Please choose the best answer.

1. The dura extension between the cerebrum and the cerebellum is called the
   a. diaphragma sellae
   b. tentorium cerebelli
   c. falx cerebri
   d. falx cerebelli

2. The “islands” of grey matter embedded deep within the cerebrum are called the
   a. substantia nigra
   b. inferior colliculi
   c. basal ganglia
   d. hippocampus

3. The nervous system begins to develop during the third week of gestation when the
ectoderm forms a thickening called the _____ plate.
   a. basal plate
   b. alar plate
   c. neural plate
   d. ectoderm

4. The _____ colliculi of the corpora quadrigemina are reflex centers dealing with
   visual movement.
   a. superior
   b. inferior
   c. posterior
   d. anterior

5. The _____ controls and integrates activities of the autonomic nervous system.
   a. pons
   b. midbrain
   c. thalamus
   d. hypothalamus
6. All sensations except olfaction are relayed through here before going to the cerebral hemispheres.
   a. thalamus
   b. hypothalamus
   c. basal ganglia
   d. caudate nucleus

7. The ______ forms the floor of the III ventricle.
   a. cerebral peduncle
   b. pons
   c. lamina terminalis
   d. hypothalamus

8. Regulation of heart, blood pressure and respiration occur here.
   a. medulla
   b. thalamus
   c. corpus callosum
   d. hypothalamus

9. A tumor in this region would compress the cerebral aqueduct and cause hydrocephalus.
   a. cerebellum
   b. pons
   c. habenular nucleus
   d. quadrigeminal bodies

10. A tumor here might affect feelings of hunger and thirst.
    a. thalamus
    b. subthalamus
    c. epithalamus
    d. hypothalamus

11. The thalamus and hypothalamus consists primarily of masses of
    a. glial cells
    b. ependymal cells
    c. nuclei
    d. large fiber tracts

12. The meningeal layer which adheres to the surface of the brain and spinal cord and contains blood vessels in the
    a. dural mater
    b. pia mater
    c. arachnoid
    d. dura mater
13. A patient exhibits the following signs: irregular fluctuations in body temperature, sleep disorders, altered endocrine functions, etc. What portion of the brain is malfunctioning?
   a. medulla
   b. pons
   c. thalamus
   d. hypothalamus

14. An obstruction in the interventricular foramen would interfere with the flow of cerebrospinal fluid directly into the
   a. body of the lateral ventricle
   b. anterior horn of lateral ventricle
   c. inferior horn of the lateral ventricle
   d. third ventricle

15. Which of the following would you expect to observe in a patient with a tumor in the cerebellum?
   a. loss of general sensation
   b. inability to walk on a curb
   c. inability to execute any voluntary movements
   d. none of the above

16. The corpus callosum is derived from the
   a. diencephalon
   b. telencephalon
   c. mesencephalon
   d. metencephalon

17. From anterior to posterior which is the correct order?
   a. pons, thalamus, lamina terminalis
   b. optic chiasm, habenular nucleus, cerebral peduncles
   c. septal area, cisterna magna, inferior colliculus
   d. inferior horn, fornix, Magendie, interventricular foramen

18. From superior to inferior which is the correct order?
   a. thalamus, hypothalamus, corpus callosum
   b. corpus callosum, body of the lateral ventricle, inferior horn of the lateral ventricle
   c. hippocampus, parietal lobe, frontal lobe
   d. primary motor cortex, hypothalamus, caudate nucleus
19. The fourth ventricle communicates with the subarachnoid space through the
   a. interventricular foramen
   b. foramen of Magendie
   c. foramen of Monro
   d. cerebral aqueduct

20. Which is not a derivative of the diencephalon?
   a. ariar medullaris
   b. thalamus
   c. superior colliculus
   d. optic nerve

21. The choroid plexus is not found in the
   a. inferior horn of the lateral ventricle
   b. atrium or collateral trigone of the lateral ventricle
   c. interventricular foramen
   d. anterior horn of the lateral ventricle

22. Choroid plexus which forms the CSF consists of
   a. pia and arachnoid
   b. pia and ependyma
   c. pia and dura
   d. endothelial cells and dura

23. The floor of the 4th ventricle is formed by the
   a. pons and medulla
   b. pons and the cerebellum
   c. medulla and the cerebral peduncles
   d. medulla and superior colliculi

24. Cerebrospinal fluid flows back into the venous system via the
   a. anterior choroidal vein
   b. arachnoid villi in the superior longitudinal sinuses
   c. transverse sinus
   d. cisterna magna

25. Motor neurons do not fire when
   a. the owner performs a task
   b. when the owner watches someone do a task
   c. may explain some of our social abilities
   d. the owner hears a sound

26. The cell bodies giving rise to the cerebral peduncles are located in the
   a. lateral ganglia
   b. thalamus
   c. cerebral cortex
   d. diencephalon
   e. cerebellar cortex

answer: a, b, c, d, e
26. Which is not correct about the Golgi organelle in a neuron?
   a. has a secretory function
   b. packages proteins
   c. Found only in the presynaptic terminal
   d. found in the soma

27. The caudate nucleus and the putamen are parts of the
   a. thalamus
   b. hypothalamus
   c. basal ganglia
   d. diencephalon

28. Which is not correct about recurrent collaterals?
   a. leave the parent axon at a node of Ranvier
   b. can ascend to parent nerve cell body
   c. can ascend to cerebral cortex accounting for the greatest input into the cerebral cortex
   d. have the lowest threshold in the axon

29. Which is not true about Schwann cells?
   a. they are peripheral glial cells
   b. myellinate many axons as do oligodendrocytes
   c. the more myelin they produce the more rapid the impulse
   d. they are derived from the neural crest

30. Myelination begins at the ________ part of the axon.
   a. at the beginning of the axon hillock
   b. at the initial segment where the axon hillock narrows
   c. node of Ranvier
   d. widest part of the axon

31. Which is not correct about astrocytes?
   a. they are the most common type of glial cell
   b. they are formed from mesoderm and migrate with the blood vessels into the CNS
   c. they have more branches than oligodendrocytes
   d. they are found on surfaces of synapses, nodes of Ranvier, nerve cell somas, and the pial glial membrane around the CNS

32. Which is not true about microglia?
   a. they are similar to some kinds of white blood cells in that they are phagocytic
   b. they increase in Alzheimer’s disease
   c. they form myelin
   d. none of the above
53. Which is not correct about radial glia?
   a. are found between the external and internal limiting membrane of the neural tube
   b. become oligodendrocytes after neuronal migration
   c. serve as scaffolding for migrating neurons
   d. allow NCAM (neuronal cell adhesion molecules) to function

34. Which is not correct about the pons?
   a. has nuclei with which cerebral cortical fibers synapse
   b. is ventral to the cerebellum
   c. send axons to the inferior colliculus
   d. serves as a bridge between the cerebellar cortex and the cerebral cortex

35. The neuronal soma for the cerebral peduncles are found in the
   a. cerebellar cortex
   b. thalamus
   c. dentate gyrus
   d. cerebral cortex

36. Which is not correct about the thalamus?
   a. is the largest part of the diencephalon
   b. has some nuclei related to motor function
   c. has some nuclei related to sensory function
   d. forms the floor of the III ventricle

37. Which is not correct about the pineal gland?
   a. is considered part of the epithalamus
   b. is a urinary organ
   c. controls our circadian rhythm
   d. can inhibit development of the gonads

38. The hippocampus and dentate gyrus
   a. are derived from the metencephalon
   b. form the walls of the III ventricle
   d. are close to the inferior horn of the lateral ventricles
   e. are part of the basal ganglia

39. Which is not correct about the cerebral cortex?
   a. contains Golgi type I and Golgi type II cells
   b. contains pyramidal and stellate cells
   c. is the most highly evolved region of the brain
   d. contains Purkinje cells
40. The basal ganglia
   a. has the power to confirm or deny a cerebral cortical request to move a muscle
   b. is part of the mesencephalon
   c. is posterior to the thalamus
   d. lines the III ventricle

41. The amygdala
   a. is superior to the uncus
   b. is concerned with recent memory
   c. is responsible for the emotion of fear
   d. is posterior to the inferior horn of the lateral ventricle

42. The body of the lateral ventricle
   a. is superior to the corpus callosum
   b. extends from the interventricular foramen to the splenium of the corpus callosum
   c. is posterior to the atrium or collateral trigone
   d. is inferior to the thalamus

43. Which is not correct about a choked disc or papilledema?
   a. X represents the position of the olfactory nerve entering the nasal cavity
   b. it indicates increased CSF pressure in the ventricles
   c. it represents the exit of the optic nerve from the eyeball
   d. it can indicate the presence of a tumor in the brain encroaching on ventricle

44. Which is not a correct statement?
   a. When CSF leaves the IVth ventricle, it flows into the cisterna magna.
   b. CSF flows through both the foramen of Magendie and the foramina of Luschka to enter subarachnoid space.
   c. CSF is a clear, colorless fluid with some white blood cells
   d. CSF is formed in the cerebral aqueduct

45. What is not a function of the CSF?
   a. transmits hormones and neurotransmitters
   b. collects wastes from nerve cells and glial cells in the brain
   c. protects and cushions the brain against trauma
   d. flows in the epidural space to moisten the dura

46. The middle meningeal artery supplies the
   a. tentorium cerebelli
   b. diaphragma sellae
   c. lateral aspect of dura over part of the parietal, temporal and frontal lobes
   d. lateral aspect of the occipital lobes
47. The venous blood from the deep structures in the brain flows directly into the
   a. superior longitudinal sinus
   b. straight sinus
   c. transverse sinus
   d. Great vein of Galen

48. A subdural hematoma is found
   a. in the superior cistern
   b. between the periosteal dura and the meningeal dura
   c. between the meningeal dura and the arachnoid
   d. between the periosteal dura and the skull

49. The pia mater
   a. forms the roof of a cistern
   b. forms the blood brain barrier
   c. follows a blood vessel into the brain
   d. with the ependyma forms the pial glial membrane surrounding the CNS

50. The common carotid artery bifurcates at the
   a. inferior border of the thyroid gland
   b. superior border of the thyroid cartilage
   c. foramen magnum
   d. medial aspect of the clinoid process

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