

Government Medical College and Hospital Sector 32, Chandigarh

Post: Senior Resident Neurosurgery

QUESTION BOOKLET

Time: 120 Minutes

Number of Question: 100

Maximum Marks: 100

Name of Candidate

Roll Number: In figure

In Words

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Signature of the Candidate: _____

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS:-

1. Write your Roll Number on the Question Booklet and also on the OMR Sheet in the space provided. You will be required to give your thumb impression on the OMR sheet in the space provided.
2. This question booklet contains 100 MCQ's. Once you are permitted to open the Question Booklet, please check for any missing question / misprint etc. and in case of any discrepancy, inform the Assistant Superintendent / Invigilator within 10 minutes of the start of the test.
3. Each question has four alternative answer (A, B, C, D) out of which only one is correct. For each question, **darken only one bubble (A or B or C or D)**, whichever you think is the correct answer, on the OMR Answer sheet **with Black or Blue Ball Pen only**. Do not use any other Pen / Gel pen / Pencil etc. **Do not Tick ✓ or × on the OMR Sheet**. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the Questions given in the Question Booklet.
4. Each MCQ is of One (01) mark. There is no negative marking.
5. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the OMR Answer sheet.
6. The OMR Answer sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given, it may make evaluation by the computer difficult. Any resultant loss to the candidates on the above account, i.e. not following instructions completely and properly, shall be the responsibility of the candidates only.
7. After the test, handover the Question Booklet and OMR sheet to the Invigilator on duty.
8. A Candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper or the any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre superintendent/Observer whose decision shall be final.
9. Telecommunication equipment such as pager, cellular phone, wireless, scanner, smart watch/ watch etc. is not permitted inside the examination hall. Use of calculators is not allowed.
10. Candidate should ensure accuracy of their personal details on the OMR Sheet i.e. Name and Roll No. as well as thumb impression. The personal details are to be filled in by the candidates with his/her own hand writing.

1. Most patients with intrinsic brainstem gliomas initially present with
 - A. Cranial neuropathies
 - B. Headache
 - C. Hydrocephalus
 - D. Nausea and vomiting
2. Uncinate seizures typically produce
 - A. Auditory hallucinations
 - B. Gustatory hallucinations
 - C. Olfactory hallucinations
 - D. Vertiginous sensations
3. Each of the following is true of intraventricular hemorrhage (IVH) in the new born except
 - A. Periventricular hemorrhagic infarction is one sequela.
 - B. Posthemorrhagic hydrocephalus can result in persistent bradycardia and apneic spells.
 - C. The capillary bed of the germinal matrix is composed of large irregular vessels.
 - D. The germinal matrix is the most common site of IVH in the full-term neonate.
4. Coup contusions most commonly occur at the
 - A. Cerebral convexities
 - B. Frontal and temporal poles
 - C. Orbital surface of the frontal lobes
 - D. Posterior fossa
5. The essential difference between a syringomyelic and a hydromyelic cavity is that the cavity in
 - A. Hydromyelia is lined with ependymal cells, and in syringomyelia is not
 - B. Hydromyelia is lined with choroid plexus, and in syringomyelia is not
 - C. Syringomyelia contains CSF, and in hydromyelia contains serum
 - D. Syringomyelia is focal, and in hydromyelia is more extensive
6. Each of the following is true of basilar impression except
 - A. Cerebellar and vestibular complaints typically overshadow motor and sensory complaints.
 - B. McGregor's line is helpful in routine screening.
 - C. McRae's line is helpful in clinical assessment.
 - D. Short necks and torticollis are common.
7. Lateral recess stenosis in spondylosis is most commonly caused by
 - A. Disk herniation
 - B. Inferior articular facet hypertrophy
 - C. Ligamentum flavum hypertrophy
 - D. Superior articular facet hypertrophy
8. The syndrome of weakness in one upper extremity followed by lower extremity weakness on the same side, then contralateral lower extremity weakness, is most characteristic of a meningioma involving the
 - A. Clivus
 - B. Falx
 - C. Foramen magnum
 - D. Olfactory groove
9. Weakness of the deltoid muscle is caused by injury to the
 - A. Axillary nerve
 - B. Dorsal scapular nerve
 - C. Musculocutaneous nerve
 - D. Suprascapular nerve

10. Subdural empyem a resulting after meningitis in an infant most commonly develops with
- Escherichia coli
 - Haemophilus influenzae
 - Listeria
 - Neisseria
11. Each of the following features is usually minimal or absent in patients with type 2 neurofibromatosis except
- Axillary freckles
 - Café au lait spots
 - Lisch nodules
 - Skin plaques
12. The single most important factor in the recurrence of meningiomas is
- Age of the patient
 - Bone invasion
 - Histologic type of benign meningioma
 - Postoperative tumor residual
13. The most common presenting symptom in patients with colloid cysts is
- Headache
 - Dementia
 - Seizures
 - Sudden attacks of leg weakness
14. Each of the following is true of growing skull fractures except that they
- Can cross suture lines
 - Occur if the edges of the initial fracture are separated by more than 3 mm
 - Occur most commonly in the parietal bone
 - Occur most commonly between the ages of 2 and 5 years
15. Occlusion of the anterior choroidal artery results in
- Contralateral hemiplegia
 - Hemihypesthesia
 - Homonymous hemianopsia
 - Impaired cognition
- The correct answer is
- I, II, III
 - I, III
 - II, IV
 - IV
16. Which of the following symptoms of Parkinson's disease is most likely to respond to a stereotactic lesion in the posterior ventral oval (VOP)/ventral intermediate (VIM) (ventrolateral) thalamus?
- Bradykinesia
 - Rigidity
 - Speech disturbance
 - Tremor
17. The factor or substance with the least important role in the pathogenesis of cerebral vasospasm is probably
- Bilirubin
 - Endothelin
 - Intimal proliferation
 - Lipid peroxides

18. The pterion is formed by which of the following bones?
- Frontal, greater wing of the sphenoid, parietal, and squamous part of the temporal
 - Frontal, lesser wing of the sphenoid, parietal, and squamous part of the temporal
 - Frontal, greater wing of the sphenoid, parietal, and zygomatic arch
 - Frontal, lesser wing of the sphenoid, parietal, and zygomatic arch
19. Cerebral salt wasting and syndrome of inappropriate antidiuretic hormone (SIADH) may best be distinguished by measuring
- Plasma arginine vasopressin (AVP)
 - Urine osmolality
 - Serum sodium
 - Volume status
20. A patient presents status post a high speed motor vehicle collision with a cervical 5/6 fracture dislocation. Power in the deltoid, biceps, and wrist extensors is 5/5, and all other muscle groups are 2/5 including triceps, grips, and lower extremities. Rectal tone and perianal sensation are intact. What is the appropriate grade of this acute spinal cord injury?
- ASIA A
 - ASIA B
 - ASIA C
 - ASIA D
21. A patient presents status post fall with an acute type II odontoid fracture. Good spinal alignment is maintained. The patient has good bone quality, is otherwise healthy, and is neurologically intact. An MRI reveals disruption of the transverse ligament. Which of the following is the most appropriate treatment?
- C-collar immobilization
 - Occiput to C2 posterior fusion
 - Odontoid screw placement
 - Posterior C1-C2 instrumented fusion
22. Which of the following represents the correct sequence of removal of clamps from the arteries following carotid endarterectomy?
- Common carotid, external carotid, internal carotid
 - Common carotid, internal carotid, external carotid
 - External carotid, common carotid, internal carotid
 - External carotid, internal carotid, common carotid
23. The MRI shown is that of a 40-year-old patient with bitemporal hemianopia and a prolactin level of 89. The best management of this lesion is
- Bromocriptine
 - Bromocriptine, then surgery
 - Radiation therapy
 - Surgery

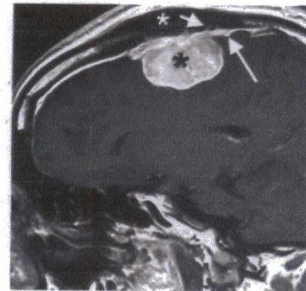


24. Which of the following is true of tuberculous meningitis?
- A. Headache is usually absent.
 - B. The inflammatory exudate is confined to the subarachnoid space.
 - C. The inflammatory exudate is found mainly at the convexities.
 - D. The protein content of the cerebrospinal uid (CSF) is almost always elevated.
25. The dorsal scapular nerve innervates the
- I. Supraspinatus
 - II. Rhom boids
 - III. Subscapularis
 - IV. Levator scapulae
- A. I, II, III
 - B. I, III
 - C. II, IV
 - D. IV
26. Subacute combined degeneration of the spinal cord is caused by a deficiency of
- A. Cobalamin
 - B. Folic acid
 - C. Nicotinic acid
 - D. Pyridoxine
27. Which of the following antiepileptic drugs has the shortest half-life?
- A. Carbamazepine
 - B. Ethosuximide
 - C. Phenobarbital
 - D. Valproate
28. Which of the following signs or symptoms occurring in a young person is the most suggestive of multiple sclerosis?
- A. Bilateral internuclear ophthalmoplegia
 - B. Gait ataxia
 - C. Lhermitte's sign
 - D. Optic neuritis
29. The muscles most often involved in thyroid ophthalmopathy are the
- A. Inferior, superior, and medial recti
 - B. Inferior rectus and superior oblique
 - C. Lateral and superior recti
 - D. Lateral rectus and superior oblique
30. The long thoracic nerve innervates the
- A. Latissimus dorsi
 - B. Levator scapulae
 - C. Rhomboids
 - D. Serratus anterior
31. Gerstmann's syndrome classically involves a lesion in the
- A. Dominant frontal lobe
 - B. Dominant parietal lobe
 - C. Dominant temporal lobe
 - D. Nondominant parietal lobe

32. Wernicke's area corresponds most closely to Brodmann's area(s)
A. 17
B. 19
C. 22
D. 41 and 42
33. Each of the following is true of central pontine myelinolysis except
A. A marked inflammatory response with destruction of nerve cells in the pons is seen.
B. It is associated with rapid correction of hyponatremia.
C. It is associated with chronic alcoholism
D. Quadriplegia, pseudobulbar palsy, and a locked-in syndrome can occur.
34. Dressing apraxia is associated with a lesion in the
A. Dominant frontal lobe
B. Dominant parietal lobe
C. Nondominant frontal lobe
D. Nondominant parietal lobe
35. All of the following are seen in Sturge-Weber syndrome except
A. Calcified cortical vessels
B. Facial nevus contralateral to seizure activity
C. Hemisensory deficit contralateral to facial nevus
D. Meningeal venous angiomas
36. Stage 2 sleep is characterized by
A. K complexes
B. Delta waves
C. Desynchronization of the EEG
D. REM sleep
37. The most common finding on audiography in patients with acoustic neuromas is
A. Flat loss
B. High-frequency loss
C. Low-tone loss
D. Normal audiogram
38. Repetition is least likely to be affected by a
A. Broca's aphasia
B. Conduction aphasia
C. Global aphasia
D. Transcortical sensory aphasia
39. The most common cause of viral meningitis is
A. Enterovirus
B. Human immunodeficiency virus (HIV)
C. Leptospirosis
D. Lymphocytic choriomeningitis
40. Lesions of the peroneal nerve produce weakness of the
A. Abductor hallucis and gastrocnemius
B. Extensor digitorum longus and brevis and abductor hallucis
C. Gastrocnemius and extensor hallucis longus
D. Tibialis anterior and extensor digitorum longus and brevis

41. The second-order neuron in the sympathetic pathway to the pupil arises from the
- A. Ciliary ganglion to the iris
 - B. Edinger-Westphal nucleus to the ciliary ganglion
 - C. Hypothalamus to the lateral horn cells at C8 to T3
 - D. Lateral horn cells at C8 to T3 to the superior cervical ganglion
42. Which of the following is least suggestive of a parietal lobe lesion?
- A. Astereognosis
 - B. Loss of position sense
 - C. Loss of temperature sensation
 - D. Loss of two-point discrimination
43. Somnambulism occurs in which stage of sleep?
- A. Stage 1
 - B. Stage 2
 - C. Stage 4
 - D. REM
44. Which of the following anticonvulsants is associated with hyponatremia?
- A. Carbamazepine
 - B. Gabapentin
 - C. Levetiracetam
 - D. Phenytoin
45. The intracranial dura is innervated by
- I. Cranial nerve V
 - II. Upper cervical spinal nerves
 - III. Cranial nerve X
 - IV. Cranial nerve VII
- The answer is :
- A. I, II, III
 - B. I, III
 - C. II, IV
 - D. IV
46. Which structure does not pass through the orbital tendinous ring (Zinn's annulus)?
- A. Frontal nerve
 - B. Superior division of III
 - C. Abducens nerve
 - D. Nasociliary nerve
47. The organism most frequently identified in brain abscesses is
- A. Bacteroides
 - B. Candida
 - C. Citrobacter
 - D. Microaerophilic Streptococcus
48. Which of the following is not seen in Sturge-Weber syndrome?
- A. Cortical arteriovenous malformations
 - B. Facial nevus
 - C. Intracortical calcification
 - D. Meningeal angioma

49. Each of the following has been associated with central pontine myelinolysis except
- Severe burns
 - Rapid correction of hyponatremia
 - Serum hyperosmolarity
 - Vitamin A excess
50. Which of the following is not typically seen in neurofibromatosis type 2?
- Acoustic neuromas
 - Café-au-lait spots
 - Cutaneous neurofibromatosis
 - Lisch nodules
51. Which of the following vascular malformations have no intervening brain parenchyma between blood vessels?
- Arteriovenous malformations
 - Capillary telangiectasias
 - Cavernous malformations
 - Cryptic arteriovenous malformations
52. The most common sites of hypertensive hemorrhage, in decreasing order of frequency are
- Lobar, putamen, cerebellum, thalamus, pons
 - Putamen, lobar, thalamus, cerebellum, pons
 - Putamen, thalamus, pons, lobar, cerebellum
 - Thalamus, cerebellum, lobar, putamen, pons
53. The correct order of the named segments of the anterior choroidal artery is
- Cisternal segment, plexal point, plexal segment
 - Cisternal segment, plexal segment, plexal point
 - Plexal point, cisternal segment, plexal segment
 - Plexal point, plexal segment, cisternal segment
54. Choroid plexus papilloma as in children are most common in the
- Fourth ventricle
 - Left lateral ventricle
 - Right lateral ventricle
 - Third ventricle
55. This postcontrast T1-weighted MRI illustrates a(n)
- Aneurysm
 - Colloid cyst
 - GBM
 - Meningioma



58. Cushing's reflex refers to
- A. Increased heart rate in response to increased intracranial pressure
 - B. Increased systolic arterial pressure in response to increased intracranial pressure
 - C. Parasympathetic outflow in response to increased intracranial pressure
 - D. Decreased respiratory rate in response to increased intracranial pressure
59. From inferior to superior (i.e. ascending), what is the 4th branch of the external carotid artery in the neck?
- A. Maxillary artery
 - B. Occipital artery
 - C. Facial artery
 - D. Lingual artery
60. Which one of the following is NOT a component of the blood-brain barrier?
- A. Astrocytic foot processes
 - B. Basement membrane
 - C. Tight junctions
 - D. Microglia
61. Which one of the following best describes ions responsible for membrane hyperpolarization?
- A. Chloride and sodium
 - B. Chloride and potassium
 - C. Potassium and sodium
 - D. Sodium and calcium
62. Cerebral ischemia is usually seen when global cerebral blood flow is below:
- A. 50 ml per 100 g tissue per min
 - B. 40 ml per 100 g tissue per min
 - C. 30 ml per 100 g tissue per min
 - D. 20 ml per 100 g tissue per min
63. Which one of the following genetic mutations are associated with improved brain tumor prognosis?
- A. Loss of 1p/19q
 - B. Loss of 1p/22q
 - C. Loss of 1p/10q
 - D. Loss of 1p/10q
64. Red man syndrome is seen with which one of the following medications?
- A. Levodopa
 - B. Procyclidine
 - C. Rifampicin
 - D. Vancomycin
65. A 75-year-old patient presents with GCS E3V4M5 and due to ICH. INR is 5.0 on warfarin for atrial fibrillation. Assuming you have access to all of the following therapies, which one of the following is the most appropriate next treatment?
- A. Fresh frozen plasma
 - B. Protamine
 - C. Prothrombin complex concentrate
 - D. Recombinant factor VIIa

66. The horizontal gaze center is formed by which one of the following:
- A. Pontine paramedian reticular formation
 - B. Reticular medial longitudinal fasciculus
 - C. Preganglionic Erdinger-Westphal nucleus
 - D. Brodman Area 6
67. A 35-year-old NF-2 patient has sensorineural hearing loss and paresthesia of the posterior aspect of his right ear canal. MRI shows a large cerebellopontine angle tumor. Compression of which one of the following best explains the altered sensation?
- A. Facial nerve
 - B. Glossopharyngeal nerve
 - C. Inferior vestibular nerve
 - D. Superior vestibular nerve
68. Which one of the following is LEAST likely to be associated with massive blood transfusion?
- A. Iron overload
 - B. Hyperkalemia
 - C. Hypocalcemia
 - D. Hypothermia
69. The venous sinus that is present at the base of falx cerebri is
- A. Occipital
 - B. Straight
 - C. Inferior sagittal
 - D. Cavernous
70. Gyrus rectus is part of
- A. Frontal lobe
 - B. Parietal lobe
 - C. Temporal lobe
 - D. Occipital lobe
71. Medial temporal sclerosis is associated with
- A. Psychosis
 - B. Seizures
 - C. Depression
 - D. Aphasia
72. Treatment of Hydrocephalous includes all except
- A. VP shunt
 - B. ETV
 - C. Steroids
 - D. Acetazolamide
73. Commonest Odontoid fracture is
- A. Type I
 - B. Type II
 - C. Type III
 - D. Type IV
74. Colloid cyst is seen in
- A. Lateral ventricle
 - B. Third ventricle
 - C. Fourth ventricle
 - D. Foramen of Lushka

75. Manitol loading dose is
- A. 1gm/kg body weight
 - B. 2gm/kg body weight
 - C. 3gm/kg body weight
 - D. 4gm/kg body weight
76. CSF is differentiated from nasal secretions on estimation of
- A. Sodium
 - B. Potassium
 - C. Glucose
 - D. Proteins
77. In a patient with Pneumothorax with Large EDH immediate management is
- A. SDH evacuation
 - B. Chest Tube
 - C. Ventilatory support
 - D. Mannitol
78. EDH on CT looks like
- A. Hyperdense biconcave lesion
 - B. Hyperdense biconvex lesion
 - C. Hyperdense concavo-convex lesion
 - D. Hypodense concavo-convex lesion
79. Chronic SDH is seen in
- A. Children
 - B. Infants
 - C. Young adults
 - D. Old age
80. Commonest primary brain tumour is
- A. Meningioma
 - B. Glioma
 - C. Pituitary adenoma
 - D. Metastasis
81. Which score is used for prognosticating SAH patients
- A. Hunt and Hess
 - B. Spetzler- Martin grade
 - C. Glassgow outcome score
 - D. None of the above
82. Best management for NPH (Normal pressure hydrocephalous) is
- A. ETV
 - B. Programmable shunt
 - C. Lumbo-peritoneal shunt
 - D. Diamox
83. In SDH bleeding is mostly from
- A. Cortical veins
 - B. Cortical arteries
 - C. Middle meningeal artery
 - D. Dural sinuses

84. Which MRI sequence is most sensitive for blood products.
- DWI
 - FLAIR
 - Gradient Echo
 - Fast Spine Echo
85. In Haemorrhagic CVA commonest location of haemorrhage is
- Pons
 - Cerebellum
 - Basal ganglia
 - Temporal lobe
86. Brain abscess is seen in children with
- Meningomyelocele
 - Congenital cyanotic heart disease
 - Rheumatic heart disease
 - Hydrocephalous
87. Cerebral perfusion pressure is
- Systolic BP – ICP
 - Mean arterial pressure – ICP
 - Mean arterial pressure – (ICP+JVP)
 - Mean arterial pressure – JVP
88. Wallenberg syndrome is due to occlusion of
- AICA
 - PICA
 - PCA
 - SCA
89. In lumbar puncture which structure is not pierced
- Ligamentum flavum
 - Posterior longitudinal ligament
 - Interspinous ligament
 - None of the above
90. A 65 year old male was brought to surgery emergency with complaints of electrocution. On examination he was found to have 40% electrical burn and had grade 0/5 power with complete loss of sensation below umbilicus with urinary retention. NCCT dorso-lumbar spine image is attached. What is the ASIA grading of spinal cord injury in this patient.
- ASIA A
 - ASIA B
 - ASIA C
 - ASIA E
91. Root value of Biceps Jerk is
- C5
 - C6
 - C5,6
 - C5,6,7
92. Trochlear Herephili is a confluence of all the following except :
- Superior Sagittal Sinus
 - Transverse Sinus
 - Sigmoid Sinus
 - Sigmoid Sinus

93. Most common cause of sub-arachnoid haemorrhage:
- A. Trauma
 - B. Aneurysm
 - C. AVM
 - D. Hypertension
94. Gerstmann syndrome includes all except:
- A. agraphia without alexia (patients cannot write but can still read)
 - B. left-right confusion
 - C. digit agnosia: inability to identify finger by name
 - D. tactile agnosia (bilateral astereognosis)
95. Jugular Foramen contents include all the following cranial nerves except :
- A. CN IX
 - B. CN X
 - C. CN XI
 - D. CN XII
96. Most common vertebral body tumor :
- A. Chordoma
 - B. Chondrosarcoma
 - C. Giant Cell tumor
 - D. Metastasis
97. Craniopharyngioma originates from :
- A. Residual Cells of Rathke's Pouch
 - B. Posterior Pituitary Lobe
 - C. Pituitary Stalk
 - D. Anterior Commissure
98. Most common primary bone tumor of skull
- A. Osteosarcoma
 - B. Haemangioma
 - C. Osteoma
 - D. Chordoma
99. MRI sequence to differentiate epidermoid from arachnoid cyst :
- A. GRE
 - B. DWI
 - C. ADC
 - D. CISS
100. Most common functioning pituitary adenoma:
- A. GH secreting tumor
 - B. ACTH secreting tumor
 - C. Prolactinoma
 - D. TSH secreting tumor

SUBJECT NEUROSURGERY

1	A	21	D	41	D
2	C	22	C	42	C
3	D	23	D	43	C
4	A	24	D	44	A
5	A	25	C	45	A
6	A	26	A	46	A
7	D	27	D	47	D
8	C	28	A	48	A
9	A	29	A	49	D
10	A	30	D	50	D
11	D	31	B	51	C
12	D	32	C	52	B
13	A	33	A	53	A
14	D	34	D	54	B
15	A	35	A	55	D
16	D	36	A	56	A
17	C	37	B	57	A
18	A	38	D	58	B
19	D	39	A	59	C
20	C	40	D	60	D
61	B	81	A		
62	A	82	B		
63	A	83	A		
64	D	84	C		
65	C	85	C		
66	A	86	B		
67	A	87	B		
68	A	88	B		
69	B	89	B		
70	A	90	A		
71	B	91	C		
72	C	92	D		
73	B	93	A		
74	B	94	D		
75	A	95	D		
76	C	96	D		
77	B	97	A		
78	B	98	C		
79	D	99	B		
80	B	100	C		