1. On examining the CT scan of a patient who recently suffered from a stroke, the neurologist noted that there is an ischemic lesion affecting one-half of Internal capsule. He further noted that the posture of the patient is paralysis in flexion. Basing on the symptoms listed, what tracts are tract/tracts could have been injured?

 a. Reticulospinal tract and rubrospinal tract

 b. Corticospinal tract

 c. Vestibulospinal tract & tectospinal tract

 d. Tectospinal tract

 e. Rubrospinal tract and vestibulospinal tract

 f. Corticospinal tract & Tectospinal tract

 g. Corticospinal tract & rubrospinal tract

2. A 50-year-old man was admitted to the emergency room after a head injury resulting from an automobile accident. The patient was diagnosed as having a subarachnoid hemorrhage. Which of the following changes are most likely in the composition of the cerebrospinal fluid of this patient?

 a. Decreased protein, normal glucose, and presence of a few WBCs

 b. Increased protein, normal glucose, and presence of RBCs

 c. Increased protein, decreased glucose, and presence of polymorphonuclear leukocytes

 d. Decreased protein, normal glucose, and presence of a small number of lymphocytes

 e. Decreased protein, decreased glucose, and presence of tumor cells

3. Movements of eyes with changes in the position of the head is due to

 a. Medial vestibular nucleus

 b. Lateral vestibular nucleus

 c. Inferior vestibular nucleus

 d. Superior vestibular nucleus

 e. Motor nucleus of facial nerve

4. In Huntington’s disease, there is a loss of

 a. Dopamine in the neostriatum

 b. Substance P in the substantia nigra

 c. GABA in intrastriatal and cortical neurons

 d. Serotonin in the neostriatum

 e. Most of the pallidal neurons

5. Inability to shrug and presence of flaccid paralysis of the involved muscle indicates a problem in

 a. Basilar pons

 b. Pontine tegmentum

 c. Midbrain tectum

 d. Cervical spinal cord

 e. Lumbo-sacral spinal cord

 f. Midbrain tegmentum

6. On examining a 66-yr-old male patient, the physician notes that the patient was suffering from bilateral loss of pain and temperature; bilateral loss of crude touch and pressure; bilateral paralysis of muscles; and no loss of vibration, fine touch, and proprioception. He also notes that the muscles supplied by the involved spinal segment are flaccid and those below it are rigid. The possible lesion in this patient is

 a. Complete transection of cord

 b. Anterior cord syndrome

 c. Brown-Sequard syndrome

 d. Posterior compression of cord

 e. Central compression of cord

7. In the above patient, which of the following neurotransmitters is most probably responsible for the patient’s chronic pain?

 a. Acetylcholine

 b. Dopamine

 c. Norepinephrine

 d. Substance P

 e. GABA

8. Problem in which of the following types of nerve fibers can cause a problem in the preganglionic autonomic supply to an organ?

 a. A � alpha

 b. A � beta

 c. A � gamma

 d. A � delta

 e. B

 f. C

9. A patient presents to the hospital with complaints of weakness of limbs with rigidity. X-ray revealed a prolapsed intervertebral disc with lateral compression of cervical spinal cord. The weakness of muscle with spasticity will appear in which of the following orders

 a. Arms --> trunk --> legs

 b. Trunk --> legs --> arms

 c. Legs --> arms --> trunk

 d. Legs --> trunk --> arms

 e. Arms --> legs --> trunk

10. Major ascending tracts synapse in which of the following thalamic nuclei?

 a. Ventral anterior nucleus

 b. Ventral lateral nucleus

 c. Ventral posterior nucleus

 d. Dorsomedial nucleus

 e. Reticular nuclei

11. After examining a patient, who was visiting the ER with loss of fine touch, the physician felt the problem is in the spinal cord. Which of the following clinical features will the physician most likely find in this patient?

 a. Loss of pain sensation in the right foot

 b. Loss of temperature in the right foot

 c. Inability to identify the position of the right great toe with eyes closed

 d. Inability to identify the position of the left great toe with eyes closed

 e. Loss of spino-visual reflexes

12. Right homonymous hemianopia indicates a possible lesion in

 a. Right optic nerve

 b. Optic chiasma

 c. Left optic nerve

 d. Right optic tract

 e. Left optic tract

13. The primary transmitter released from terminals of both neostriatal and paleostriatal neurons is

 a. Glycine

 b. Enkephalin

 c. Dopamine

 d. GABA

 e. Glutamate

14. Problems in spatial learning indicates a probable lesion in

 a. Hippocampus

 b. Pre-central gyrus

 c. Amygdala

 d. Post-central gyrus

 e. Hypothalamus

15. As a result of calcification of the internal carotid artery, which impinges upon the lateral half of the right optic nerve prior to its entrance to the brain of a 68-year-old woman, resulting in certain visual deficits. The most likely visual deficits will be

 a. a. Total blindness of the right eye

 b. b. Right nasal hemianopsia

 c. c. Right homonymous hemianopsia

 d. d. Right bitemporal hemianopsia

 e. e. Right upper homonymous quadrantanopia

16. A patient complains of difficulty emptying their bladder completely, and needing to go to the toilet more frequently; double vision or blurring vision; fatigue; and sexual Dysfunction. The patient further stated that the symptoms worsen after a hot bath and that during a recent visit to Iceland the symptoms decreased significantly. Examination revealed cognitive dysfunction, depression, speech disorders, and gait problems. CSF report is significant for high levels of IgG and presence of oligoclonal bands. CT scan showed multiple sclerotic (white) spots in cerebrum and optic nerve. Death of which of the following cells can lead to this disease?

 a. Astrocytes

 b. Microglia

 c. Oligodendrocytes

 d. Ependymal cells

 e. Schwamn cells

17. A patient presents to the hospital with complaints of tingling, numbness, and needle-prick sensations. X-ray revealed a prolapsed intervertebral disc with lateral compression of cervical spinal cord. The pain and temperature loss in this patient will appear in which of the following orders?

 a. Arms --> trunk --> legs

 b. Trunk --> legs --> arms

 c. Legs --> arms --> trunk

 d. Legs --> trunk --> arms

 e. Arms --> legs --> trunk

18. Spinal tap of a patient revealed blood in CSF. CT scan revealed dilated ventricles and dilated cerebello-medullary cistern. All these signs should make one suspect

 a. Blocked interventricular foramen

 b. Blocked foramen of magendie & luschka

 c. Blocked cerebral aqueduct

 d. Non-communicating hydrocephalus

 e. Communicating hydrocephalus

19. A patient presents with complaint of weakness in right upper and lower limbs. Examination revealed spastic paralysis, rigidity, increased reflexes, and Babinski sign. Examination of face, eyes, and ears revealed no anomalies. Lesion in which of the following areas can lead to the mentioned sympotms?

 a. Midbrain tectum

 b. Midbrain tegmentum

 c. Crus cerebri

 d. Pontine tegmentum

 e. Basilar pons

 f. Cervical spinal cord

20. In Alzheimer's disease, which of the following areas could be affected?

 a. Substantia gelatinosa

 b. Basal forebrain

 c. Raphe nucleus

 d. Locus ceruleus

 e. Primary motor area

21. Attendants of a patient bring her to the physician with problems in memory and weakness in muscles. Examination revealed the presence of tremors, cog wheel rigidity, slowness of movements, postural instability, and cognitive problems. A problem in which of the following areas can be suspected?

 a. Thalamus

 b. Pars reticulata

 c. Precentral gyrus

 d. Tegmentum of midbrain

 e. Pyramids

 f. Pars compacta

 g. Neostriatum

22. In the above patient, the slowness of movements can be explained by problem in which of the following tracts?

 a. Striatonigral tract

 b. Corticostriatal tract

 c. Nigrostriatal tract

 d. Striatocortical tract

 e. Thalamocortical tract

23. Deviation of tongue to the left on protrusion of the tongue can be due to lesion to

 a. Right vagal nerve

 b. Right chorda-tympani nerve

 c. Right hypoglossal nerve

 d. Left vagal nerve

 e. Left hypoglossal nerve

 f. Left chorda-tympani nerve

24. The dural infolding affected by thrombophlebitis of occipital sinus is

 a. Falx cerebelli

 b. Tentorium cerebelli

 c. Diaphragm sellae

 d. Falx cerebri

25. Involvement of medial wall of the lateral ventricles should make one suspect a problem in

 a. Caudate nucleus

 b. Hippocampus

 c. Corpus callosum

 d. Septal nuclei

 e. Posterior commissure

26. Examination of a patient revealed that the patient is having trouble with fine motor skills but he is able to maintain his posture. Which of the following areas of the brain does NOT contribute to the fine motor skills?

 a. Primary motor area

 b. Secondary motor area

 c. Somatosensory area

 d. Angular gyrus

 e. A, B, and C

27. A patient visits his physician with complaints of involuntary movements at rest. Examination revealed reduction in spontaneous facial expressions and eye blinking along with shuffling gait, slow movements, and reduced rate of initiation of movements. Which of the following statements can explain the problem in this patient?

 a. Promotion of direct pathway and inhibition of indirect pathway

 b. Promotion of both direct and indirect pathways

 c. Promotion of indirect pathway and inhibition of direct pathway

 d. Inhibition of both direct and indirect pathway

28. In the above patient, pathology in which of the following areas is the cause of the symptoms?

 a. Subthalamus

 b. Neostriatum

 c. Medial globus pallidus

 d. Lateral globus pallidus

 e. Substantia nigra

29. A patient came to the hospital with complaints of excessive rage and dry mouth. Examination revealed a HR of 110/min; BP of 150/90 mm Hg; increased frequency of bowel sounds; and excessive sweating. Overstimulation of which of the following hypothalamic nuclei can cause these features?

 a. Preoptic nuleus

 b. Lateral nucleus

 c. Paraventricular nucleus

 d. Ventromedial nucleus

 e. Suparoptic nucleus

30. A patient presents to the clinic with difficulty hearing. Examination revealed slight sensori-neural deafness in both ears but more in right ear. Which of the following could be a possible site of lesion?

 a. Anterior thalamic nucleus

 b. Dorsomedial thalamic nucleus

 c. Ventral anterior thalamic nucleus

 d. Medial geniculate body

 e. Lateral geniculate body

31. A patient exhibits astereognosis in left hand and stereognosis in right hand . Which of the following spinal tracts should be included as a possible site of lesion?

 a. Right fasciculus cuneatus

 b. Left fasciculus cuneatus

 c. Right spinothalamic tract

 d. Left spinothalamic tract

 e. Right fasciculus gracilis

 f. Left fasciculus gracilis

32. In the above patient, the second-order neurons for the examined sensation are present in which of the following areas?

 a. Rostral midbrain

 b. Caudal midbrain

 c. Rostral pons

 d. Caudal pons

 e. Rostral medulla

 f. Caudal medulla

33. On examination of a patient who visited his office with complaints of slurred speech and difficulty swallowing, a physician noted that the patient is having loss of pain and temperature sensation on right side of the body and left side of the face; intention tremors; increased muscle tone and reflexes on right; loss of vibration sense on right; problems in taste on left half of oral cavity; alterations in heart rate and blood pressure; and hearing problems on left. The problems in taste in this patient is due to a problem in

 a. Caudal half of ipsilateral nucleus tractus solitarius

 b. Rostral half of ipsilateral nucleus tractus solitarius

 c. Caudal half of contralateral nucleus tractus solitarius

 d. Rostral half of contralateral nucleus tractus solitarius

 e. Ipsilateral Nucleus ambiguus

 f. Contralteral nucleus ambiguus

34. In the above patient, the problems in hearing are due to a problem in

 a. Cochlear and organ of corti

 b. Vetibulo-cochlear nerve

 c. Cochlear nuclei

 d. Superior olivary nucleus & trapezoid body

 e. Inferior colliculus

 f. Medial geniculate body

 g. Auditory cortex

35. In the above patient, the alteration in cardiovascular function can be attributed to

 a. Caudal half of nucleus tractus solitarius

 b. Rostral half of nucleus tractus solitarius

 c. Dorsal vagal nucleus

 d. a and b

 e. b and c

 f. a and c

 g. a, b, and c

36. While performing the deep tendon reflexes, it was noted that there is a reduced knee jerk. Which of the following nerve fibers are affected in this patient?

 a. A delta

 b. I b

 c. I a

 d. A beta fibers

 e. A gamma fibers

 f. II

 g. IV

37. Which of the following vascular lesions can result in disruption of blood supply to basal ganglia & internal capsule?

 a. Rupture of cerebral veins

 b. Rupture of middle meningeal artery

 c. Rupture of berry aneurysm

 d. Rupture of charcot-bouchard aneurysm

 e. Rupture of bridging veins

38. On examining a patient, the physician notes that the patient is suffering bilateral muscle weakness in all extremities, which is more pronounced in the upper limbs compared to lower ones. There is also loss of pain and temperature in both extremities, more pronounced in upper limbs. The possible spinal cord lesion in this patient is

 a. Posterior cord syndrome

 b. Anterior cord syndrome

 c. Syringomyelia

 d. Lateral cord lesion

 e. Tabes dorsalis

 f. Poliomyelitis

 g. Amyotrophic lateral sclerosis

39. A 63-yr-old man was transferred from a psychiatric hospital to a local hospital for neurological consult. The patient has placidity with loss of aggressiveness, restlessness, hypersexuality, visual agnosia, and oral tendencies like increased interest in food. An MRI revealed the presence of a small tumor in the brain. The locus of this tumor likely included the

 a. Hippocampal formation

 b. Septal area

 c. Amygdala

 d. Prefrontal cortex

 e. Anterior cingulate gyrus

40. A “down and out” eye with “blown-out” pupils should make one suspect a lesion in

 a. Midbrain tectum

 b. Midbrain tegmentum

 c. Crus cerebrii

 d. Pontine tegmentum

 e. Basilar pons

41. Presence of Pendular reflexes, hypotonia without paralysis, intention tremors, postural instability, and gait problems should make one suspect a problem in

 a. Cerebellum

 b. Basal ganglia

 c. Cerebral cortex - Premotor area

 d. Temporal lobe - Limbic system

 e. Reticular formation

42. The membranes that line the cisterns in the cranial cavity are:

 a. Dura and arachnoid mater

 b. Dura mater and ependymal cell layer

 c. Neuronal cell membrane and the pia mater

 d. Pia and arachnoid mater

 e. Periosteal and meningeal layers of dura mater

43. A patient presents to the clinic with double vision and deviation of the eye. Examination showed a "down and out" eye. Which of the following cranial nerves is affected?

 a. Olfactory nerve

 b. Optic nerve

 c. Occulomotor nerve

 d. Trigeminal nerve

 e. Facial nerve

44. On examining the dorsal surface of ulnar border of the right hand of a patient it was noted that the patient was not able to feel pin prick and was also not able to localize the area of touch and was not able to differentiate between light and deep touch. Two-point discrimination test also had a similar result. The physician found that except for the mentioned sensory problems there were no other neurological problems in the patient. Lesion in which of the following structures can lead to all the symptoms mentioned?

 a. Medial Thalamus

 b. Lateral white column of spinal cord

 c. Medullary pyramids

 d. Basilar pons

 e. Midbrain tectum

 f. Crus cerebrii

 g. Lateral thalamus

45. In the above patient, the physician is testing which of the following areas of cortex?

 a. Left post-central gyrus

 b. Right post-central gyrus

 c. Right Pre-central gyrus

 d. Left pre-central gyrus

 e. Left superior temporal gyrus

 f. Right superior temporal gyrus

46. CT scan of a child is given below. The type of congenital malformation present in this child is

 a. Arnold-chiari malformation type I

 b. Arnold-chiari malformation type II

 c. Dandy-Walker syndrome

 d. Meningomyelocele

 e. Meningoencephalocele

47. A 54-year-old man is evaluated by a neurologist because of a gait disorder. When the physician passively moves the patient's right great toe upward or downward, the patient cannot accurately report the direction of motion, although his perception of light touch and painful stimuli is unimpaired. This finding can best be explained by a lesion of which of the following structures?

 a. Right fasciculus cuneatus

 b. Right fasciculus gracilis

 c. Left fasciculus gracilis

 d. Left fasciculus cuneatus

 e. Right Lateral leminiscus

 f. Right medial lemniscus

 g. Right ventroposterolateral nucleus of the thalamus

48. A physician noted that there is an infarction of the grey matter of cerebral hemisphere, especially that of Pre-central gyrus. Involvement of this area leads to which of the following symptoms?

 a. Inability to hold a pen

 b. Loss of anal sensations

 c. Cannot read

 d. Cannot understand what he hears

 e. Problems in grammer only

49. A patient presents with irritation of right eye. Examination showed an eye which is red and dry. There was decreased tear (lacrimal) production in the right eye. Which of the following nuclei could have been affected?

 a. Nucleus tractus solitarius

 b. Lacrimal Nucleus

 c. Dorsal nucleus of Vagus

 d. Superior salivatory nucleus

 e. Inferior salivartory nucleus

50. A person exhibits difficulty in planning and performing complex sequential movements even though the muscle strength is normal. Also, the patient exhibits problems with learning from mistakes. Lesion of which of the following areas can lead to this problem?

 a. Vermis

 b. Medial parts of cerebellar hemispheres

 c. Lateral parts of cerebellar hemispheres

 d. Lateral thalamus

 e. Primary motor area

51. A 55-year-old male mechanic suffers a stroke while trying to replace a flat tire on the road. He has a history of hypertension, but had not been taking his medications regularly. In addition, he is a heavy smoker, and drinks a six-pack of beer every weekend. On examination, he is conscious and coherent. All the cranial nerves are normal. He has a dense hemiplegia on the right side, with equal paralysis of the arm and leg. His lesion most likely involves the

 a. Left coticospinal tract

 b. Right reticulospinal tract

 c. Right coticospinal tract

 d. Left reticulospinal tract

 e. Posterior column tracts

52. Low BP and hypovolemia will stimulate which of the following hypothalamic nuclei?

 a. Suprachiasmatic nucleus

 b. Paraventricular nucleus

 c. Supraoptic nucleus

 d. Preoptic nucleus

 e. Lateral nucleus

53. On examining a patient it was noted that the secretions of parotid gland are disrupted owing to a problem in the otic ganglion. The axons arising from this ganglion belong to which of the following classes?

 a. A-alpha

 b. A-beta

 c. A-gamma

 d. A-delta

 e. B

 f. C

54. A patient presents to the clinic with problems in left eye. Examination revealed diminished light reflex and accommodation reflex. Her eye movements are normal and vision is intact. Which of the following nuclei could have been affected?

 a. Nucleus tractus solitarius

 b. Nucleus ambiguus

 c. Edinger-Westphal nucleus

 d. Superior salivatory nucleus

 e. Inferior salivartory nucleus

55. Loss of all bilateral ascending tracts and variable portion of bilateral corticospinal tracts in a spinal cord should make one suspect a problem in

 a. Posterior spinal arteries

 b. Vertebral arteries

 c. Internal carotid arteries

 d. Anterior spinal arteries

 e. Radicular arteries

56. A 63-year-old woman was experiencing difficulties in a card-sorting test (as a measure of cognitive function) with non-variation of her strategy for sorting cards even when asked to do so. Also when the patient is placed in an inclined chair and asked to point out the true vertical, the patient failed to do so. Physician concluded that the patient has intellectual and perceptual deficits. An MRI will most likely reveal the presence of a lesion in the

 a. Hippocampal formation

 b. Septal area

 c. Amygdala

 d. Prefrontal cortex

 e. Cingulate gyrus

57. A Schizophrenic patient would show

 a. Increased levels of serotonin

 b. Increased levels of dopamine

 c. Decreased levels of serotonin

 d. Decreased levels of dopamine

 e. Increased levels of noradrenaline

58. A patient exhibits a variety of behavioral and language problems such as a failure to inhibit responses that are socially inappropriate. Such an individual is most likely to suffer from dementia involving the

 a. Parieto-occipital region

 b. Frontal cortex

 c. Inferior temporal cortex

 d. Corpus callosum

 e. Caudate nucleus

59. A patient was brought to the clinic, by his relatives, with complaints of episodes of aggressiveness, emotional instability, restlessness, feeding disorders, and problems with sexuality. Examination showed that the patient was able to recall 3 words after 5 minutes and 15 minutes, was able to perform calculations, was able to interpret complex sentences and understand hidden meanings in a sentence but still was showing occasional outbursts of anger. PET scan revealed decreased activity of the an area of brain considered as seat of aggression. From which of the following embryological structures did the defective area develop?

 a. Telencephalon

 b. Diencephalon

 c. Mesencephalon

 d. Metencephalon

 e. Mylencephalon

60. While performing cranial nerve examination, the physician noted that the patient was not able to smell chemicals. Which of the following cranial nerves is affected?

 a. Optic nerve

 b. Trigeminal nerve

 c. Facial nerve

 d. Spinal accessory nerve

 e. Olfactory nerve

61. A 52-yr-old male patient is brought to the hospital with complaints of inability to move both legs. Examination of lower limbs revealed right-sided paralysis, left-sided loss of pain and temperature, and right-sided loss of vibratory sensations. His muscles were flaccid in some areas and rigid in other areas. What is the most likely diagnosis?

 a. Anterior cord syndrome

 b. Central cord syndrome

 c. Posterior cord syndrome

 d. Syringomyelia

 e. Brown-Sequard syndrome

 f. Poliomyelitis

62. The hypothalamic nucleus responsible for passivity, inhibition of feeding, & sexual response in female is

 a. Preoptic nuleus

 b. Suprachiasmatic nucleus

 c. Paraventricular nucleus

 d. Ventromedial nucleus

 e. Suparoptic nucleus

63. A physician notes that in a patient there is impaired vibration and position sense, astereognosis, and ataxia. The physician noted loss of all sensations in some areas of the patient along with diminished reflexes in those same areas. When the patient was asked to stand with legs close together and hands outstretched, the patient was able to do so easily with eyes open but with eyes closed, he started swaying. The strength in the muscles is normal. The patient also has high-stepping gait. The pathology is in

 a. Ventral column and dorsal root of spinal nerve

 b. Dorsal column and ventral root of spinal nerve

 c. Lateral column and dorsal root of spinal nerve

 d. Lateral column and ventral root of spinal nerve

 e. Dorsal column and dorsal root of spinal nerve

 f. Ventral column and ventral root of spinal nerve

 g. Anterior gray matter only

64. Evaluation of a patient revealed loss of all perianal sensations. From this data, we suspect the involvement of which of the following segments of spinal cord?

 a. Cervical

 b. Thoracic

 c. Lumbar

 d. Sacral

 e. Coccygeal

65. In the above patient, using the data given, we suspect the involvement of which of the following areas of the cerebral cortex?

 a. Frontal lobe

 b. Parietal lobe

 c. Occipital lobe

 d. Temporal lobe

66. In the above patient, using the data given, we suspect the involvement of which of the following arteries?

 a. Branches of anterior cerebral artery

 b. Branches of middle cerebral artery

 c. Branches of posterior cerebral artery

 d. Branches of basilar artery

 e. Branches of vertebral artery

67. In the above patient, using the data given, one can expect to see which of the following clinical features (Note: Assume the level of lesion to be at the cerebral cortex)?

 a. Loss of motor control in the thigh muscles

 b. Loss of motor control in the hands

 c. Loss of sensory control in the hands

 d. Loss of sensory control in the feet

 e. Loss of superficial abdominal reflexes

68. A physician performed gag reflex in a patient. Which of the following nuclei did the physician test?

 a. Motor nucleus of facial nerve

 b. Motor nucleus of trigeminal nerve

 c. Motor nucleus of occulomotor nerve

 d. Motor nucleus of vagus nerve

 e. Motor nucleus of hypoglossal nerve

69. A 55-year-old man was recently diagnosed with Huntington's disease. This disorder may best be understood in terms of the loss of which substance with which result?

 a. Serotonin in the globus pallidus, increased excitation of ventral anterior thalamic nucleus

 b. Substance P in the neostriatum, increased inhibition in the medial pallidal segment

 c. GABA in the neostriatum, reduction of neostriatal inhibition on the lateral (external) pallidal segment

 d. Acetylcholine and GABA in the neostriatum, reduction of inhibition on the medial (internal) pallidal segment

 e. Dopamine in the neostriatum, a reduction of neostriatal inhibition on the medial pallidal segment

70. CT scan of a patient complaining of headache is shown below. What is the most likely site of obstruction in this patient?

 a. Foramen of magendie

 b. Foramen of luschka

 c. Foramen of monro

 d. Cerebral aqueduct

 e. 1 and 2

 f. 3 and 4

71. Stellate cells in cerebellum secrete

 a. GABA

 b. Glutamate

 c. Serotonin

 d. Taurine

 e. Dopamine

72. An adult male suffering from chills, fever, headache, nausea, vomiting, and pain in the back was admitted to the emergency room and diagnosed as having meningococcal meningitis. Which of the following changes are most likely in the composition of the cerebrospinal fluid of this patient?

 a. Increased protein, decreased glucose, and increased polymorphonuclear WBCs

 b. Increased protein, normal glucose, and excessive number of lymphocytes

 c. Increased protein, normal glucose, and a few WBCs

 d. Increased protein, normal glucose, and presence of tumor cells and WBCs

 e. Increased protein, increased glucose, and a few WBCs

73. A lesion of the lateral hypothalamus is discovered after an examination in which a magnetic resonance imaging (MRI) scan was done. Which of the following disorders would likely be present, and which pathway would most likely be damaged?

 a. Hyperphagia and stria terminalis

 b. Aphagia and medial forebrain bundle

 c. Dysphagia and stria medullaris

 d. Hypertension and mammillotegmental fibers

 e. Fever and corticohypothalamic fibers

74. Examination of a patient revealed dry eyes and dry mouth with inability to tolerate loud sounds, and paralysis of one-half of the face. The patient also exhibits lateral gaze paralysis. The possible site of lesion in this patient is

 a. Internal acoustic meatus

 b. Cerebello-pontine angle

 c. Rostral pons

 d. Caudal pons

 e. Rostral midbrain

 f. Caudal midbrain

75. CT scan of a patient involved in a MVA is shown below. The patient is having

 a. Epidural hematoma

 b. Subdural hematoma

 c. Subarachnoid hematoma

 d. Lacunar infarct of basal ganglia

 e. Intraparenchymal hematoma

76. In the above patient, which of the following vessels has ruptured?

 a. Bridging veins

 b. Berry aneurysm of circle of Willis

 c. Middle cerebral artery

 d. Posterior cerebral artery

 e. Charcot-Bouchard aneurysm of striate arteries

 f. Middle meningeal artery

77. The above patient gradually started exhibiting signs of raised intracranial pressure especially “down & out” right eye with pupillary dilatation, weakness of left upper and lower limb muscles, & altered sensorium. All these new symptoms indicate a possibility of

 a. Subfalcine herniation

 b. Central herniation

 c. Transtentorial herniation

 d. Tonsillar herniation

78. First-order neurons for proprioception from muscles of mastication are present in

 a. Mesencephalic nucleus

 b. Spinal nucleus

 c. Main sensory nucleus

 d. Trigeminal ganglion

 e. Geniculate ganglion

79. A patient presents with difficulty chewing. Examination revealed weakness of muscles of mastication. Which of the following clinical features is the patient most likely to exhibit?

 a. Loss of corneal reflex

 b. Loss of accommodation reflex

 c. Loss of gag reflex

 d. Loss of light reflex

 e. Loss of taste sensations from posterior 1/3rd of tongue

80. Cardiorespiratory center is present in

 b. Caudal midbrain

 c. Rostral midbrain

 d. Caudal pons

 e. Rostral pons

 f. Caudal medulla

 g. Rostral medulla

81. Paralysis of sternocleidomastoid and trapezius indicates a problem in

 a. Nuclues ambiguus

 b. Nucleus gracilis

 c. Nucleus tractus solitarius

 d. Upper Cervical spinal segments

 e. Hypoglossal nucleus

82. While performing a detailed neurological examination in a patient, the physician noted that the patient is not able to recognize an unseen familiar object placed in the right hand. Which of the following pathways is affected?

 a. Spinotectal tract

 b. Medial Leminiscus

 c. Dorsal spinocerebellar tract

 d. Spino-olivary tract

 e. Spinothalamic tract

 f. Spinoreticular tract

 g. Anterior spinocerebellar tract

83. A patient exhibited intact lacrimation but loss of salivation and inability to tolerate loud noises. The possible site of lesion is

 a. Caudal pons

 b. Facial canal

 c. Internal acoustic meatus

 d. Stylomastoid foramen

 e. Parotid gland

84. In the above patient, which of the following clinical features will also be seen?

 a. Loss of taste sensations from posterior 1/3rd of tongue

 b. Loss of taste sensations from anterior 2/3rd of tongue

 c. Loss of gag reflex

 d. Loss of light reflex

 e. Loss of taste sensations from entire tongue

85. The ability to feel dull pain for a longer time can be attributed to which of the following neurotransmitters in substantia gelatinosa?

 a. Glutamate

 b. Serotonin

 c. Endorphin

 d. Substance P

 e. Enkephalin

86. A patient presents to the clinic with inability to smile. Examination revealed paralysis of one-half of the face. Which of the following cranial nerves is affected?

 a. Olfactory nerve

 b. Optic nerve

 c. Abducens nerve

 d. Facial nerve

 e. Vagus nerve

87. The thalamic nucleus directly affected by lesions of basal ganglia is

 a. Anterior thalamic nucleus

 b. Dorsomedial thalamic nucleus

 c. Ventral anterior thalamic nucleus

 d. Medial geniculate body

 e. Lateral geniculate body

88. Stimulation of Purkinje cells causes

 a. Inhibtion of Dentate nucleus

 b. Inhibition of Thalamus

 c. Excitation of Rubrospinal tract

 d. Inhibition of vestibular nuclei

 e. Excitation of Interposed nuclei

 f. Excitation of Fastigial nucleus

89. Loss of indirect pathway in basal ganglia system owing to lesion in subthalamic area is seen in

 a. Parkinson�s disease

 b. Huntington�s chorea

 c. Weber�s syndrome

 d. Medial medullary syndrome

 e. Hemiballism

90. In the above lesion, which of the following clinical symptoms is one most likely to see

 a. Decreased tone

 b. Diminished abdominal reflexes

 c. Babinski sign

 d. Problems in proprioception

 e. Hyperkinetic features

91. The peripheral integrating center for pain is

 a. Lamina 1

 b. Lamina 2

 c. Lamina 3

 d. Lamina 4

 e. Lamina 9

92. An experiment was conducted in cats to determine the effects of stimulation of the medial amygdala on the activity of medial hypothalamic neurons. After determining that stimulation of the medial amygdala powerfully excited medial amygdaloid neurons, the investigator sought to further test the relationship between these regions by destroying the major pathway that links these two regions and then testing to see whether stimulation of the medial amygdala no longer affected medial hypothalamic neuronal activity. The most likely pathway that was destroyed by the investigator was the

 a. Mammillothalamic tract

 b. Medial forebrain bundle

 c. Stria terminalis

 d. Stria medullaris

 e. Ventral amygdalofugal fibers

93. A 52-yr-old man was brought to the hospital with problems with speech. When the doctor started speaking, the patient turned to him apparently listening to his words. On asking the patient to repeat a sentence, the patient did not respond. The patient was exhibiting "word salad". He was also not able to read from a book or write relevant sentences although there is no weakness in the muscles of his hands or legs. From the data given, the possible site of lesion in the patient is

 a. Wernicke�s area

 b. Broca�s area

 c. Arcuate fasciculus

 d. Angular gyrus

 e. Primary auditory area

94. Problems in the inputs to basal ganglia indicates a problem in

 a. Caudate nucleus

 b. Putamen

 c. Globus pallidus

 d. A and B

 e. B and C

95. A patient visits a doctor complaining of difficulty hearing. Examination revealed partial deafness in left ear. Basing on this complaint alone the pathology can be present in?

 a. Left Ear

 b. Left Cochlear nerve

 c. Left anterior and posterior Cochlear nucleus

 d. Left Trapezoid body