

KEY

50/1/1

1

IB 245 FUNCTIONAL NEUROANATOMY  
EXAMINATION I  
FEBRUARY 24, 2009

PLEASE CHOOSE THE BEST ANSWER:

1. The lamina terminalis represents the \_\_\_\_\_ in the adult brain.
  - a. the rostral portion of the mesencephalon
  - b. the caudal portion of the diencephalon
  - c. the floor of the III ventricle
  - d. the rostral wall of the III ventricle
  
2. A dermatome represents a
  - a. skin segment innervated by fibers from a single dorsal root
  - b. growth on the skin
  - c. skin segment innervated by fibers from many dorsal roots
  - d. Schwann cells in the skin
  
3. Besides the nervous system ectoderm forms
  - a. muscle
  - b. bone
  - c. skin
  - d. glands
  
4. A nociceptor is a \_\_\_\_\_ a receptor.
  - a. cold
  - b. touch
  - c. pain
  - c. pressure
  
5. The alar plate of the mesencephalon forms the
  - a. corpora quadrigemina
  - b. cerebral peduncles
  - c. thalamus
  - d. lamina terminalis
  
6. The cerebral peduncles represent axons coming from the
  - a. cerebellar cortex
  - b. pons
  - c. inferior colliculus
  - d. cerebral cortex

7. What kind of glial cells initiate the formation of tight junctions in the brain capillary walls?
- a. oligodendrocytes
  - b. astrocytes
  - c. microglia
  - d. ependymal cells
8. What structure lies immediately caudal to the cerebral peduncles?
- a. tegmentum
  - b. tectum
  - c. pons
  - d. diencephalon
9. The hypothalamus and thalamus form the lateral wall of the \_\_\_\_\_ ventricle.
- a. IV
  - b. III
  - c. lateral
  - d. aqueduct
10. The optic stalk is an outgrowth of the
- a. diencephalon
  - b. mesencephalon
  - c. metencephalon
  - d. telencephalon
11. The largest structure in the diencephalon is the
- a. thalamus
  - b. hypothalamus
  - c. epithalamus
  - d. pineal gland
12. The division of the diencephalon which controls the ANS is the
- a. thalamus
  - b. hypothalamus
  - c. epithalamus
  - d. pineal gland
13. What structure is not part of the archicortex?
- a. dentate gyrus
  - b. hippocampus
  - c. a 3 layered cortex
  - d. basal ganglia

14. The lateral horn of the spinal cord is found only in the \_\_\_\_\_ segment.
- a. lumbar
  - b. sacral
  - c. cervical
  - d. thoracic
15. Which is not part of the basal ganglia?
- a. hippocampus
  - b. lentiform nucleus
  - c. globus pallidus
  - d. caudate nucleus
16. The amygdaloid nucleus is part of the
- a. diencephalon
  - b. telencephalon
  - c. mesencephalon
  - d. metencephalon
17. The collateral trigone (atrium) is found at the junction of the inferior horn, posterior horn and \_\_\_ of the lateral ventricle.
- a. anterior horn
  - b. superior horn
  - c. rostral horn
  - d. ~~atrium~~ *body*
18. In the IV ventricle the choroid plexus is found in the
- a. anterior medullary velum
  - b. posterior medullary velum
  - c. floor of the medulla
  - d. sulcus limitans
19. Cerebral spinal fluid (CSF) flows from the interventricular foramen into the
- a. aqueduct of Sylvius
  - b. body of the lateral ventricle
  - c. anterior horn
  - d. III ventricle
20. CSF flows from the IV ventricle through the foramina of Magendie into the
- a. subdural space
  - b. subarachnoid space
  - c. subpial space
  - d. none of the above

21. CSF flows back into the blood venous system through the arachnoid villi lined with endothelial cells into the
- inferior longitudinal sinus
  - superior longitudinal sinus
  - transverse sinus
  - sigmoid sinus
22. A choked disc or a papilledema indicates
- decrease in CSF pressure
  - an increase in capillary blood pressure
  - an increase in CSF pressure
  - a decrease in capillary blood pressure
23. What function is not appropriate for cerebrospinal fluid?
- transports hormones and neurotransmitters
  - collects waste from nerve cells and glia
  - brings high levels of glucose to nerve cells
  - serves to protect and cushion the brain against trauma
24. Which function is not appropriate for meningeal dura?
- forms the tentorium cerebelli
  - forms the falx cerebri
  - forms the diaphragma sellae
  - forms the roof of the cisterna magna
25. A subdural hematoma forms between the \_\_\_\_\_ and the arachnoid.
- meningeal dura
  - periosteal dura
  - epidural space
  - pia
26. Cisterns are formed between the pia and the \_\_\_\_\_.
- arachnoid
  - periosteal dura
  - meningeal dura
  - ependyma
27. The cisterna magna lies inferior to the posterior surface of the
- cerebellum
  - cerebrum
  - pons
  - medulla

28. Blood vessels around the brain lie on the pia in the
- subarachnoid space
  - epiarachnoid space
  - subdural sinus
  - pial-glial membrane
29. The \_\_\_\_\_, a branch of the maxillary artery, supplies blood to most of the lateral aspect of the dura surrounding the cerebral hemispheres.
- inferior meningeal artery
  - superior dural artery
  - middle meningeal artery
  - posterior dural artery
30. A Trans Ischemic Attack (TIA) involves
- complete paralysis of the lower extremity
  - blockage of the middle cerebral artery
  - a brief blockage of the carotid artery
  - blockage of the basilar artery
31. A common site of arteriosclerosis is at the bifurcation of arteries. At the superior border of the thyroid cartilage in the anterior aspect of the neck, the common carotid bifurcates into the
- internal carotid artery and the posterior communicating artery
  - middle carotid artery and lenticulostriate arteries
  - posterior carotid artery and the basilar
  - internal carotid artery and the external carotid artery
32. An endarterectomy is a procedure to scrape plaques off the lining of large arteries. An endarterectomy on the \_\_\_ in the neck would allow for more efficient blood flow into the anterior cerebrum.
- external carotid artery
  - internal carotid artery
  - vertebral artery
  - subclavian artery
33. Which is not a branch off the vertebral artery?
- posterior meningeal arteries
  - posterior spinal arteries
  - posterior inferior cerebellar arteries
  - anterior inferior cerebellar arteries
34. Which section of the brain is not supplied by branches of the vertebrals?
- the cerebellum
  - pons
  - the medial and posterior temporal lobe of the cerebrum
  - the parietal lobe of the cerebrum

35. The terminal branches of the internal carotid are the
- posterior cerebral and basilar arteries
  - anterior and middle cerebral arteries
  - posterior and inferior cerebellar arteries
  - anterior and posterior communicating arteries.
36. The choroid plexi of the III and IV ventricles are supplied indirectly by the
- vertebral arteries
  - internal carotid arteries
  - anterior cerebral arteries
  - anterior choroidal arteries.
37. Which part of the circle of Willis is a common site of aneurysms?
- the junction of the internal carotid with the middle cerebral artery
  - the junction of the internal carotid artery with the anterior cerebral artery
  - the junction of the anterior cerebral artery with the anterior communicating artery
  - the junction of the posterior communicating artery with the internal carotid artery
38. What is a distinguishing feature of the transverse section of the spinal cord at the thoracic level?
- wide dorsal horns
  - wide ventral horns
  - narrow dorsal and ventral horns with a lateral horn
  - no lateral horn
39. The cervical vertebrae are the smallest and the lightest. So most fractures of the vertebral column occur here. Which vertebra would not be injured?
- C1
  - C3
  - C7
  - C8
40. Which structure has no choroid plexus?
- interventricular foramen
  - roof of the third ventricle
  - inferior horn of the lateral ventricle
  - cerebral aqueduct of Sylvius
41. The neuronal soma of the cerebral peduncles are found in the
- thalamus
  - basal ganglia
  - cerebral cortex
  - caudate nucleus

42. Which is not correct about Meissner's corpuscles?
- a. are free nerve endings
  - b. are found in the dermis
  - c. have an encapsulated ending
  - d. deal with epicritic touch
43. Pacinian corpuscles are concerned with
- a. vibratory sense
  - b. heat
  - c. cold
  - d. itching
44. Peritricheal endings
- a. are found in the palms of the hand and soles
  - b. are only found in hairless areas
  - c. surround a hair follicle and are sensitive to touch
  - d. receive temperature sensations
45. Schwann cells
- a. surround dendrites
  - b. originate from the neural tube
  - c. are mesodermal in origin
  - d. play an important role in regeneration
46. Which cranial nerve arises from the metencephalon?
- a. XII
  - b. II
  - c. VII
  - d. III
47. Which structure(s) is (are) not derived from the neural crest?
- a. autonomic nervous system ganglia
  - b. dorsal root ganglia
  - c. adrenal medulla
  - d. anterior horn cells
48. Which is not true about the basal plate of the neural tube?
- a. it is ventral to the central canal
  - b. it gives rise to cells concerned with motor function
  - c. the ventral/anterior horn is derived from it
  - d. it deals only with autonomic functions
49. What is not true about a radial glial cell?
- a. it serves as a scaffold for migrating neurons
  - b. it is found only in adult brains
  - c. NCAMS are essential for normal neuronal migration

d. it connects to internal and external limiting membranes

50. What is not true about white matter of the CNS?

- a. consists for the most part of myelinated fibers
- b. makes up most of the volume of the cerebral hemispheres
- c. contains only astrocytic glial cells
- d. forms the ascending and descending tracts in the spinal cord

WHERE IS GOD IN THE BRAIN?