Part I. Choose the best answer.

1. A pathologically exaggerated jaw-jerk indicates which of the following:
   a. Lower motor neuron lesion
   b. Lesion below the level of the medulla
   c. Upper motor neuron lesion
   d. Fourth cranial nerve injury

2. Which of the following does not develop as a result of a lesion of the oculomotor nerve?
   a. Ptosis of the upper eye lid
   b. Constriction of the pupil
   c. Paralysis of the medial rectus extraocular eye muscle
   d. Paralysis of the inferior rectus extraocular eye muscle

3. Which of the following syndrome is characteristic of a midbrain lesion?
   a. Turner’s syndrome
   b. Weber’s syndrome
   c. Vail’s syndrome
   d. Benedict’s syndrome

4. A corneal reflex involves which combination of cranial nerves?
   a. Facial and oculomotor
   b. Facial and trigeminal
   c. Trigeminal and oculomotor
   d. Oculomotor and trochlear

5. The disorder called “tic doloreaux” involves which cranial nerve?
   a. Facial
   b. Oculomotor
   c. Spinal accessory
   d. Trigeminal

6. Syringomyelia is characterized by
   a. A loss of pain and temperature
   b. A loss of vibratory sense
   c. Atrophy of facial muscles
   d. Degeneration of the fifth nerve

7. Lesions in the post central gyrus usually do not impair
   a. Pain
   b. Temperature
   c. Epicritic touch
8. Injury to the posterior inferior cerebellar artery might not interfere with
   a. Taste
   b. Coughing
   c. Pupillary constriction
   d. Talking

9. Poliomyelitis affects the
   a. Posterior horn cells
   b. Lateral horn cells
   c. Anterior horn cells
   d. Posterior columns

10. Aneurysmal dilation of the _______ might not compress the oculomotor nerve.
    a. Superior cerebellar artery
    b. Posterior cerebral artery
    c. Posterior communicating artery
    d. Internal carotid

11. With Bell’s palsy an individual cannot
    a. See
    b. Wink
    c. Chew
    d. Hear

12. The VIII enters the skull through the
    a. Carotid foramen
    b. Superior orbital fissure
    c. Internal auditory meatus
    d. Hypoglossal foramen

13. With a lower motor neuron hypoglossal lesion, the tongue would show which of the
    following?
    a. At rest within the mouth the tongue would deviate to the nonparalyzed side
    b. Atrophy on the paralyzed side
    c. No atrophy
    d. When protruded, the tongue would deviate to the nonparalyzed side.

14. The pharyngeal or gag reflex depends on the ______ nerve for its sensory component.
    a. VII
    b. VIII
    c. IX
    d. XII
15. Medullary trigeminal tractotomy (interruption of the spinal trigeminal tract) results in
   a. Hyperactivity of mandibular reflexes
   b. Increased tonus of the masticatory muscles
   c. Loss of tactile sense
   d. Marked reduction of pain and thermal sense on the ipsilateral side of the face

16. A lesion of the left auditory cortex causes
   a. Complete loss of hearing on the same side
   b. Complete loss of hearing on the opposite side
   c. Difficulty in localizing sound
   d. Bilateral loss of hearing

17. All below result from lesions of the cerebellar hemispheres except
   a. Flaccid paralysis
   b. Dysdiadochokinesia
   c. Dysmetria
   d. Intention tremor

18. Diabetes insipidus occurs following the destruction of the _____ nucleus.
   a. Suprachiasmatic
   b. Periventricular
   c. Arcuate
   d. Supraoptic

19. Occlusion of the middle cerebral artery may not cause
   a. Inability to see
   b. Difficulty in localizing sound
   c. Broca’s aphasia
   d. Reduction in taste sensation

20. Bitemporal hemianopsia occurs following lesions in which of the following areas?
   a. Compression of the lateral aspect of the optic chiasm
   b. Compression of the crossing nasal retinal fibers
   c. Injury to one optic nerve
   d. Vascular lesion of the retina

21. Specifically, the limbic lobe does not include the
   a. Subcallosal gyrus
   b. Cingulate gyrus
   c. Parahippocampal gyri
22. Which of the following cells are not found in the cerebral cortex
   a. Pyramidal cells
   b. Stellate or granule cells
   c. Fusiform or spindle cells
   d. Purkinje cells

23. An agranular type of cortex is characteristic of
   a. Precentral gyrus
   b. Parietal cortex
   c. Calcarine cortex
   d. Inferior temporal cortex

24. The frontal eye field responsible for voluntary scanning movements of the eyes is represented in what cortical area?
   a. 3, 1, 2
   b. 6
   c. 8
   d. 4

25. The external band of Baillarger considered to be the terminal ramification of thalamocortical fibers is located in the ___ layer of the neocortex.
   a. I
   b. II
   c. III
   d. IV

26. The axonic ramifications of the basket cells are confined to the ___ layer of the cerebellar cortex.
   a. Molecular
   b. Purkinje cell
   c. Outer part of granular layer
   d. Inner part of granular layer

27. The cerebellar cortex consists of the following layers. With the exception of the
   a. Molecular
   b. Granular
   c. Purkinje
   d. Multiform

28. All of the following statements are true concerning cerebellar function except.
   a. Coordination of somatic motor activity
   b. Regulation of muscle tone
   c. Maintenance of equilibrium
Conscious appreciation of muscle, joint and tendon sense

29. Afferent fibers to the cerebellum do not include the
   a. Vestibulocerebellar fibers
   b. Cochlocerebellar fibers
   c. Posterior spinocerebellar tract
   d. Anterior spinocerebellar tract

30. The ascending vestibular fibers in the medial longitudinal fasciculus project to the following areas with the exception of the
   a. Abducens nucleus
   b. Trochlear nucleus
   c. Oculomotor nucleus
   d. Postcentral gyrus

31. Taste impulses from the anterior two-thirds of the tongue reach the
   a. Solitary nucleus
   b. Superior salivatory nucleus
   c. Dorsal motor X
   d. Nucleus ambiguus

32. Afferent fibers of the mesencephalic nucleus of the trigeminal nerve convey proprioceptive impulses from which of the following?
   a. Teeth
   b. Hard palate
   c. Muscles of mastication
   d. Temporomandibular joint

33. All of the following structures are associated with equilibrium and orientation in space, except the
   a. Cristae ampullaris
   b. Organ of Corti
   c. Maculae utriculi
   d. Maculae sacculi

34. The auditory radiation projects to the
   a. Postcentral gyrus
   b. Precentral gyrus
   c. Transverse temporal gyri of Heschl
   d. Parietal cortex

35. All of the following neurons are involved in the auditory pathway except the
   a. Cells of spiral ganglion
   b. Cells of dorsal and ventral cochlea nuclei
   c. Nuclei of the superior olivary complex
36. The vestibular portion of the inner ear does not include the
   a. Semicircular canals
   b. Trapezoid body
   c. Utricle
   d. Saccule

37. The middle cerebellar peduncle contains ____ fibers
   a. Spinocerebellar
   b. Reticulocerebellar
   c. Pontocerebellar
   d. Olivocerebellar

38. All the following cranial nerves are present at the junction of the medulla and pons
   except the
   a. Cochlear
   b. Vestibular
   c. Facial and abducens
   d. Trigeminal

39. Which of the following characteristics of Purkinje cells do not include
   a. Flask-shaped cell body
   b. Most axons pass to deep cerebellar nuclei
   c. Axons are the only ones from the cortical neurons to pass into white matter
   d. Axons synapse with granule cell parallel fibers

40. Right homonymous hemianopsia may result from lesions in what area?
   a. Right optic tract
   b. Right optic nerve
   c. Left optic tract
   d. Left geniculocalcarine tract

Part II. Mark A for TRUE; B for FALSE

A 41. Lesions of the third nerve produce external strabismus due to the unopposed action of
    the lateral rectus eye muscle.
B 42. The putamen is found in the lateral wall of the anterior horn of the lateral ventricle.
A 43. The thalamus is separated from the body of the caudate by the stria terminalis in
    the floor of the body of the lateral ventricle.
B 44. The tail of the caudate nucleus is in the floor of the inferior horn of the lateral
    ventricle.
A 45. The internal segment of the globus pallidus influences the thalamus which in turn
    influences the cerebral cortex.
46. The lentiform nucleus includes the putamen and the caudate nucleus.

47. The basal ganglia can directly influence the anterior horn cells in the cord.

48. Disorders of the basal ganglia can affect both motor and cognitive functions.

49. Most cortical influences on the basal ganglia come from the frontal lobe.

50. In Parkinson's disease and in a cerebellar disorder the tremors are respectively, an intention tremor and a tremor at rest.

DISCOVERY IS INFECTIOUS