) mucous membrane;
b) submucous membrane;
c) fibrous-cartilage membrane;
d) serosa;
e) adventitia.

5. There are mixed glands of the air-conducting part everywhere, except for:
a) nose;
b) larynx;
c) trachea;
d) bronchi;
e) bronchioles.

6. The primary lobule of the lungs is composed of all components, except for:
a) terminal bronchiole;
b) respiratory bronchiole;

c) alveolar duct;
d) atria and alveolar sac;
e) alveoli with all the associated vessels, nerves and connective tissue.

7. Chemically, hormones are all substances, except for:
a) amino acid derivatives;
b) small peptides;
c) carbohydrates;
d) proteins;
e) steroids.

8. Rathke's pouch gives rise to the all parts of hypophysis, except for:
a) pars distalis;
b) pars tuberalis;
c) pars intermedia;
d) residual cleft;
e) pars nervosa.

9. The synthesis of hormones is impaired in iodine deficiency in:
a) pineal gland;
b) adenohypophysis;
c) adrenal glands;
d) thyroid gland;
e) parathyroid glands.

10. There are all types of cells in adenohypophysis, except for:
a) somatotropic cells;
b) thyrotropic cells;
c) lactotropic cells;
d) pinealocytes;
e) gonadotropic cells.

11. The cells of the adrenal gland medulla are characterized by all the features, except for:
a) origin from the coelomic mesoderm;
b) chromaffin reaction;
c) presence of the electron-dense granules;
d) ability of the epinephrine secretion;
e) ability of the norepinephrine secretion.

12. Blood circulation of the hypothalamo-adenohypophyseal system includes all the vessels, except for:
a) superior hypophyseal arteries;
b) primary capillary plexus;

c) portal veins;
d) secondary capillary plexus;
e) inferior hypophyseal arteries.

13. There are all structural components in the cheek mucous membrane, except for:
a) epithelium;
b) lamina propria;
c) muscularis mucosa;
d) nerves;
e) blood vessels.

14. There are all layers in the esophagus peritoneal part lying below the diaphragm, except for:
a) mucous membrane;
b) submucous membrane;
c) muscularis externa;
d) serosa;
e) adventitia.

15. There are all structural components in the tooth root, except for:
a) enamel;
b) dentin;
c) predentin;
d) layer of odontoblasts;
e) cementum.

16. Epithelium of the esophagus is:
a) simple squamous;
b) stratified squamous nonkeratinized;
c) simple columnar;
d) pseudostratified;
e) stratified squamous keratinizing.

17. There is muscularis mucosa in:
a) lip;
b) cheek;
c) gum;
d) esophagus;
e) tongue.

18. The movement of the tongue inferior surface is provided with:
a) epithelium of the mucous membrane;
b) lamina propria;

c) muscularis mucosa;
d) submucous membrane;
e) muscularis externa.

19. There are glands in the submucous membrane of the alimentary canal in:
a) stomach body;
b) pyloric part of the stomach;
c) duodenum;
d) jejunum;
e) ileum.

20. Pepsinogen is produced in the stomach glands by:
a) parietal (oxyntic) cells;
b) mucous neck cells;
c) chief (zymogenic) cells;
d) undifferentiated cells;
e) entero-endocrine cells.

21. Villi of the small intestine are:
a) projections of the mucosa;
b) projections of the epithelium;
c) aggregation of microvilli;
d) folds of mucosa and submucosa;
e) invaginations of epithelium into lamina propria.

22. The mucous membrane of the large intestine is distinguished from the mucous membrane of the small intestine by:
a) larger amount of the villi;
b) smaller amount of the villi;
c) absence of the villi;
d) absence of the crypts;
e) presence of the crypts.

23. The source for the small intestine epithelium regeneration is:
a) absorptive cells;
b) goblet cells;
c) paneth cells;
d) undifferentiated cells;
e) entero-endocrine cells.

24. It is characteristic of the appendix wall:
a) presence of the transitional epithelium;
b) great number of the crypts and villi;

c) absence of the muscularis externa;
d) presence of the glands in submucous membrane;
e) presence of the lymphoid tissue large aggregations.

25. The parotid gland produces the secret:
a) seromucous;
b) serous;
c) mucoserous;
d) mucous;
e) sebaceous.

26. The interlobular ducts of the pancreas are covered with epithelium:
a) simple squamous;
b) stratified squamous nonkeratinized;
c) simple columnar;
d) pseudostratified;
e) stratified squamous keratinizing.

27. The macrophages of the liver are:
a) fat-storing cells (Ito cells);
b) hepatocytes;
c) lymphocytes;
d) Kupffer cells;
e) endothelium.

28. There are spaces of Disse in the liver lobules:
a) between plates of hepatocytes;
b) within plates of hepatocytes;
c) between hepatocytes;
d) between sinusoids and plates of hepatocytes;
e) around the central vein.

29. The mucous membrane of the gallbladder is covered with epithelium:
a) simple squamous;
b) stratified squamous nonkeratinizing;
c) simple columnar with microvilli;
d) pseudostratified;
e) stratified squamous keratinizing.

30. The liver performs all the functions, except for:
a) detoxification and inactivation of substances;
b) synthesis of the plasma proteins;
c) bile secretion;

d) formation of glycogen;
e) synthesis of the digestive enzyme.

31. Thymic humoral factor, thymopoietin, and thymosin are produced in the thymus by:
a) thymic macrophages;
b) T-lymphocytes;
c) Hassall's corpuscles;
d) epithelial reticular cells;
e) adipocytes.

32. Epithelial reticular cells take its origin from:
a) entoderm;
b) prechordal plate;
c) mesoderm;
d) skin ectoderm;
e) mesenchyme.

33. The lymphoid tissue of the lymph nodes develops from:
a) entoderm;
b) somites;
c) mesenchyme;
d) ectoderm;
e) nephrotom.

34. The lymphoid tissue of the spleen develops from:
a) entoderm;
b) somites;
c) mesenchyme;
d) ectoderm;
e) nephrotom.

35. The stromal component of the bone marrow myeloid tissue is represented by:
a) loose connective tissue;
b) dense regular connective tissue;
c) epithelial tissue;
d) dense irregular connective tissue;
e) reticular tissue.

36. The stromal component of the tonsils lymphoid tissue is represented by:
a) loose connective tissue;
b) dense regular connective tissue;

c) epithelial tissue;
d) dense irregular connective tissue;
e) reticular tissue.

37. The kidney nephron includes all the parts, except for:
a) Bowman's capsule;
b) collecting tubule;
c) the loop of Henle;
d) proximal convoluted tubule;
e) distal convoluted tubule.

38. The antidiuretic hormone in the kidneys influences upon:
a) glomerulus;
b) interstitial cells;
c) collecting tubules and collecting ducts;
d) mesangial cells;
e) juxtaglomerular cells.

39. There is macula densa in the kidneys in:
a) parietal layer of the Bowman's capsule;
b) wall of proximal convoluted tubule;
c) wall of distal convoluted tubule;
d) wall of collecting tubule;
e) renal interstitium.

40. There are mesangial cells in kidneys in:
a) visceral layer of the Bowman's capsule;
b) amounting to the macula densa;
c) near the peritubular capillary network;
d) between capillaries of the glomerulus;
e) around afferent and efferent arterioles.

41. Cells sensitive to NaCL concentration changes in the urine are:
a) juxtaglomerular cells;
b) mesangial cells;
c) epithelial cells of the Bowman's capsule parietal layer;
d) podocytes;
e) epithelial cells of the macula densa.

42. The wall of the urinary bladder includes all the components, except for:
a) mucous membrane;
b) transitional epithelium;
c) submucous membrane;

d) smooth muscle in muscularis membrane;
e) striated muscle in muscularis membrane.

43. The process of spermatogenesis takes place in:
a) tubuli recti;
b) rete testis;
c) seminiferous tubules;
d) ductuli efferentes;
e) ductus epididimis.

44. A seminiferous epithelium includes all the cells, except for:
a) spermatogonia;
b) spermatids;
c) Sertoli cells;
d) Leydig cells;
e) spermatocytes.

45. The human primordial germ cells appear in:
a) mesonephros gonadal ridge;
b) wall of the york sac;
c) wall of the primitive gut;
d) nephrotom;
e) somites.

46. Interstitial tissue of the testis includes all the components, except for:
a) loose connective tissue;
b) vessels;
c) nerves;
d) Leydig cells;
e) Sertoli cells.

47. Sertoli cells perform all the functions, except for:
a) participation in the formation of the blood-testis barrier;
b) phagocytosis of degenerating spermatogenic cells and residual bodies;
c) secreting of androgen-binding protein;
d) secreting of testosterone;
e) mechanical support for the spermatogenic cells.

48. In embryogenesis the mesonephric duct gives rise to all the structures, except for:
a) ductuli efferentes;
b) ductus epididimis;
c) ductus deferens;

d) seminal vesicles;
e) ejaculatory duct.

49. The following structure will be formed at the place of the ruptured follicle after ovulation:
a) corpus albicans;
b) corpus luteum;
c) corpus atretica;
d) Graafian follicle;
e) growing follicle.

50. During menstrual cycle the most significant changes take play in the uterus in:
a) myometrium;
b) basal layer of endometrium;
c) functional layer of endometrium;
d) perimetrium.

51. Graafian follicles appear in the ovary for the first time during:
a) embryogenesis;
b) menopause;
c) old age;
d) sexual maturity;
e) puberty.

52. What follicles cells produce liquor folliculi with estrogens:
a) oogonia;
b) primary oocytes;
c) secondary oocytes;
d) granulosa cells;
e) theca interna cells.

53. What follicles cells produce androgens:
a) oogonia;
b) primary oocytes;
c) secondary oocytes;
d) granulosa cells;
e) theca interna cells.

54. In what period of ontogenesis does atresia prevail in the ovary:
a) embryogenesis;
b) puberty;
c) gestation;

d) menopause;
e) old age.

55. The fertilization of a human embryo takes place in:
a) uterus cavity;
b) abdominal cavity;
c) the ampullar part of the uterine tube;
d) uterus cervix;
e) vagina.

56. Trophoblast appears in the embryo for the first time during:
a) cleavage;
b) early gastrulation;
c) late gastrulation;
d) stage of histogenesis;
e) stage of organogenesis.

57. On what days of embryogenesis does implantation take place in the uterus:
a) 1st day;
b) 3–4th days;
c) 6–7th days;
d) 10–14th days;
e) 12–21st days.

58. Epiblast includes all the germs, except for:
a) neural plate;
b) mesoderm;
c) notochordal process;
d) skin ectoderm;
e) primitive gut.

59. The amnion, yolk sac and chorion appear in the embryo for the first time during:
a) cleavage;
b) early gastrulation;
c) late gastrulation;
d) stage of histogenesis;
e) stage of organogenesis.

60. Human placental barrier includes all the components, except for:
a) wall of the tertiary chorionic villus capillary;
b) mesenchime of the tertiary chorionic villus;
c) the basal lamina of the trophoblast;
d) the trophoblast;
e) lacunae filled with maternal blood.

REFERENCES STANDARD OF ANSWERS TO TYPE I TESTS

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

II. CHOOSE THE APPROPRIATE ANSWER (ONE ANSWER MAY BE USED ONE OR SEVERAL TIMES OR NOT USED AT ALL) FROM THE RIGHT COLUMN

The morphological features of the air-conducting organs…	**are the following …**
1. Trachea. 2. Intrapulmonary bronchi. 3. Smallest intrapulmonary bronchi. 4. Bronchioles. 5. Terminal bronchioles.	a) pseudostratified ciliated epithelium, C-shaped hyaline cartilages rings, absence of the muscularis mucosa, glands; b) pseudostratified ciliated epithelium, well developed muscularis mucosa, absence of the cartilages and glands; c) pseudostratified ciliated epithelium, large fragments of hyaline cartilage, muscularis mucosa, glands; d) pseudostratified ciliated epithelium, islands of cartilages, muscularis mucosa, glands; e) simple ciliated columnar or cuboidal epithelium, thin layer of the elastic fibers and smooth myocytes, absence of the cartilages and glands.
Epithelium covering…	**contains such cells as …**
6. Bronchioles. 7. Terminal bronchioles. 8. Respiratory bronchioles. 9. Alveolar ducts. 10. Alveoli.	a) pneumonocytes I and II type; b) ciliated, brush, endocrine, Clara cells; c) ciliated, goblet, brush, endocrine, Clara cells; d) ciliated, brush, Clara cells; e) brush, Clara cells.
The cells covering the bronchial tree…	**perform the following functions…**
11. Clara cells. 12. Goblet cells. 13. Endocrine cells. 14. Brush cells. 15. Basal cells.	a) production of the bronchial fluid, glycoproteins; b) sensory receptor cells; c) mucous secreting cells; d) production of the peptide hormones; e) providing the regeneration.
There are …	**in the lungs in …**
16. Mixed glands.	a) alveoli;

17. Lymph nodules. 18. Smooth muscle. 19. Cells producing surfactant phospholipids, proteins, glycosaminoglycans. 20. Cells producing bronchial fluid glycoproteins.	b) epithelium of the terminal bronchioles; c) epithelium of the trachea; d) mucousa of the bronchi; e) submucousa.
Changes of functions… 21. Hyperfunction of follicular cells. 22. Hyperfunction of the parathyroid glands cells. 23. Hyperfunction of the somatotrops. 24. Hypofunction of the cells of adrenal gland cortex. 25. Parafollicular cells.	**in the organism is due to …** a) decreasing of the calcium in blood; b) excessive growth of body or its part increasing of the organism cells metabolism; c) decreasing of the protein breakdown in cells and gluconeogenesis; d) increasing of the calcium in blood.
Hormones… 26. Aldosteron. 27. Melatonin. 28. Growth hormone. 29. Parathormone. 30. Follicle-stimulating.	**are formed in…** a) adenohypophysis; b) pineal gland; c) parathyroid gland; d) cortex of the adrenal gland; e) ovary.
Endocrine glands… 31. Adenohypophysis. 32. Neurohypophysis. 33. Cortex of the adrenal gland. 34. Medulla of the adrenal gland. 35. Parathyroid gland.	**develop from…** a) neuroectoderm; b) oral cavity ectoderm; c) coelomic epithelium; d) projection of primitive gut; e) entoderm.
Target cells… 36. Myocytes of uterus. 37. Myocytes of vessels. 38. Myoepithelial cells of the mammary glands. 39. Epithelium of the kidney tubules. 40. Adenocytes of the adenohypophysis.	**have receptors to hormone…** a) vasopressin; b) oxytocin; c) both vasopressin and oxytocin; d) neither vasopressin or oxytocin.
Morphofunctional features… 41. Secretion of vasopressin and oxytocin. 42. Ability to irritability and conductivity. 43. Secretion of liberins and statins.	**of the hypothalamus neurosecretory cells localizing in…** a) supraoptic and paraventricular nuclei; b) preoptic and arcuate nuclei;

44. Axons forming axovasal synapses in pars nervosa. 45. Axons forming axovasal synapses in median eminence.	c) all supraoptic, paraventricular preoptic and arcuate nuclei; d) neither supraoptic, paraventricular, preoptic nor arcuate nuclei.
Hormones… 46. Somatostatin. 47. Glucocorticoids. 48. Mineralocorticoids. 49. Epinephrine. 50. Norepinephrine.	**cause effects…** a) maintaining the blood pressure; b) increasing the heart rate and cardiac output; c) maintaining the water and electrolyte balance; d) participation in the carbohydrates, proteins, lipids metabolism; e) inhibition of the glands secretion.
Parts of the tooth… 51. Enamel. 52. Dentin. 53. Predentin. 54. Cementum. 55. Pulp cavity.	**consist of…** a) mineralized collagen fibrils; b) loose connective tissue; c) cartilage tissue; d) enamel rods; e) unmineralized collagen fibrils.
The layers of esophagus wall… 56. Covering epithelium. 57. Muscularis mucosa. 58. Submucous membrane. 59. Muscularis externa of the upper part. 60. Adventitia.	**consist of…** a) simple columnar; b) stratified squamous nonkeratinizing; c) loose connective tissue; d) smooth muscle; e) striated muscle.
Parts of the tooth… 61. Enamel. 62. Dentin. 63. Predentin. 64. Cementum. 65. Periodontal ligament.	**develop from…** a) simple columnar epithelium; b) stratified squamous epithelium of the oral cavity; c) mesemchyme from the neural crest; d) mesemchyme from the mesoderma; e) somites.
Structural components of the tongue… 66. Covering epithelium. 67. Lamina propria. 68. Glands. 69. Muscle. 70. Endomysium.	**are represented by…** a) simple columnar; b) stratified squamous; c) glandular epithelium; d) loose connective tissue; e) striated muscle.

The cells of the main gastric glands…	**perform the following functions…**
71. Chief cells.	a) pepsinogen secretion;
72. Parietal cells.	b) mucus secretion;
73. Mucous neck cells.	c) gastrin and serotonin secretion;
74. Undifferentiated cells.	d) chlorides production;
75. Enteroendocrine cells.	e) regeneration providing.
Enteroendocrine cells of the gastro-estinal tract…	**produce …**
76. G-cells.	a) serotonin;
77. EC-cells.	b) somatostatin;
78. D-cells.	c) gastrin;
79. D1-cells.	d) secretin;
80. S-cells.	e) vasoactive intestinal polypeptide.
Structural features…	**are characteristic of the…**
81. Villi, crypts, glands in submucosa.	a) esophagus;
82. Stratified squamous epithelium, glands in submucosa.	b) stomach;
83. Pits, glands within the lamina propria.	c) duodenum;
84. Crypts, absence of villi.	d) jejunum and ileum;
85. Villi, crypts, absence of glands.	e) large intestine.
The cells of the small intestine…	**perform the following functions…**
86. Enterocytes.	a) antibacterial activity;
87. Goblet cells.	b) mucus secretion;
88. Paneth cells.	c) secretin and cholecystokinin secretion;
89. Undifferentiated cells.	d) digestion and absorption;
90. Enteroendocrine cells.	e) regeneration providing.
The cells of the small intestine…	**are situated in …**
91. Enterocytes.	a) only in crypts;
92. Goblet cells.	b) only in villi;
93. Paneth cells.	c) only in bases of the crypts;
94. Undifferentiated cells.	d) both in crypts and villi;
95. Enteroendocrine cells.	e) in serosa.
Combinations of two epitheliums …	**are situated in …**
96. Simple columnar with mucus secreting cells and mesothelium.	a) small intestine;
97. Simple columnar with great number	b) the esophagus passing into the stomach;

of absorptive cells. 98. Stratified squamous and simple columnar with mucus secreting cells. 99. Simple columnar with mucus secreting cells and simple columnar with great number of absorptive cells. 100. Stratified squamous.	c) the stomach passing into the duodenum; d) stomach; e) oral cavity.
The secrets… 101. Digestive enzyme lipase. 102. Hormone insulin. 103. Proteins of plasma. 104. Digestive enzyme trypsin. 105. Bile.	**are produced by…** a) hepatocytes of the liver; b) fat-storing cells of the liver; c) acinar cells of the pancreas; d) cells of the pancreas langerhans islets; e) Kupffer cells of the liver.
The cells of the pancreas Langerhans islets… 106. A-cells. 107. B-cells. 108. D-cells. 109. D1-cells. 110. PP-cells.	**produce hormones…** a) pancreatic polypeptide; b) somatostatin; c) insulin; d) glucagon; e) vasoactive intestinal peptide.
Functions of the liver… 111. Detoxification and inactivation. 112. Bile secretion. 113. Accumulation of vitamin A. 114. Protection by phagocytosis. 115. Formation of glycogen.	**are provided by the cells…** a) hepatocytes; b) Kupffer cells; c) endothelial cells of capillaries; d) Ito cells; e) epithelium of bile ductules.
The cells of the liver… 116. Hepatocytes. 117. Kupffer cells. 118. Ito cells. 119. Endothelial cells of capillaries. 120. Pit cells.	**have ability to…** a) accumulate vitamin A; b) take part in substances exchange; between blood and hepatocytes; c) inactivate toxins; d) phagocytose; e) kill tumor cells.
The vessels of the liver… 120. Interlobular veins. 121. Sublobular veins.	**are situated …** a) between classic hepatic lobules within triads;

122. Central veins. 123. Interlobular arteries. 124. Sinusoids	b) between classic hepatic lobules but not within triads; c) between plates of hepatocytes within lobules; d) in the center of classic hepatic lobules; e) within plates of hepatocytes.
The vessels of the liver… 125. Interlobular artery. 126. Interlobular vein. 127. Sinusoid. 128. Central vein. 129. Sublobular vein.	**contain …** a) hormones-rich blood; b) oxygen-rich blood; c) mixed blood; d) oxygen-poor, but nutrient-rich blood; e) nutrient-poor, but metabolites-rich blood.
The following cells… 130. Macrophages passing the iron to the developing erythrocytes. 131. Follicular dendritic cells. 132. Megacariocytes. 133. Epithelioreticular cells. 134. Interdigitating (dendritic) cells.	**localize in…** a) thymus; b) lymph nodes; c) appendix; d) tonsils; e) bone marrow.
Zones of the spleen… 135. Periarterial lymphatic sheath. 136. Peripheral white pulp. 137. Marginal zone. 138. Germinal centers. 139. Splenic cords.	**mainly consist of …** a) blood formed elements, reticular cells, plasmocytes, macrophages; b) T-lymphocytes; c) B-lymphocytes; d) macrophages, dendritic cells, few lymphocytes; e) B-immunoblasts.
In zones of lymph nodes… 140. Germinal centers of nodules. 141. Medullary cords. 142. Paracortical areas. 143. Sinuses. 144. Mantle zones of nodules.	**the following processes take place…** a) releasing of antibodies by plasmocytes; b) proliferation of B-immunoblasts; c) cooperative interactions of immunocompetent cells; d) accumulation of B-memory cells; e) filtration of lymph.

The following structures… 145. Lymph nodules with a central artery. 146. Lymph nodules, medullary cordes, sinuses. 147. Cortex and medulla without lymph nodules. 148. Lymph nodules, stratified nonkeratinized epithelium. 149. Lymph nodules, simple epithelium, crypts.	**are characteristic of …** a) thymus; b) lymph nodes; c) appendix; d) tonsils; e) spleen.
The following structures… 150. Hassall's corpuscles. 151. Iron accumulating cells surrounded by developing erythrocytes. 152. «Nurse» cells. 153. Follicular dendritic cells. 154. Interdigitating (dendritic) cells.	**are …** a) antigen presenting cells in T-lymphocyte rich zones; b) complexes of the epithelioreticular cells in the thymus medulla; c) macrophages of the bone marrow; d) epithelioreticular cells of the thymus cortex; e) not antigen presenting cells in B-lymphocyte rich zones retaining antigens on its surface.
Immunoglobulines … 155. Principal in the secondary immune response. 156. Principal in the primary immune response. 157. Present in body secretions. 158. Antigen receptor on the surface of mature B-lymphocytes. 159. Principal in the allergic reactions.	**belong to the…** a) class A; b) class M; c) class G; d) class E; e) class D.
In kidneys the following cells … 160. Mesangial cells. 161. Interstitial cells. 162. Podocytes. 163. Juxtaglomerular cells. 164. Macula densa cells.	**localize…** a) in loose connective tissue of the medulla; b) in the walls of afferent and efferent arterioles; c) in the wall of distal convoluted tubule; d) between capillaries of the glomerulus; e) in the Bowman's capsule visceral layer.

In kidneys such structures as … 165. Bowman's capsule visceral layer. 166. Proximal tubules. 167. Henle's loop thin segment. 168. Distal tubules. 169. Collecting tubules.	**are formed by epithelial cells…** a) cuboidal with brush border and basal striation; b) cuboidal with basal striation; c) with primary and secondary processes; d) cuboidal with light and dark cells; e) squamous.
In kidneys the following structures … 170. Proximal tubules. 171. Distal tubules. 172. Henle's loop thin segment. 173. Collecting tubules. 174. Papillary duct.	**are covered with epithelium…** a) simple squamous; b) simple cuboidal with basal striation; c) simple cuboidal with brush border and basal striation; d) simple cuboidal; e) simple cuboidal and simple columnar.
Cells of kidneys… 175. Podocytes 176. Juxtaglomerular cells 177. Cells of proximal tubules 178. Cells of distal tubules 179. Interstitial cells	**are characterized by presence in them…** a) brush border and basal striation; b) granules containing renin; c) only the basal striation; d) primary and secondary processes; e) bundles of actin filaments and lipid droplets.
In the kidney structures… 180. Malpighian corpuscle. 181. Proximal tubules. 182. Descending limb of Henle's loop. 183. Distal tubules. 184. Juxtaglomerular cells.	**the following the processes take place …** a) primary urine components filtration; b) pumping of sodium; c) water reabsorption; d) rennin secretion; c) proteins, glucose, sodium, water reabsorption.
Mucous membrane of the… 185. Renal pelvis. 186. Urinary bladder. 187. Urethra pars prostatic. 188. Urethra pars membranacea. 189. Urethra pars spongiosa.	**is covered with epithelium …** a) simple squamous; b) simple colomnar; c) pseudostratified columnar; d) transitional; e) stratified squamous.

The following functions of …	**are performed by…**
190. Testosterone secretion. 191. Androgen-binding protein secretion. 192. Phagocytosis. 193. Peristalsis of seminiferous tubules. 194. Testucilar fluid secretion.	a) Sertoli cells; b) Leydig cells; c) spermatids; d) myoid cells; e) spermatocytes.
The following organs…	**have such features as …**
195. Testis. 196. Epididymidis. 197. Seminal vesicles. 198. Prostate. 199. Ductus defferens.	a) mucousa forms the numerous folds; b) formed by ductule with well developed muscular membrane; c) consists of the numerous glands surrrounded by smooth myocytes; d) has ductuli efferentes continued into coiled duct; e) formed by seminiferous tubules, tubuli recti and rete testis.
Cells of testis…	**localize…**
200. Sertoli cells. 201. Leydig cells. 202. Myoid cells. 203. Spermatogonia. 204. Spermatids.	a) in interstitial tissue; b) in tunica of seminiferous tubules; c) on basal lamina of seminiferous tubules; d) in adluminal compartment of seminiferous epithelium; e) in basal compartment of seminiferous epithelium.
Hormones…	**have effects in the organism…**
205. Androgens. 206. FSH. 207. LH. 208. Inhibin. 209. Estrogens.	a) stimulation of testosterone secretion by Leydig cells; b) stimulation of androgen-binding protein secretion by Sertoli cells; c) regulation of spermatogenesis; d) inhibition of testosterone secretion by Leydig cells; e) inhibition of FSH secretion in adenohypophysis.
Organs…	**perform the functions…**
210. Testis. 211. Epididymidis.	a) contraction for semen ejaculation; b) maturation and storage of sperms;

212. Seminal vesicles. 213. Prostate. 214. Ductus deferens.	c) spermatogenesis; d) liquefaction of the semen; e) secretion of metabolic products for sperms.
The parts of male reproductive system… 215. Seminiferous tubules. 216. Tubuli recti. 217. Rete testis. 218. Ductuli efferentes. 219. Ductus epididymidis.	**are covered with epithelium…** a) pseudostratified columnar; b) pseudostratified columnar containing alternating groups of cells; c) simple cuboidal; d) seminiferous epithelium; e) simple containing only Sertoli cells.
Hormones… 220. FSH. 221. LH. 222. Estrogens. 223. Progesterone. 224. LTH.	**are produced by…** a) growing follicles; b) corpus luteum; c) acidophils of adenohypophysis; d) basophils of adenohypophysis; e) hypothalamic neurons.
Structures of the ovary… 225. Vessels. 226. Oocytes. 227. Follicular cells. 228. Loose connective tissue. 229. Theca interna cells.	**develop from…** a) primordial germ cells; b) coelomic epithelium; c) entodermal epithelium; d) ectodermal epithelium; e) mesenchyme.
Within period of 28-day ovarion-menstrual cycle… 230. 1–4. 231. 5–13. 232. 14–15. 233. 16–27. 234. 28.	**takes place the following processes…** a) ovulation; b) desquamation of stratum functionale; c) reconstitution of endometrium; d) development of corpus luteum; e) ischemia of stratum functionale.
Main components of the uterus wall … 235. Covering epithelium of endometrium. 236. Lamina propria of endometrium. 237. Glands of endometrium. 238. Myometrium. 239. Perimetrium.	**are represented by …** a) simple columnar epithelium; b) smooth muscle tissue; c) loose connective tissue; d) loose connective tissue and mesothelium; e) glandular epithelium.

Hormones…	**have influence upon …**
240. FSH. 241. LH. 242. Estrogens. 243. Progesterone. 244. LTH.	a) folliculogenesis; b) reconstitution of endometrium after uterus bleeding; c) secretion of uterus glands; d) secretion of mammary glands; e) development of corpus luteum.
Features of the ovary …	**are …**
245. Primordial follicle. 246. Early primary follicle. 247. Late primary follicle. 248. Secondary follicle. 249. Graafian follicle.	a) oocyte surrounded by zona pellucida, granulosa layer and theca folliculi; b) oocyte surrounded by a single layer of squamous follicular cells; c) cumulus oophorus, one largest antrum, granulosa layer, theca interna and theca externa; d) oocyte surroun;ded by a single layer of cuboidal or columnar follicular cells; e) oocyte surrounded by zona pellucida, granulosa layer with one or several antrums, theca interna and theca externa.
Tissues…	**form from…**
250. Connective tissue of chorion. 251. Microglia. 252. Blood cells. 253. Cortex of adrenal glands. 254. Mesothelium.	a) mesenchyme; b) splanchnotom; c) nephrotom; d) prechordal plate; e) extraembryonic mesoderm.
Tissues…	**form from…**
255. Epithelium of trachea. 256. Adenocytes of adenohypophysis. 257. Epithelium of the liver. 258. Epithelium of the esophagus. 259. Neurons of the retina.	a) skin ectoderm; b) nervous tube; c) nephrotom; d) prechordal plate; e) entoderm.
The parts of mesoderm…	**give rise to …**
260. Dermatom of somits. 261. Myotom of somits. 262. Sclerotom of somits. 263. Nephrotom. 264. Splanchotom.	a) cardiac muscle tissue; b) bone and cartilage tissues; c) derma of the skin; d) skeletal muscle tissue; e) epithelium of the uterus.

Within what period of embryogenesis…	**do such processes take place …**
265. 1st day. 266. 2–5th days. 267. 6–7th days. 268. 7–14th days. 269. 14–20th days.	a) implantation; b) fertilization; c) cleavage; d) early gastrulation; e) late gastrulation.
Sourse for development of…	**is …**
270. Primitive gut. 271. Nervous tube. 272. Somits. 273. Splanchotom. 274. Amnion.	a) ventral mesoderm; b) ectoderm; c) extraembryonic ectoderm and extraembryonic mesoderm; d) entoderm; e) dorsal mesoderm.
Extraembryonic organs…	**consist of …**
275. Yolk sac. 276. Amnion. 277. Umbilical cord. 278. Allantois. 279. Chorion.	a) extraembryonic ectoderm and extraembryonic mesoderm; b) extraembryonic entoderm and extraembryonic mesoderm; c) trophoblast and extraembryonic mesoderm; d) ectoderm and parietal layer of mesoderm; e) amniotic epithelium, mucous tissue and the largest vessels.

REFERENCES STANDARD OF ANSWERS TO TYPE II TESTS

1. a	36. b	71. a	106. d	141. a	176. b	211. b	246. d
2. c	37. a	72. d	107. c	142. c	177. a	212. e	247. a
3. d	38. b	73. b	108. b	143. e	178. c	213. d	248. e
4. b	39.a	74. e	109. e	144. d	179. e	214. a	249. c
5. e	40. d	75. c	110. a	145. e	180. a	215. d	250. e
6. c	41. a	76. c	111. a	146. b	181. c	216. e	251. a
7. b	42. c	77. a	112. a	147. a	182. c	217. c	252. a
8. d	43. b	78. в	113. d	148. d	183. b	218. b	253. b
9. e	44. a	79. e	114. b	149. c	184. d	219. a	254. b
10. a	45. b	80. d	115. a	150. b	185. d	220. d	255. d
11. a	46. e	81. c	116. c	151. c	186. d	221. d	256. a
12. c	47. d	82. a	117. d	152. d	187. d	222. a	257. e
13. d	48. c	83. b	118. a	153. e	188. c	223. b	258. d
14. b	49. b	84. e	119. b	154. a	189. e	224. c	259. b
15. e	50. a	85. d	120. e	155. c	190. b	225. e	260. c
16. e	51. d	86. d	121. b	156. b	191. a	226. a	261. d
17. d	52. a	87. b	122. d	157. a	192. a	227. b	262. b
18. d	53. e	88. a	123. a	158. d	193. d	228. e	263. e
19. a	54. a	89. e	124. c	159. e	194. a	229. e	264. a
20. b	55. b	90. c	125. b	160. d	195. e	230. b	265. b
21. c	56. b	91. d	126. d	161. a	196. d	231. c	266. c
22. e	57. d	92. d	127. c	162. e	197. a	232. a	267. a
23. b	58. c	93. c	128. e	163. b	198. c	233. d	268. d
24. d	59. e	94. a	129. e	164. c	199. b	234. e	269. e
25. a	60. c	95. d	130. e	165. c	200. c	235. a	270. d
26. d	61. b	96. d	131. b	166. a	201. a	236. c	271. b
27. b	62. c	97. c	132. e	167. e	202. b	237. e	272. e
28. a	63. c	98. b	133. a	168. b	203. e	238. b	273. a
29. c	64. d	99. c	134. b	169. d	204. d	239. d	274. c
30. a	65. d	100. e	135. b	170. c	205. c	240. a	275. b
31. b	66. b	101. c	136. d	171. b	206. b	241. e	276. a
32. a	67. d	102. d	137. c	172. a	207. a	242. b	277. e
33. c	68. c	103. a	138. e	173. d	208. e	243. c	278. b
34. a	69. e	104. c	139. a	174. e	209. d	244. d	279. c
35. d	70. d	105. a	140. b	175. d	210. c	245. b	

III. CHOOSE IN WHICH CONDITION THE FOLLOWING STATEMENT IS CORRECT. IF 1, 2, 3 IS CORRECT — ANSWER A; CORRECT 1, 3 — ANSWER B; CORRECT 2, 4 — ANSWER C; CORRECT ONLY 4 — ANSWER D; CORRECT 1, 2, 3, 4 (ALL STATEMENT) — ANSWER E

1. The true vocal cords of the larynx contain:
1) stratified squamous epithelium;
2) pseudostratified ciliated epithelium;
3) striated muscle tissue;
4) smooth muscle tissue.

2. Different parts of the larynx mucousa are covered with epithelium:
1) pseudostratified ciliated;
2) simple columnar;
3) stratified squamous;
4) simple cuboidal.

3. Interalveolar septum of the lung contain:
1) collagenous fibers;
2) elastic fibers;
3) fibroblasts;
4) macrophages.

4. The secretion of the surfactant components is provided by:
1) capillary endothelium;
2) pneumocytes type II;
3) pneumocytes type I;
4) Clara cells.

5. The different parts of the nose are covered with epithelium:
1) stratified squamous keratinizing;
2) stratified squamous nonkeratinizing;
3) pseudostratified ciliated columnar;
4) olfactory.

6. The visceral membrane of the lung pleura consists of:
1) mesothelium;
2) collagenous fibers;
3) elastic fibers;
4) smooth myocytes.

7. The respiratory portions of the lungs are:
1) intrapulmanary bronch;
2) bronchioles;
3) terminal bronchioles;
4) primary lobules.

8. The wall of the trachea includes the following layers:
1) mucous membrane;
2) submucous membrane;
3) fibro-cartilage membrane;
4) adventitia.

9. The false vocal cords of the larynx contain:
1) stratified squamous epithelium;
2) pseudostratified ciliated epithelium;
3) striated muscle tissue;
4) loose connective tissue of the lamina propria.

10. The wall of the bronchioles contains:
1) pseudostratified ciliated epithelium;
2) cartilages;
3) muscularis mucosa;
4) glands.

11. «Dust cells» of the lung are:
1) lymphocytes;
2) mast cells;
3) smooth myocytes;
4) alveolar macrophage.

12. Chemically the pulmonary surfactant consists of:
1) phospholipids;
2) proteins;
3) glycosaminoglycans;
4) acids.

13. The pineal gland contains the following cells:
1) dark pinealocytes;
2) light pinealocytes;
3) glial cells;
4) chromaffine cells.

14. The target cells to ACTH in the adrenal glands are cells of:
1) zona glomerulosa;
2) zona fasciculata;
3) zona reticularis;
4) adrenal medulla.

15. Steroid-secreting endocrine cells contain abundant:
1) lipid droplets;
2) mitochondria with tubular cristae;
3) smooth endoplasmic reticulum;
4) dense secretory granules.

16. Chemically the hormones may be:
1) amino acid derivatives;
2) small peptides;
3) proteins;
4) steroids.

17. The Herring bodies are:
1) terminations of glial cells processes;
2) accumulations of pituicytes;
3) capillaries;
4) dilated endings of the axons with neurosecretory granules.

18. The neurohemal organs of the endocrine system are:
1) pars nervosa;
2) pars distalis;
3) median eminence;
4) pars intermedia.

19. The endocrine cells of APUD system have the following origin:
1) ectodermal;
2) entodermal;
3) mesodermal;
4) neural‡o

20. The hormones regulating the level of calcium in blood are:
1) thyroxin;
2) parathyroid hormone;
3) thyrotropin;
4) calsitonin.

21. The thyrotropin regulates the secretion of such hormones as:
1) thyroxin;
2) calsitonin;
3) triiodothyronine;
4) parathyroid hormone.

22. The parafollicular cells localize in the thyroid gland in:
1) connective tissue capsule;
2) wall of follicules;
3) colloid;
4) loose connective tissue between follicules.

23. The basophils of adenohypophysis are:
1) gonadotropic cells;
2) thyrotropic cells;
3) adrenocorticofipotropic cells;
4) lactotropic cells.

24. The acidophils of adenohypophysis are:
1) gonadotropic cells;
2) somatotropic cells;
3) adrenocorticofipotropic cells;
4) lactotropic cells.

25. The wall of the gastrointestinal tract consists of:
1) mucosa;
2) submucosa;
3) muscularis externa;
4) serosa or adventitia.

26. The cells odontoblasts produce in the tooth:
1) predentin;
2) enamel;
3) dentin;
4) pulp.

27. The cells ameloblasts produce in the tooth:
1) predentin;
2) cementum;
3) dentin;
4) enamel.

28. The glands of the esophagus are situated in:
1) epithelium of mucous membrane;
2) lamina propria of mucous membrane;
3) muscularis externa;
4) submucous membrane.

29. The tongue papillae consist of:
1) stratified squamous partially keratinized epithelium;
2) stratified squamous nonkeratinized epithelium;
3) lamina propria of mucous membrane;
4) muscularis mucosa.

30. The roots of teeth are held in bony sockets by:
1) bone joining;
2) cartilage joining;
3) epithelial joining;
4) periodontal ligament.

31. The taste buds are situated in stratified squamous epithelium of papillae:
1) foliate;
2) fungiform;
3) circumvallate;
4) filiform.

32. Periodontal ligament is:
1) loose connective tissue;
2) muscle tissue;
3) epithelial tissue;
4) dense connective tissue.

33. The hard tissues of the tooth are:
1) enamel;
2) cementum;
3) dentin;
4) predentin.

34. Serosa consists of:
1) mesothelium;
2) dense connective tissue;
3) loose connective tissue;
4) muscle tissue.

35. Structurally the esophageal glands of the submucosa esophagus are:
1) branched;
2) compound;
3) tubular-alveolar;
4) unbranched.

36. Muscularis externa of the esophagus middle part consists of:
1) myoepithelial cells;
2) smooth myocytes;
3) myoid cells;
4) striated fibers.

37. The components of the stomach gastric juice are produced by cells:
1) chief;
2) parietal;
3) mucus secreting;
4) enteroendocrine.

38. Distinguishing features of the jejunum are:
1) villi;
2) glands within the lamina propria of the mucosa;
3) crypts;
4) pits.

39. Distinguishing features of the duodenum are:
1) villi;
2) glands within the submucosa;
3) crypts;
4) pits.

40. The peristalsis of the intestine is provided by:
1) movements of villi;
2) contractions of muscularis externa;
3) plicae circulars;
4) Auerbach's nerve plexus.

41. Pyloric region of the stomach is distinguished from the fundus and the body by:
1) deeper pits;
2) shorter and more branched glands;
3) few parietal cells in the glands;
4) numerous mucus secreting cells in the glands.

42. At passage of the stomach into the duodenum:
1) glands disappear in mucosa;
2) great number of absorptive cells appear in the epithelium;
3) glands appear in the submucosa;
4) villi and crypts appear.

43. At passage of the esophagus into the stomach:
1) epithelium becomes simple;
2) glands appear in the mucosa;
3) glands disappear in the submucosa;
4) villi and crypts appear.

44. Morphological features of the stomach glands parietal cells are:
1) eosinophilic cytoplasm;
2) great number of mitochondria;
3) intracellular canaliculi with microvilli;
4) mucus granules.

45. The nerve plexuses localize in the large intestine wall in:
1) mucosa;
2) submucosa;
3) serosa or adventitia;
4) muscularis externa.

46. Morphological features of the stomach glands chief cells are:
1) basophilic cytoplasm;
2) well developed rEPR;
3) secretory granules;
4) eosinophilic cytoplasm.

47. Peyer's patches are:
1) invaginations of epithelium into lamina propria;
2) projections of the mucosa;
3) folds of mucosa and submucosa;
4) groups of lymphoid nodules.

48. Stuctural features of the large intestine are:
1) folds of mucosa and submucosa;
2) crypts;
3) taeniae coli;
4) villi.

49. The ducts of the large salivary glands are:
1) intercalated;
2) striated;
3) interlobular;
4) main excretory duct.

50. Submandibular gland produces secret:
1) sebaceous;
2) mucous;
3) serous;
4) seromucous.

51. Sublingual gland produces secret:
1) sebaceous;
2) mucous;
3) serous;
4) seromucous.

52. The acini of the parotid gland contain cells:
1) serous;
2) mucous;
3) myoepithelial;
4) Paneth cells.

53. The exocrine pancreatic acinus consists of cells:
1) acinar;
2) myoepithelial;
3) centroacinar;
4) endocrine.

54. The pancreas epithelium develops from:
1) ectoderm;
2) mesoderm;
3) mesenchyme;
4) entoderm.

55. The blood passes into the liver lobule through:
1) sublobular vein;
2) interlobular vein;
3) central vein;
4) interlobular artery.

56. Sinusoids of the liver lobule lye between:
1) interlobular artery;
2) interlobular vein;
3) central vein;
4) sublobular vein.

57. The liver lobule consists of:
1) plates of hepatocytes;
2) sinusoids;
3) bile ductules;
4) central vein.

58. The epithelial cells of liver hepatocytes develop from:
1) ectoderm;
2) mesoderm;
3) mesenchyme;
4) entoderm.

59. The wall of the gallbladder consists of:
1) mucosa;
2) muscularis layer;
3) serosa;
4) submucosa.

60. Hepatocytes produce proteins:
1) albumin;
2) prothrombin;
3) fibrinogen;
4) immunoglobulin.

61. There is active red bone marrow in adults in:
1) flat bones;
2) diaphysis of long bones;
3) epiphysis of long bones;
4) metaphysis of long bones.

62. There is inactive yellow bone marrow in adults in:
1) flat bones;
2) epiphysis of long bones;
3) metaphysic of long bones;
4) diaphysis of long bones.

63. There are the following components in section of the bone marrow:
1) sinusoids;
2) megacariocytes;
3) numerous fat cells;
4) cortex and medulla.

64. Erythroblastic islets of bone marrow include:
1) developing erythrocytes;
2) megacariocytes;
3) macrophages;
4) reticular cells.

65. In bone marrow the reticular cells perform the following functions:
1) supporting for the developing blood cells;
2) production of reticular fibers;
3) stimulation of hematopoesis;
4) formation of platelets.

66. Blood-thymus barrier includes:
1) endothelium of capillary with their basal lamina;
2) perivascular connective tissue;
3) epithelioreticular cells with their basal lamina;
4) T-lymphocytes.

67. Central lymphatic organs are…
1) bone marrow
2) lymph nodes
3) thymus
4) spleen

68. Peripheral lymphatic organs are…
1) bone marrow;
2) lymph nodes;
3) thymus;
4) spleen.

69. In germinal centers of the lymphatic nodules (follicles) take place…
1) activation of lymphocytes;
2) proliferation of B-immunoblasts;
3) differentiation of plasma cells;
4) antibodies production.

70. In lymph nodes the thymus-depended part is:
1) sinuses
2) medullary cords
3) follicules
4) paracortex

71. The main functions of the spleen are…
1) blood storage
2) hematopoesis during early fetal life
3) distruction of aged and abnormal erythrocytes and platelets
4) antigen-depending differentiation of T- and B-lymphocytes

72. Capillaries of the spleen red pulp are:
1) ended by a sheath of phagocytic cells;
2) continued into venous sinuses;
3) bind with lymphatic vessels;
4) opened into reticular tissue of the splenic cords.

73. Malpighian corpuscle consists of:
1) glomerulus;
2) Bowman's capsule;
3) mesangium;
4) afferent and efferent arterioles.

74. Filtration barrier includes:
1) glomerular basal lamina;
2) pedicles of podocytes;
3) endothelium of the glomerular capillaries;
4) extraglomerular mesangial cells.

75. The processes of the urine reabsorption are provided by:
1) peritubular capillary network;
2) capillaries of glomerulus;
3) epithelium of the nephrone's tubules;
4) podocytes of Bowman's capsule visceral layer.

76. The juxtaglomerular apparatus includes:
1) podocytes;
2) cells of macula densa;
3) interstitial cells;
4) juxtaglomerular cells.

77. The extraglomerular mesangial cells perform functions of:
1) phagocytosis of glomerular basal membrane and plasma proteins;
2) extracellular matrix production;
3) intraglomerular blood volume and filtration pressure increasing;
4) primary urine filtration.

78. There is basal striation in the epithelial cells of:
1) collecting tubules;
2) distal tubules;
3) Bowman's capsule visceral layer;
4) proximal tubules.

79. The mucous membrane of the ureters, the urinary bladder and the urethra is covered with epithelium:
1) simple cuboidal;
2) simple squamous;
3) stratified squamous nonkeratinized;
4) transitional.

80. Epithelium of all nephrons parts develop from:
1) ectoderm;
2) entoderm;
3) mesenchyme;
4) mesoderm.

81. Regulation of the urine formation is provided by hormones:
1) antidiuretic hormone;
2) adrenocorticotropic hormone;
3) aldosterone;
4) luteinizing hormone.

82. The term «uriniferous tubule» combines the following components:
1) Bowman's capsule;
2) tubular part of the nephron;
3) glomerulus;
4) collecting tubule.

83. The loop of Henle includes:
1) proximal straight tubule;
2) thin segment;
3) distal straight tubule;
4) distal convoluted tubule.

84. The processes of reabsorption take place in:
1) proximal tubules;
2) thin segment of Henle loop;
3) distal tubules;
4) collecting tubule.

85. The walls of genital duct organs consist of the following layers:
1) adventitia;
2) mucous membrane;
3) muscular membrane;
4) submucous membrane.

86. Damage of blood-testis barrier integrity leads to:
1) increasing of the seminiferous tubules contraction;
2) decreasing of the Leydig cells function;
3) deceleration of spermatogenesis;
4) autoimmune damage of spermatogenic cells.

87. Cells of testis which are antigens for their own organism are:
1) spermatocytes;
2) spermatogonia;
3) spermatids;
4) Sertoli cells.

88. There are in prostate:
1) tubule-alveolar glands;
2) bundles of smooth myocytes;
3) loose connective tissue;
4) striated muscle.

89. Spermiogenesis phase of spermatogenesis is characterized by:
1) acrosome formation;
2) nucleus condensation;
3) flagella formation;
4) cytoplasm reduction.

90. In cytoplasm of Leydig cells the predominating organels are:
1) r-EPR;
2) s-EPR;
3) lysosomes;
4) mitochondria with tubular shape crystae.

91. The wall of the seminal vesicles consists of the following layers:
1) adventitia;
2) mucous membrane;
3) muscular membrane;
4) submucous membrane.

92. In cytoplasm of Sertoli cells the predominating organels are:
1) EPR;
2) Golgy complex;
3) lysosomes;
4) mitochondria.

93. The cells of the seminiferous epithelium develop from:
1) mesenchyme;
2) primordial germ cells;
3) ectoderm;
4) coelomic epithelium of the sex cords.

94. In developing testis the mesonephros mesenchyme gives rise to:
1) tunica albuginea;
2) interstitial tissue;
3) Leydig cells;
4) Sertoli cells.

95. In embryogenesis the mesonephric tubules give rise to:
1) ductus epididymidis;
2) ductus deferens;
3) seminal vesicles;
4) ductuli efferentes.

96. In embryogenesis the mesonephric duct gives rise to:
1) ductus epididymidis;
2) ductus deferens;
3) seminal vesicles;
4) ejaculatory duct.

97. In ovary the growth and maturation of follicles are regulated by:
1) LTH;
2) FSH;
3) STH;
4) LH.

98. There are in the ovary cortex of maturity period:
1) corpus luteum;
2) growing follicles;
3) corpus atretica;
4) Graafian follicles.

99. Cumulus oophorus of Graafian follicle includes:
1) oocyte;
2) zona pellucid;
3) granulosa layer;
4) oogonia.

100. In the ovary the development of corpus luteum is regulated by:
1) LTH;
2) FSH;
3) LH;
4) STH.

101. Functional layer of endometrium is represented by:
1) loose connective tissue;
2) vessels and nerves;
3) covering epithelium;
4) glands.

102. Vagina is covered by:
1) simple columnar epithelium;
2) pseudostratified columnar epithelium;
3) transitional epithelium;
4) stratified squamous non-keratinized epithelium.

103. Cervix of the uterus is covered by:
1) simple columnar epithelium;
2) pseudostratified columnar epithelium;
3) stratified squamous non-keratinized epithelium;
4) transitional epithelium.

104. Uterine tubes are covered by:
1) pseudostratified columnar epithelium;
2) stratified squamous non-keratinized epithelium;
3) transitional epithelium;
4) simple columnar epithelium.

105. Perimetrium consists of:
1) smooth muscle tissue;
2) loose connective tissue;
3) simple columnar epithelium;
4) mesothelium.

106. In embryogenesis the paramesonephric duct gives rise to:
1) uterine tubes;
2) uterus;
3) vagina;
4) ovary.

107. In embryogenesis the primordial follicle of the ovary will develop from:
1) mesenchyme;
2) primordial germ cells;
3) ectoderm;
4) coelomic epithelium of the sex cords.

108. Features of the ovary late primary follicles are:
1) oocyte;
2) zona pellucida;
3) granulosa layer;
4) theca folliculi.

109. Somits are subdivided into:
1) dermatom;
2) myotom;
3) sclerotom;
4) splanchotom.

110. Extraembryonic entoderm gives rise to:
1) epithelium of the stomach;
2) epithelium of the liver;
3) epithelium of the pancreas;
4) epithelium of the yolk sac.

111. Splanchotom gives rise to:
1) mesothelium;
2) cortex of the adrenal glands;
3) cardiac muscle tissue;
4) vessels.

112. The following extraembryonic organs are formed in human embryo at the end of early gastrulation:

1) yolk sac;
2) amnion;
3) chorion;
4) placenta.

113. In placenta the hormones are synthesized:

1) chorionic gonadotropin;
2) chorionic thyrotropin;
3) estrogens;
4) progesterone.

114. Maternal part of the placenta is represented by:

1) chorionic plate;
2) basal plate;
3) chorionic villi;
4) lacunae.

115. Fetal part of the placenta is represented by:

1) chorionic plate;
2) amniotic epithelium;
3) chorionic villi;
4) basal plate.

116. The functions of the placenta are:

1) nourishment of the embryo;
2) exchange of gases and metabolic products between the fetal and the maternal blood;
3) protection of the embryo from immunologic attack by the maternal organism;
4) production of hormones.

117. The main functions of the amnion are:

1) secretion and absorption of amniotic fluid;
2) protection of the embryo against trauma;
3) control of embryonic body temperature;
4) hematopoiesis.

118. The main functions of the yolk sac are:

1) protection of the embryo against trauma;
2) formation of primordial germ cells;
3) control of embryonic body temperature;
4) hematopoiesis.

119. The mucous tissue of the umbilical cord develops from:
1) ectoderm;
2) mesoderm;
3) entoderm;
4) extraembryonic mesoderm.

120. The extraembryonic ectoderm gives rise to the epithelium of:
1) amnion;
2) yolk sac;
3) umbilical cord;
4) alantois.

REFERENCES STANDARD OF ANSWERS TO TYPE III TESTS

1. b	21. b	41. e	61. b	81. b	101. e
2. b	22. c	42. e	62. d	82. c	102. d
3. e	23. a	43. b	63. a	83. a	103. b
4. c	24. c	44. a	64. b	84. e	104. d
5. e	25. e	45. c	65. a	85. a	105. c
6. e	26. b	46. a	66. a	86. d	106. a
7. d	27. d	47. d	67. b	87. b	107. c
8. e	28. c	48. a	68. c	88. a	108. e
9. c	29. a	49. e	69. a	89. e	109. a
10. b	30. d	50. d	70. d	90. c	110. d
11. d	31. a	51. d	71. e	91. a	111. a
12. a	32. d	52. b	72. c	92. a	112. a
13. a	33. a	53. b	73. a	93. c	113. e
14. a	34. b	54. d	74. a	94. a	114. c
15. e	35. a	55. c	75. b	95. a	115. a
16. e	36. c	56. a	76. c	96. e	116. e
17. d	37. a	57. e	77. a	97. c	117. a
18. b	38. b	58. d	78. c	98. e	118. c
19. d	39. a	59. a	79. d	99. a	119. d
20. c	40. c	60. a	80. d	100. b	120. b

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