

Integrative Biology 131
Examination III - Dec. 12, 2001

Part I.

Please choose the best answer.

1. The isthmus of the thyroid gland crosses the trachea over tracheal rings
 - a. 1-3
 - b. 2-4
 - c. 4-6
 - d. 6-8
2. Triiodothyronine
 - a. contains no iodine
 - b. is the storage form of the thyroid hormone
 - c. controls metabolic rate of tissues in the body
 - d. is found in colloid
3. Calcitonin
 - a. causes cretinism if in excess
 - b. promotes magnesium uptake in bones
 - c. is secreted by the parathyroid gland
 - d. promotes calcium uptake in bones
4. Osteoclasts are stimulated by
 - a. cortisol
 - b. thyroglobulin
 - c. norepinephrine
 - d. parathormone
5. Glucocorticoids are released with the aid of
 - a. somatotrophs
 - b. adrenalcorticotrophic hormone
 - c. follicle stimulating hormone
 - d. leuteinizing hormone
6. The medulla of the adrenal gland is formed from
 - a. neural crest cells
 - b. neuroepithelial cells
 - c. Kupfer cells
 - d. Schwann cells
7. Antidiuretic hormone acts on the
 - a. macula densa
 - b. macula lutea
 - c. juxtaglomerular apparatus

d. collecting ducts in the kidney

8. Cortisol

- a. depresses both the immune system and the cerebral cortex
- b. stimulates bone resorption
- c. is formed by the adrenal medulla
- d. is stored in the thyroid gland

9. The theca interna of the ovary is stimulated by _____ to form estrogen.

- a. adrenal corticotrophic hormone
- b. thyroid stimulating hormone
- c. follicle stimulating hormone
- d. leuteinizing hormone

10. Insulin is formed by the _____ cells in the _____.

- a. alpha, liver
- b. alpha, gall bladder
- c. beta, pancreas
- d. delta, pancreas

11. The head of the pancreas is found in the

- a. blind pouch of the cecum
- b. curve of the jejunum
- c. curve of the duodenum
- d. hilum of the spleen

12. The exocrine cells of the pancreas secrete

- a. glucagon
- b. insulin
- c. enzymes to aid in the digestion of protein
- d. somatostatin

13. The _____ ligament attaches the uterus to the pelvic wall

- a. round
- b. broad
- c. ovarian
- d. mesovarium

14. The fimbria of the oviducts contain

- a. oocytes
- b. erectile tissue
- c. stratified squamous epithelium
- d. osteocytes

15. Ova are produced in the

- a. fallopian tube

- b. ovary
- c. Graafian follicle
- d. yolk sac

16. _____ is the primary hormone assisting with regeneration of the endometrium after menstruation.
- a. Progesterone
 - b. Estrogen
 - c. Thyroid hormone
 - d. Leuteinizing hormone
17. The _____ cushions the genitals during intercourse.
- a. vulva
 - b. mons pubis
 - c. clitoris
 - d. vagina
18. The sinusoids in the liver contain
- a. arterial blood
 - b. venous blood
 - c. bile
 - d. arterial and hepatic portal venous blood
19. The structural and functional unit of the liver is the
- a. hepatocyte
 - b. central vein
 - c. liver lobule
 - d. liver triad
20. Both the liver and _____ weigh three pounds.
- a. kidney
 - b. spleen
 - c. brain
 - d. pancreas
21. Which is not a gland?
- a. liver
 - b. kidney
 - c. pancreas
 - d. spleen
22. Which is not a phagocyte?
- a. Kupfer cell
 - b. dust cell
 - c. monocyte
 - d. lymphocyte

23. Cholecystikinen comes from the ____ and acts on the ____ to release bile.

- a. liver, gall bladder
- b. duodenum, pancreas
- c. duodenum, gall bladder
- d. gall bladder, duodenum

24. Bile is formed in the liver and serves to _____ fats.

- a. digest
- b. absorb
- c. emulsify
- d. destroy

25. Which structure is not part of the nephron?

- a. collecting duct
- b. Bowmans's capsule
- c. distal convoluted tubule
- d. loop of Henle

26. How much glomerular filtrate is formed each minute and how much is reabsorbed in the kidney tubules?

- a. 100 cc, 90 cc
- b. 1,000 cc, 900 cc
- c. 125 cc, 1 cc
- d. 125 cc, 124 cc

27. Which is not reabsorbed in the proximal convoluted tubule?

- a. vitamin E
- b. vitamin C
- c. amino acids
- d. sugar

28. Aldosterone liberated by the _____ acts on the ____ to absorb more water and sodium.

- a. kidney, adrenal cortex
- b. adrenal medulla, distal convoluted tubule
- c. live, proximal convoluted tubule
- d. adrenal cortex, distal convoluted tubule

29. The excretory part of the kidney includes the

- a. distal convoluted tubule

- b. proximal convoluted tubule
 c. calyx
d. loop of Henle
30. Which tissue is not erectile tissue?
a. nipple
b. clitoris
 c. uterus
d. fimbria of Fallopian tubes
31. The _____ nerve innervates the levator palpebra and the _____ nerve innervates the orbicularis oris.
a. IV, VII
 b. III, VII
c. II, VI
d. I, V
32. The lens is made of _____ cells and is nourished by _____.
 a. epithelial, diffusion
b. connective tissue, ophthalmic artery
c. smooth muscle, choroid artery
d. epithelial, choroid artery
33. The fovea centralis is _____ to the blind spot.
a. medial
b. superior
 c. lateral
d. inferior
34. The sclera and the cornea are both made of
a. cuboidal epithelium
 b. collagenous connective tissue
c. reticular fibers
d. simple squamous epithelium
35. Conjunctiva
a. protects the eyeball with a layer of fat
b. shades the eyes from sunlight
 c. lines the internal surface of the eyelid and secretes mucus to prevent the eye from drying
d. is a thin fold of skin with a tarsal plate
36. The receptor for hearing is called the _____ and is innervated by the _____ nerve.
a. macula densa, VII

- b. corpus luteum, V
- c. organ of Corti, VIII
- d. maculae, VIII

37. The cristae in the semicircular canals are sensitive to _____.

- a. static equilibrium
- b. hearing
- c. pain
- d. kinetic equilibrium

38. The tympanic membrane in the petrous portion of the temporal bone consists of

- a. columnar cells and mucous membrane
- b. stratified squamous epithelium, connective tissue, mucous membrane
- c. simple squamous epithelium
- d. skin stretched like a drum

39. Which is not in the middle ear?

- a. ear ossicles
- b. tensor tympani and stapedius muscles
- c. V and VIII nerves
- d. cochlea

40. Cerumen or ear wax is produced by

- a. modified sweat glands
- b. sebaceous glands
- c. sound waves
- d. mucous cells

41. The vibrations of the stapes against the _____ cause fluid in the _____ to move.

- a. round window, scala vestibuli
- b. oval window, scala vestibuli
- c. tympanic membrane, scala tympani
- d. vestibular membrane, cochlear duct

Part II. Please mark A for true and B for false

- A 42. Both the adrenal gland and the kidney are retroperitoneal.
- B 43. The kidney lies on a bed formed by the gluteus maximus.
- A 44. The left kidney is higher than the right.
- B 45. The glomerular filtrate is formed directly from the afferent arteriole.

46. The visceral layer of the Bowman's capsule contains cells called podocytes to allow protein to freely flow into the capsule.
47. The brush border of the proximal convoluted tubule contains microvilli.
48. The optic cup is an outgrowth of the mesencephalon.
49. The fovea centralis consists of a concentration of only rods.
50. The stomach lining does not dissolve itself because the pH is only 7.6.
51. When the ciliary muscle contracts, the lens decreases its thickness.
52. Both the cornea and the lens bend the light to focus on the fovea centralis.
53. The ductus deferens and the duct from the seminal vesicle form the ejaculatory duct.
54. The internal sphincter is between the prostate gland and the urogenital diaphragm.
55. The corpora cavernosa penis and the corpora cavernosa urethra all contain spongy-like blood sinuses.
56. About 50 cc of blood from the femoral and pudendal arteries bring about erection.
57. The prostate secretion enhances the motility of the sperm.
58. Most of the semen is produced by the prostate gland which provides the sugar fructose to nourish the sperm.
59. Sperm can be produced through out the lifetime of the male just as ova can be produced through out the lifetime of the female.
60. The female ovulates about one thousand times during her active reproductive period and the male produces about 100 sperm with each ejaculation.

NO TWO HUMAN BRAINS ARE ALIKE, POSSESSING TREMENDOUS ENERGY AND WILL POWER. EACH IS UNIQUE TO DEVELOP AS YOU LIKE, ONE STEP AT A TIME.