

MPA-25

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प्रश्न-पुस्तिका संख्या व बारकोड /
Question Booklet No. & Barcode

इस प्रश्न-पुस्तिका को तब तक न खोलें जब तक
कहा न जाए। Do not open this Question
Booklet until you are asked to do so.

पुस्तिका में पृष्ठों की संख्या : 24
Number of Pages in Booklet : 24
पुस्तिका में प्रश्नों की संख्या : 150
No. of Questions in Booklet : 150



Paper Code : 58

Sub : Neurology

समय : 02:30 घण्टे + 10 मिनट अतिरिक्त*

Exams Date 3/07/2025

अधिकतम अंक : 150

Time : 02:30 Hours + 10 Minutes Extra*

Maximum Marks : 150

प्रश्न-पुस्तिका के पेपर की सील/पॉलिथीन बैग को खोलने पर प्रश्न-पत्र हल करने से पूर्व परीक्षार्थी यह सुनिश्चित कर लें कि :

- प्रश्न-पुस्तिका संख्या तथा ओ.एम.आर. उत्तर-पत्रक पर अंकित बारकोड संख्या समान हैं।
- प्रश्न-पुस्तिका एवं ओ.एम.आर. उत्तर-पत्रक के सभी पृष्ठ व सभी प्रश्न सही मुद्रित हैं। समस्त प्रश्न, जैसा कि ऊपर वर्णित है, उपलब्ध हैं तथा कोई भी पृष्ठ कम नहीं है / मुद्रण त्रुटि नहीं है। किसी भी प्रकार की विरंगमति या दोषपूर्ण होने पर परीक्षार्थी वीक्षक से दूसरा प्रश्न-पत्र प्राप्त कर लें। यह सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी। परीक्षा प्रारम्भ होने के 5 मिनट पश्चात् ऐसे किसी दावे/आपत्ति पर कोई विचार नहीं किया जायेगा।

On opening the paper seal/polythene bag of the Question Booklet before attempting the question paper, the candidate should ensure that :

- Question Booklet Number and Barcode Number of OMR Answer Sheet are same.
- All pages & Questions of Question Booklet and OMR Answer Sheet are properly printed. All questions as mentioned above are available and no page is missing/misprinted.

If there is any discrepancy/defect, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this. No claim/objection in this regard will be entertained after five minutes of start of examination.

परीक्षार्थियों के लिए निर्देश

1. प्रत्येक प्रश्न के लिये एक विकल्प भरना अनिवार्य है।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का मात्र एक ही उत्तर दीजिए। एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
4. OMR उत्तर-पत्रक इस प्रश्न-पुस्तिका के अन्दर रखा है। जब आपको प्रश्न-पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल पॉइंट पेन से विवरण भरें।
5. कृपया अपना रोल नम्बर ओ.एम.आर. उत्तर-पत्रक पर सावधानीपूर्वक सही भरें। गलत रोल नम्बर भरने पर परीक्षार्थी स्वयं उत्तरदायी होगा।
6. ओ.एम.आर. उत्तर-पत्रक में करेक्शन पेन/व्हाइटनर/सफेदा का उपयोग निषिद्ध है।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है।
8. प्रत्येक प्रश्न के पाँच विकल्प दिये गये हैं, जिनमें क्रमशः 1, 2, 3, 4, 5 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले (बबल) को उत्तर-पत्रक पर नीले बॉल पॉइंट पेन से गहरा करना है।
9. यदि आप प्रश्न का उत्तर नहीं देना चाहते हैं तो उत्तर-पत्रक में पाँचवें (5) विकल्प को गहरा करें। यदि पाँच में से कोई भी गोला गहरा नहीं किया जाता है, तो ऐसे प्रश्न के लिये प्रश्न अंक का 1/3 भाग काटा जायेगा।
10. * प्रश्न-पत्र हल करने के उपरान्त अभ्यर्थी अनिवार्य रूप से ओ.एम.आर. उत्तर-पत्रक जाँच लें कि समस्त प्रश्नों के लिये एक विकल्प (गोला) भर दिया गया है। इसके लिये ही निर्धारित समय से 10 मिनट का अतिरिक्त समय दिया गया है।
11. यदि अभ्यर्थी 10% से अधिक प्रश्नों में पाँच विकल्पों में से कोई भी विकल्प अंकित नहीं करता है तो उसको अयोग्य माना जायेगा।
12. मोबाइल फोन अथवा अन्य किसी इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए राजस्थान सार्वजनिक परीक्षा (भर्ती में अनुचित साधनों की रोकथाम अध्यापक) अधिनियम, 2022 तथा अन्य प्रभावी कानून एवं आयोग के नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही आयोग ऐसे अभ्यर्थी को भविष्य में होने वाली आयोग की समस्त परीक्षाओं से विवर्जित कर सकता है।

उत्तर-पत्रक में दो प्रतियाँ हैं - मूल प्रति और कार्बन प्रति। परीक्षा समाप्ति पर परीक्षा कक्ष छोड़ने से पूर्व परीक्षार्थी उत्तर-पत्रक की दोनों प्रतियाँ वीक्षक को सौंपेंगे, परीक्षार्थी स्वयं कार्बन प्रति अलग नहीं करें। वीक्षक उत्तर-पत्रक की मूल प्रति को अपने पास जमा कर, कार्बन प्रति को मूल प्रति से कट लाइन से मोड़ कर सावधानीपूर्वक अलग कर परीक्षार्थी को सौंपेंगे, जिसे परीक्षार्थी अपने साथ ले जायेंगे। परीक्षार्थी को उत्तर-पत्रक की कार्बन प्रति चयन प्रक्रिया पूर्ण होने तक सुरक्षित रखनी होगी एवं आयोग द्वारा माँगे जाने पर प्रस्तुत करनी होगी।

INSTRUCTIONS FOR CANDIDATES

1. It is mandatory to fill one option for each question.
2. All questions carry equal marks.
3. Only one answer is to be given for each question. If more than one answers are marked, it would be treated as wrong answer.
4. The OMR Answer Sheet is inside this Question Booklet. When you are directed to open the Question Booklet, take out the Answer Sheet and fill in the particulars carefully with Blue Ball Point Pen only.
5. Please correctly fill your Roll Number in OMR Answer Sheet. Candidates will themselves be responsible for filling wrong Roll No.
6. Use of Correction Pen/Whitener in the OMR Answer Sheet is strictly forbidden.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question.
8. Each question has five options marked as 1, 2, 3, 4, 5. You have to darken only one circle (bubble) indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
9. If you are not attempting a question then you have to darken the circle '5'. If none of the five circles is darkened, one third (1/3) part of the marks of question shall be deducted.
10. * After solving question paper, candidate must ascertain that he/she has darkened one of the circles (bubbles) for each of the questions. Extra time of 10 minutes beyond scheduled time, is provided for this.
11. A candidate who has not darkened any of the five circles in more than 10% questions shall be disqualified.
12. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt with as per rules.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would be liable to be prosecuted under Rajasthan Public Examination (Measures for Prevention of Unfair means in Recruitment) Act, 2022 & any other laws applicable and Commission's Rules-Regulations. Commission may also debar him/her permanently from all future examinations.

1. The correct description of Lazarus sign is-
 - (1) Early sign of impending brain herniation
 - (2) Nonrhythmic jerking after hypoxic brain injury
 - (3) Spinal reflex present with absent brainstem function
 - (4) Cerebellar fits
 - (5) Question not attempted
2. The most common cardiac abnormality seen in Kearns Sayre syndrome requiring a cardiac pacemaker is-
 - (1) Bundle branch block
 - (2) Atrioventricular block
 - (3) QT prolongation
 - (4) Torsades de pointes
 - (5) Question not attempted
3. A mitochondrial disorder with significant phenotypic variation within members of same family and which is inherited by maternal line or Mendelian inheritance is-
 - (1) LHON
 - (2) KSS
 - (3) Leigh syndrome
 - (4) MELAS
 - (5) Question not attempted
4. A 20-year-old lady undergoes lumbar puncture for evaluation of lower limb numbness and paraesthesias. Two days later, she complains of severe throbbing headache which worsens on sitting upright. What is the most appropriate management?
 - (1) Orthostatic training
 - (2) Administration of fludrocortisone
 - (3) Bed rest and hydration while awaiting spontaneous resolution
 - (4) Administration of IVIg
 - (5) Question not attempted
5. Glucose transporters are specialized molecules required for transport of glucose across blood brain barrier. Which of the following isoforms is found in high concentration on the cerebral blood vessels?
 - (1) GLUT 1
 - (2) GLUT 2
 - (3) GLUT 3
 - (4) GLUT 5
 - (5) Question not attempted
6. Reversible posterior leukoencephalopathy syndrome is characterised by the following MRI changes :
 - (1) Cytotoxic edema
 - (2) Vasogenic edema
 - (3) Mixture of cytotoxic and vasogenic edema
 - (4) Reperfusion injury
 - (5) Question not attempted
7. The following features are characteristic of normal pressure hydrocephalus except-
 - (1) Dilatation of temporal horns of lateral ventricles
 - (2) Disproportionately enlarged subarachnoid-space hydrocephalus
 - (3) Callosal angle of 100°
 - (4) Periventricular edema
 - (5) Question not attempted
8. In the case of Tuberous sclerosis, what drug can be effective in controlling the tumor associated with it?
 - (1) Vigabatrin
 - (2) Rapamycin
 - (3) Rufinamide
 - (4) None of these
 - (5) Question not attempted

9. A 35-year-old man presents with 2-month history of memory issues, seizures, agitation, dysphagia and dysarthria. He is investigated and MRI brain shows mesial temporal hyperintensities on FLAIR and T2-weighted sequences. The anti-Ma antibodies are positive. Which is the malignancy associated with these features ?
- (1) Small cell carcinoma of lung
 - (2) Germ cell tumor of testis
 - (3) Thymoma
 - (4) Hodgkin's lymphoma
 - (5) Question not attempted
10. A 30-year man presents with drooping of eyelids, blurring of vision, difficulty in swallowing and weakness of limbs developing over 12 hours. When brought to the ER he had respiratory distress and was intubated. He had consumed food at restaurant the day before and had vomiting at night. The most likely diagnostic possibility is-
- (1) Acute organophosphorus poisoning
 - (2) Acute inflammatory demyelinating polyneuropathy
 - (3) Acute botulism
 - (4) Acute brainstem infarct
 - (5) Question not attempted
11. A 40-year-old lady presents with gradually progressive fatiguable proximal upper limb weakness with facial, extraocular and bulbar weakness. She has poor respiratory effort and found to have tongue atrophy and fasciculations. Contrast enhanced CT thorax is unremarkable. RNST is positive. What is the most likely antibody responsible ?
- (1) Anti-acetylcholine receptor
 - (2) Anti-muscle specific tyrosine kinase
 - (3) Anti-ryanodine receptor
 - (4) Anti-titin
 - (5) Question not attempted
12. In a child suspected to have Duchenne muscular dystrophy, which genetic assay should be done initially ?
- (1) Multiplex ligand-dependent probe amplification
 - (2) Sanger sequencing
 - (3) Whole exome sequencing
 - (4) Whole genome sequencing
 - (5) Question not attempted
13. A 20-year-old man presents with proximal limb weakness since 6 years. He experiences pain and fatigue after walking or running some distance. He also notes improvement in ability to continue the exercise after an initial period of fatigue and difficulty, typically after 6-10 minutes. What is the possible diagnosis ?
- (1) Alpha-glucosidase deficiency
 - (2) Carnitine palmitoyl transferase deficiency
 - (3) Myophosphorylase deficiency
 - (4) Phosphofructokinase deficiency
 - (5) Question not attempted

14. What type of neuropathy is precipitated by initiation of treatment of a diabetic patient with insulin ?
- (1) Lumbosacral lumboplexopathy
 - (2) Painful neuropathy
 - (3) Cranial neuropathy
 - (4) Distal sensorimotor neuropathy
 - (5) Question not attempted
15. A 55-year-old man presents with numbness in feet, unsteadiness in walking, constipation and lightheadedness. Mother and brother died with similar symptoms and heart disease in their 60's. He had orthostatic hypotension. Fat pad biopsy showed birefringence with Congo red staining under polarized light and mutation in transthyretin gene was found. What is the most appropriate management ?
- (1) Prednisone
 - (2) Tafamidis
 - (3) Tacrolimus
 - (4) Azathioprine
 - (5) Question not attempted
16. A 40-year-old man presents with weakness of right wrist since 6 months progressing insidiously to involve the grip. Following examination and laboratory evaluation he is given pulse IV immunoglobulin with improvement in symptoms. What is the diagnosis of the patient ?
- (1) Hirayama disease
 - (2) MMN
 - (3) ALS
 - (4) Syringomyelia
 - (5) Question not attempted
17. The presence of reversible conduction failure in a patient with acute Guillain-Barre syndrome is associated with which of following ?
- (1) Antibodies against GM1/GalNAc-GD1a
 - (2) Antibodies against GQ1b
 - (3) Antibodies against GD1b
 - (4) Antibodies against GD1a
 - (5) Question not attempted
18. A middle aged woman presents with numbness of lower limbs and Urinary incontinence due to a spinal dural arteriovenous fistula. Which of the following statements regarding spinal dural arteriovenous fistulas is false ?
- (1) Cord edema often involves the conus.
 - (2) The location of enlarged vessels and cord signal abnormality specifically indicates the level of the fistula.
 - (3) Post-contrast imaging may reveal abnormal vessels not appreciated on T2-weighted imaging.
 - (4) Cord edema with enlarged perimedullary veins are typical.
 - (5) Question not attempted
19. A patient presents with episodic worsening of gait and is found to have Sprengel deformity, pyramidal signs in all limbs with ataxia. He is also noticed to have mirror movements of the hands. The most probable diagnosis is-
- (1) Conradi syndrome
 - (2) Klippel Feil syndrome
 - (3) Morquio syndrome
 - (4) Down syndrome
 - (5) Question not attempted

20. An 11-year-old boy with ataxia and splenomegaly without family history is found to have impaired vertical saccades. What is the possible diagnosis ?
- (1) Friedrichs ataxia
 - (2) Niemann Pick type C disease
 - (3) Cerebrotendinous xanthomatosis
 - (4) POLG ataxia
 - (5) Question not attempted
21. A middle aged woman presents to ER with acute onset ataxia and vertigo. On examination she is found to have nystagmus. What features will suggest a peripheral vestibular origin of the illness ?
- (1) Pure torsional jerk nystagmus
 - (2) Non-fatiguable nystagmus
 - (3) Nystagmus subsides with visual fixation
 - (4) Nystagmus provoked by head shaking
 - (5) Question not attempted
22. Which of the following autosomal dominant cerebellar ataxia are caused by a hexanucleotide repeat expansion ?
- (1) SCA 7
 - (2) SCA 10
 - (3) SCA 36
 - (4) DRPLA
 - (5) Question not attempted
23. A pregnant woman with recurrent uncontrolled vomiting is given intravenous 5% dextrose infusion. She is subsequently noted to develop diplopia, paresis of extraocular movements and lapses into altered sensorium. What should be the treatment given ?
- (1) Supplementation of copper
 - (2) Supplementation of thiamine
 - (3) Supplementation of pyridoxine
 - (4) Supplementation of nicotinic acid
 - (5) Question not attempted
24. A 75-year-old man presents with history of progressive gait dysfunction for 6 months, mild loss of memory of recent events and is found to have absent lower limb jerks, loss of vibration sense at ankles, Romberg test positive and gait ataxia. MRI brain and spine is normal. Which of the following is the more likely diagnosis ?
- (1) Chronic inflammatory demyelinating polyneuropathy
 - (2) Transverse myelitis
 - (3) Tabes dorsalis
 - (4) Subacute combined degeneration
 - (5) Question not attempted
25. The presentation as ADEM in MOG associated disease is most common in which of the following age groups ?
- (1) < 18 years
 - (2) 18-40 years
 - (3) 40-60 years
 - (4) > 60 years
 - (5) Question not attempted
26. A 40-year-old man, positive for HIV, presents with a week-long history of headache, malaise and altered mental status. MRI brain shows multiple small enhancing lesions over both hemispheres. Which of the following tests would be most appropriate for the rapid confirmation of cryptococcal meningitis ?
- (1) CSF India ink preparation
 - (2) Blood fungal culture
 - (3) CSF fungal culture
 - (4) CSF cryptococcal antigen
 - (5) Question not attempted

27. Which of the following statements is false regarding ocular findings in neurological infections ?

- (1) Neurosyphilis – pupillary light-near dissociation
- (2) Malaria – retinopathy
- (3) Cytomegalovirus – subretinal cysts
- (4) Cat scratch disease – macular star
- (5) Question not attempted

28. A patient, known PLHA, develops slowly progressive spastic paraparesis with impaired bladder control and sensory loss. Examination reveals pyramidal tract signs and loss of vibration and proprioception in lower limbs. MRI spine shows T2 hyperintensities diffusely in the posterior and lateral columns. The diagnostic possibilities include all except-

- (1) Enteroviral infections
- (2) Vacuolar myelopathy
- (3) Syphilitic myelopathy
- (4) Copper deficiency myelopathy
- (5) Question not attempted

29. Bilateral medial thalamic infarcts are seen due to the involvement of which vessel ?

- (1) Anterior choroidal artery
- (2) Medial lenticulostriate artery
- (3) Artery of Percheron
- (4) Posterior communicating artery
- (5) Question not attempted

30. A 26-year-old male nurse presented with 2-month history of intermittent headache over the vertex becoming continuous over a month. Headache intensity would increase through the day. Phonophobia was present and headache would transiently reduce with coffee and tramadol. Fundus examination was normal. Lumbar puncture was associated with significant increase in headache. Which of the features on MRI will suggest the diagnosis ?

- (1) Empty sella
- (2) Flattening of optic disc and chiasm
- (3) Absence of subdural hygroma
- (4) Tonsillar descent
- (5) Question not attempted

31. A 5-year-old girl presents with left focal motor seizures with evolution to bilateral tonic clonic seizures for 2 years. She had infantile spasms since 7 months of age. She had right facial nevus, mild weakness of the left side and was diagnosed as Sturge Weber syndrome. What radiological features will be seen ?

- (1) Right cerebellopontine angle tumor
- (2) Right parieto-occipital leptomeningeal enhancement
- (3) Subependymal hamartoma
- (4) Right parietal pachygyria
- (5) Question not attempted

32. A young man has a minor road traffic accident. Three days later he develops dizziness, unsteadiness and is found to have lateral medullary syndrome. He is initially started on anticoagulation and subsequently a self expanding stent is placed in the vertebral artery. Which of the following is not an indication for this procedure in the clinical context ?
- (1) Ongoing ischemic events
 - (2) Static neurologic deficits
 - (3) Enlarging pseudoaneurysms
 - (4) Contraindication to anticoagulation
 - (5) Question not attempted
33. A 56-year-old gentleman with right hemiparesis is found to have 80% stenosis of the left internal carotid artery and is advised to undergo revascularization procedure. As per the CREST study, which of the following has an increased risk of periprocedural stroke ?
- (1) Carotid stenting
 - (2) Carotid endarterectomy
 - (3) Catheter angiography
 - (4) Coronary stenting
 - (5) Question not attempted
34. The changes on transcranial Doppler with gradual increase in intracranial pressure to cerebral circulatory arrest are given below. Arrange the order sequentially.
- a. Spiky systolic peaks
 - b. Increase difference between peak systolic and end diastolic velocities
 - c. Absence of systolic signal
 - d. Reverberating flow pattern
- (1) a b c d
 - (2) b d a c
 - (3) c b a d
 - (4) b a d c
 - (5) Question not attempted
35. Which of the following features on [^{18}F] FDG PET studies done in a patient with dementia will suggest diagnosis of dementia with Lewy bodies and distinguish it from Alzheimer's disease ?
- (1) Hypometabolism of temporal cortex and posterior cingulate gyrus
 - (2) Hypometabolism of parietal cortex and precuneus with sparing of basal ganglia
 - (3) Hypometabolism of occipital cortex with sparing of posterior cingulate gyrus
 - (4) Hypometabolism of mesiotemporal temporal cortex with sparing of posterior cingulate gyrus
 - (5) Question not attempted
36. Which of the following abnormality is seen in the EEG of a case of rapidly progressive dementia and myoclonus in an elderly patient ?
- (1) Electrographic seizure over the bitemporal regions
 - (2) 1-Hz short interval periodic discharges
 - (3) Triphasic waves
 - (4) Long interval periodic discharges
 - (5) Question not attempted
37. In a patient with MTLE, which of the following interictal and ictal findings do not support a mesial temporal source ?
- a. Spikes with maximum positivity at F7/F8
 - b. Spikes with phase reversal at T1/T2
 - c. Temporal intermittent polymorphic delta activity
 - d. Rhythmic 5-7Hz ictal pattern over subtemporal regions
- (1) a and b
 - (2) a and c
 - (3) b and c
 - (4) c and d
 - (5) Question not attempted

38. Amongst the below mentioned epilepsies, which has the highest prevalence of photoparoxysmal response ?
- (1) Idiopathic generalized epilepsy
 - (2) Juvenile myoclonic epilepsy
 - (3) Progressive myoclonic epilepsy
 - (4) Focal epilepsy
 - (5) Question not attempted
39. A young man presents with weakness and wasting of right hand after a fall. Which of the following electrophysiological findings will indicate involvement of the lateral cord of the brachial plexus ?
- (1) Absent ulnar SNAP, Absent ulnar CMAP
 - (2) Absent median SNAP, Present median CMAP
 - (3) Absent ulnar SNAP, Present ulnar CMAP
 - (4) Absent median SNAP, Absent median CMAP
 - (5) Question not attempted
40. The test which provides faster and accurate detection of isoniazid and rifampicin resistance in which of the following ?
- (1) BACTEC culture sensitivity
 - (2) Xpert MTB/RIF assay
 - (3) Xpert MTB/RIF Ultra assay
 - (4) Hain test
 - (5) Question not attempted
41. The gold standard for a diagnosis of CNS vasculitis is-
- (1) CSF showing increased proteins and lymphocytic pleocytosis
 - (2) MRI brain with contrast
 - (3) Cerebral DSA
 - (4) Brain biopsy
 - (5) Question not attempted
42. On immunohistochemistry of brain tissue, which of the following is the primary molecular marker for astrocytes ?
- (1) Neurofilament
 - (2) GFAP
 - (3) EMA
 - (4) NeuN
 - (5) Question not attempted
43. Which of the following molecular diagnostic biomarker is associated with primary CNS lymphoma ?
- (1) MYD88 p.L265P
 - (2) BRAF p.V600E
 - (3) IDH1 / IDH2
 - (4) EGFR
 - (5) Question not attempted
44. The ability to perceive the expressions and emotional state of other persons and hence modulate actions is subserved by following network-
- (1) Medial temporal lobe network
 - (2) Salience network
 - (3) Dorsomedial prefrontal cortex network
 - (4) Central executive network
 - (5) Question not attempted
45. A patient with gait imbalance is found to have a fine high frequency nystagmus on looking to the left and a coarse low frequency nystagmus on looking to the right. Where do you think is the pathological lesion ?
- (1) Inferior cerebellar vermis
 - (2) Cerebellar hemispheres
 - (3) Cerebellopontine angle
 - (4) Cervicomedullary junction
 - (5) Question not attempted

46. The optokinetic nystagmus is helpful clinical test in certain situations. Which of the following statement is incorrect ?
- (1) Presence of OKN in a person claiming to be blind suggests a functional cause
 - (2) Absence of OKN in hemianopia suggests an isolated occipital lesion
 - (3) Optokinetic stimulus can elicit convergence retraction nystagmus in Parinauds syndrome
 - (4) Optokinetic stimulus can reveal subtle internuclear ophthalmoparesis
 - (5) Question not attempted
47. The presence of an intramedullary spinal cord lesion is indicated by-
- (1) Weakness starting from both lower limbs
 - (2) Absence of bladder involvement
 - (3) Preserved sensation in perineal region
 - (4) Pain radiating to limb
 - (5) Question not attempted
48. A 40-year-old farmer presents with tingling and pain along lateral aspect of forearm and hand whenever he lifts some heavy object. Which of the following examination findings suggest possibility of C6 radiculopathy and not carpal tunnel syndrome ?
- (1) Phalen's sign positive at wrist
 - (2) Weakness of pronator teres
 - (3) Absent triceps jerk
 - (4) Sensory loss over lateral hand and first 2 digits
 - (5) Question not attempted
49. A 65-year-old man develops slowly progressive weakness of proximal lower limb and also develops difficulty in deglutition after few months of onset. Which of the following symptoms suggest a diagnosis of inclusion body myositis ?
- (1) Asymmetrical weakness of forearm flexors
 - (2) Asymmetrical weakness of dorsiflexors of ankle
 - (3) Drooping of eyelids
 - (4) Symmetrical weakness of quadriceps
 - (5) Question not attempted
50. A patient is suspected to have a carotid-cavernous fistula after head trauma. Which clinical examination finding will indicate the possibility ?
- (1) Presence of CSF rhinorrhea
 - (2) Presence of headache
 - (3) Presence of neck stiffness
 - (4) Presence of cranial bruit
 - (5) Question not attempted
51. A known case of rheumatic heart disease presents with stroke. Which of the following distinguishing features suggests right carotid artery syndrome ?
- (1) Clumsiness of left upper limb + right homonymous hemianopia
 - (2) Clumsiness of left upper limb + transient right eye visual loss
 - (3) Clumsiness of left upper limb + diplopia
 - (4) Clumsiness of left upper limb + left eye ptosis
 - (5) Question not attempted

52. Ondine curse is due to-
- (1) Lesion in ventrolateral high cervical cord
 - (2) Lesion in lateral tegmentum of lower pons
 - (3) Lesion in dorsomedial medulla
 - (4) Lesion in medial tegmentum of pons
 - (5) Question not attempted
53. A middle aged right handed man presented after a stroke with complaints of left upper involuntarily trying to remove his clothes when he was attempting to dress-up using right upper limb. A stroke involving what structure can explain this phenomenon ?
- (1) Supplementary motor area
 - (2) Anterior cingulate cortex
 - (3) Anterior corpus callosum
 - (4) Posterior parietal cortex
 - (5) Question not attempted
54. A patient presents with ophthalmoparesis of left eye. Which of the following clinical features will not suggest superior orbital fissure syndrome ?
- (1) Anhidrosis
 - (2) Horner's syndrome
 - (3) Sensory loss in ophthalmic cutaneous distribution
 - (4) Blindness
 - (5) Question not attempted
55. A patient after a gunshot injury at elbow develops wrist drop with lateral deviation of wrist. He has sparing of brachioradialis preserved triceps jerk and normal sensation on extensor aspect of forearm and hand. Which is the most likely nerve involved ?
- (1) Radial nerve at spiral groove
 - (2) Radial nerve below spiral groove
 - (3) Superficial branch of radial nerve
 - (4) Posterior interosseous nerve
 - (5) Question not attempted
56. The possible sites of spinal cord infarction causing paraplegia after prolonged hypotension is least likely to be-
- (1) Posterolateral surface of the cord
 - (2) Longitudinally from T4 to T6
 - (3) Longitudinally at L1
 - (4) Paracentral anterolateral white matter
 - (5) Question not attempted
57. A 60-year-old man presents with difficulty in mastication, facial paresis, dysarthria and dysphagia with mild right upper limb weakness. MRI brain shows an infarct in a part of the left internal capsule. Based on the clinical involvement, which of the following arteries may be involved ?
- (1) Branches of left ACA
 - (2) Branches of left ACA + MCA
 - (3) Branches of left ICA + ACA + MCA
 - (4) Branches of left ACA + PCA
 - (5) Question not attempted

58. A 35-year-old lady presented with episodic hemicranial headache since 15 years of age. She has noted preceding symptom of yawning and difficulty in concentrating before the headache. She also noted that consuming chocolates was followed by headache. What is the neurobiologic substrate which will best explain for the symptoms preceding headache ?
- (1) Anterior cingulate cortex
 - (2) Amygdala
 - (3) Hypothalamus
 - (4) Brainstem
 - (5) Question not attempted
59. A 27-year-old woman is involved in a motor vehicle crash. She reports eye and neck pain. On examination, she has ptosis and miosis. What is the most likely diagnosis ?
- (1) Cavernous sinus thrombosis
 - (2) Carotid dissection
 - (3) Frontal lobe contusion
 - (4) Hypothalamic haematoma
 - (5) Question not attempted
60. Subacute sclerosing panencephalitis is the name for a chronic infection with which of the following viruses ?
- (1) Measles virus
 - (2) Mumps virus
 - (3) Rubella virus
 - (4) Varicella virus
 - (5) Question not attempted
61. After undergoing bariatric surgery, a 40-year-old woman develops myelopathy. You suspect a vitamin deficiency. Which of the following vitamins is least likely to be the culprit ?
- (1) Copper
 - (2) Vitamin A
 - (3) Vitamin B₁₂
 - (4) Vitamin E
 - (5) Question not attempted
62. A 30-year-old patient presents with difficulty in sleeping due to an uncomfortable feeling in her legs. The feeling makes her want to move her legs and is worse in the evening. Which of the following laboratory tests should be performed ?
- (1) Vitamin B₁₂ level
 - (2) Ferritin level
 - (3) Folate level
 - (4) Hemoglobin electrophoresis
 - (5) Question not attempted
63. Which of the following is not a non-REM sleep disorder ?
- (1) Confusional arousals
 - (2) Sleepwalking
 - (3) Sleep terrors
 - (4) Recurrent isolated sleep paralysis
 - (5) Question not attempted
64. Which of the following genes is involved in familial amyotrophic lateral sclerosis ?
- (1) Androgen receptor gene
 - (2) Dystrophin gene
 - (3) Calpain 3 gene
 - (4) Superoxide dismutase 1 gene
 - (5) Question not attempted
65. An 11-year-old boy is brought to the clinic because of difficulties in school. The teacher thinks he has autism. His mother states that she was diagnosed with a learning disability. The family history is remarkable for a maternal grandfather with intention tremor and gait unsteadiness. On examination, the boy has a long face and protuberant ears. What is the diagnosis ?
- (1) Fragile X syndrome
 - (2) Klinefelter syndrome
 - (3) 47,XYY syndrome
 - (4) Sotos syndrome
 - (5) Question not attempted

66. An infant with a submucosal cleft palate, hypotonia and Tetralogy of Fallot develops seizures. Laboratory studies show hypocalcemia. Which diagnosis is most likely ?
- (1) Trisomy 21
 - (2) DiGeorge syndrome
 - (3) Prader-Willi syndrome
 - (4) Congenital myotonic dystrophy
 - (5) Question not attempted
67. Which of the following is not usually a side effect of lithium ?
- (1) Hypokalemia
 - (2) Polyuria
 - (3) Hypothyroidism
 - (4) Weight loss
 - (5) Question not attempted
68. Which of the following medications has been approved for treatment of dementia in PD ?
- (1) Memantine
 - (2) Pramipexole
 - (3) Risperidone
 - (4) Rivastigmine
 - (5) Question not attempted
69. Which of the following is preferred for short-term treatment of tardive dyskinesia symptoms ?
- (1) Botulinum toxin
 - (2) Bromocriptine
 - (3) Clonazepam
 - (4) Galantamine
 - (5) Question not attempted
70. The wife of a man with PD complains that her husband has developed a gambling addiction. Which of the following medications is likely responsible ?
- (1) Selegiline
 - (2) Entacapone
 - (3) Ropinirole
 - (4) Amantadine
 - (5) Question not attempted
71. Which Selective Serotonin Reuptake Inhibitor (SSRI) has a short half-life, increasing the risk for a withdrawal syndrome ?
- (1) Citalopram
 - (2) Fluoxetine
 - (3) Paroxetine
 - (4) Sertraline
 - (5) Question not attempted
72. Which of the following is not required for the diagnosis of Tourette syndrome ?
- (1) Onset before age 18 years
 - (2) Coprolalia
 - (3) Duration of at least 1 year
 - (4) At least one vocal tic
 - (5) Question not attempted
73. According to the American Academy of Neurology guideline regarding treatment of painful diabetic neuropathy, which medication has the strongest evidence ?
- (1) Amitriptyline
 - (2) Capsaicin
 - (3) Gabapentin
 - (4) Pregabalin
 - (5) Question not attempted
74. A 45-year-old man presents with recurrent headache when he coughs. He has sudden, bilateral head pain when he coughs, lasting for a few seconds. He does not have any other types of headaches. What is the most effective treatment ?
- (1) Antitussives
 - (2) Indomethacin
 - (3) Naproxen
 - (4) Verapamil
 - (5) Question not attempted

75. A 75-year-old woman presents with confusion. Her laboratory studies show hyponatremia. Which of the following medications is most likely to cause this condition ?
- (1) Oxcarbazepine
 - (2) Lacosamide
 - (3) Clobazam
 - (4) Phenytoin
 - (5) Question not attempted
76. A 30-year-old man presents to the emergency department with severe, stabbing pain above his right eye. He reports that this has happened several times before. Alcohol seems to be a trigger. He has headaches several days in a row and then they recur about 2 months later. Often they wake him from sleep. On examination he has ptosis, conjunctival injection, and rhinorrhea ipsilateral to his pain. He appears restless and he reports that his pain is worse when he lies down. Which of the following is the best treatment option ?
- (1) Indomethacin
 - (2) Oxygen via a nonrebreather
 - (3) Prednisone
 - (4) Caffeine
 - (5) Question not attempted
77. A 30-year-old woman presents in generalized status epilepticus. Which of the following medications should be administered intravenously first ?
- (1) Diazepam
 - (2) Fosphenytoin
 - (3) Levetiracetam
 - (4) Lorazepam
 - (5) Question not attempted
78. What is the mechanism of action of sumatriptan ?
- (1) It is a 5-HT_{1A} receptor antagonist.
 - (2) It is a 5-HT_{1D} receptor agonist.
 - (3) It is a 5-HT_{2A/2C} receptor antagonist.
 - (4) It is a 5-HT₃ agonist.
 - (5) Question not attempted
79. Elementary auditory seizures, such as a humming or buzzing sound, arise from which area ?
- (1) Frontal lobe
 - (2) Mesial temporal lobe
 - (3) Lateral temporal lobe
 - (4) Parietal lobe
 - (5) Question not attempted
80. Which of the following is more typical of migraine without aura than of migraine with aura ?
- (1) Cortical spreading depression
 - (2) A relationship to the menstrual cycle
 - (3) Increased risk for ischemic stroke
 - (4) Visual changes
 - (5) Question not attempted
81. A 2-year-old boy presents with daily seizures. He started having seizures at 8 months of age. He has had status epilepticus on three occasions. Two of those episodes occurred with fever. In one episode, the seizure activity was primarily left-sided; the other two times, it was primarily right-sided. He also has a history of myoclonic jerks and head drops. Interictal EEG shows mild diffuse background slowing a photoparoxysmal response, and generalized 3-Hz spike and wave discharges. What is the most likely diagnosis ?
- (1) Dravet syndrome
 - (2) Lennox-Gastaut syndrome
 - (3) Early infantile epileptic encephalopathy
 - (4) Early myoclonic encephalopathy
 - (5) Question not attempted

82. A patient presents with limbic encephalitis and neuromyotonia. Morvan syndrome is suspected. Which of the following conditions is most closely associated with Morvan syndrome ?
- (1) Breast cancer
 - (2) Malignant thymoma
 - (3) Small cell lung cancer
 - (4) Thyroid carcinoma
 - (5) Question not attempted
83. Patients with myasthenia gravis with which of these antibodies often have a thymoma ?
- (1) Anti-striated muscle antibodies
 - (2) Anti-GQ1b antibodies
 - (3) Anti-MAG antibodies
 - (4) Anti-Hu antibodies
 - (5) Question not attempted
84. A 70-year-old woman presents with chronic severe headache, weight loss, anemia and aching shoulders. Which test should be performed first ?
- (1) Erythrocyte Sedimentation Rate (ESR)
 - (2) Thyroid-stimulating hormone
 - (3) Liver function tests
 - (4) Reticulocyte count
 - (5) Question not attempted
85. Which of the following cells are cytotoxic and kill cells infected with viruses ?
- (1) CD4+ T cells
 - (2) CD8+ T cells
 - (3) Gemistocytes
 - (4) Natural killer cells
 - (5) Question not attempted
86. Thiopurine methyltransferase levels are checked before NMOSD is treated with which agent ?
- (1) Aquaporin
 - (2) Azathioprine
 - (3) Mycophenolate mofetil
 - (4) Tocilizumab
 - (5) Question not attempted
87. Which of the following chemicals causes retinal ganglion cell degeneration and necrosis of the putamina ?
- (1) Ethylene glycol
 - (2) Hexane
 - (3) Methanol
 - (4) Trichloroethylene
 - (5) Question not attempted
88. Where is the target for NMO- IgG ?
- (1) On astrocytes
 - (2) On oligodendrocytes
 - (3) On ependymal cells
 - (4) On the myelin sheath
 - (5) Question not attempted
89. Which of the following is the most likely presentation of lead toxicity in adults ?
- (1) Insomnia
 - (2) Paresthesias
 - (3) Tremor
 - (4) Wrist drop
 - (5) Question not attempted

90. What is the mechanism of action of natalizumab ?

- (1) It is a sphingosine-1-phosphate receptor agonist.
- (2) It interferes with the interaction between very late antigen-4 and vascular endothelial adhesion molecule-1.
- (3) It is an antibody to CD20.
- (4) It inhibits dihydro-orotate dehydrogenase
- (5) Question not attempted

91. A mother brings her 3-year-old child for evaluation because of change in personality and lethargy. The physical examination is remarkable for a line around the gum margins. Laboratory studies show a microcytic anemia. Radiographic studies show opaque bands at the metaphysis of the lower femur and upper tibia. Which of the following is most likely responsible ?

- (1) Arsenic poisoning
- (2) Cadmium exposure
- (3) Lead toxicity
- (4) Mercury poisoning
- (5) Question not attempted

92. Which of the following medications is associated with cardiac arrhythmias, elevated liver enzymes, macular edema, skin cancer and herpes virus infections ?

- (1) Cyclophosphamide
- (2) Fingolimod
- (3) Rituximab
- (4) Mitoxantrone
- (5) Question not attempted

93. On EEG, patients with which of the following conditions may have prolonged slowing with hyperventilation ?

- (1) Hypocalcemia
- (2) Hypoglycemia
- (3) Hyponatremia
- (4) Hypomagnesemia
- (5) Question not attempted

94. Which treatment for MS is safest during pregnancy ?

- (1) Fingolimod
- (2) Glatiramer acetate
- (3) Dalfampridine
- (4) Natalizumab
- (5) Question not attempted

95. A patient presents with acute leg weakness and decreased deep tendon reflexes. Conduction velocities are slow and a demyelinating polyneuropathy is suspected. Which of the following differentiates acquired demyelinating polyneuropathy from hereditary demyelinating neuropathies ?

- (1) Prolonged distal latencies
- (2) Prolonged F waves
- (3) Slow conduction velocities
- (4) Conduction block
- (5) Question not attempted

96. Which of the following is the most specific characteristic of an active MS plaque ?

- (1) Macrophages containing myelin debris
- (2) Astrocytic fibrillary gliosis
- (3) Almost no oligodendrocytes
- (4) Sharp margins on gross specimens
- (5) Question not attempted

97. A child is diagnosed with Guillain-Barre syndrome/ acute inflammatory demyelinating polyradiculopathy (AIDP). Which of the following is not expected on EMG/NCS ?
- (1) Early involvement of the sural nerve sensory action potential
 - (2) Prolonged F waves
 - (3) Slowed conduction velocities
 - (4) Prolonged distal latencies
 - (5) Question not attempted
98. Which sleep disorder is characteristic of older adults with dementia ?
- (1) Delayed sleep phase syndrome
 - (2) Irregular sleep-wake rhythm disorder
 - (3) Restless leg syndrome
 - (4) Short sleeper
 - (5) Question not attempted
99. Which of the following nerve types conducts the fastest ?
- (1) A large myelinated nerve
 - (2) A small myelinated nerve
 - (3) A large unmyelinated nerve
 - (4) A small unmyelinated nerve
 - (5) Question not attempted
100. In patients with AD, choline acetyltransferase is decreased in which structure ?
- (1) Basalis nucleus of Meynert
 - (2) Raphe nuclei
 - (3) Nucleus accumbens
 - (4) Locus ceruleus
 - (5) Question not attempted
101. Which disease is characterized by alpha-synuclein immunopositive glial intracytoplasmic inclusions found in oligodendrocytes ?
- (1) Corticobasal degeneration
 - (2) Multiple system atrophy (MSA)
 - (3) Frontotemporal dementia
 - (4) Progressive multifocal leukoencephalopathy
 - (5) Question not attempted
102. A college professor is concerned that he may have early AD. What is the most helpful evaluation ?
- (1) Clinical Dementia Rating scale
 - (2) Mini-Mental State Examination (MMSE)
 - (3) Montreal Cognitive Assessment
 - (4) Neuropsychological testing
 - (5) Question not attempted
103. Which of the following is not an early finding in Alzheimer disease (AD) ?
- (1) Episodic memory loss
 - (2) Rapid forgetting
 - (3) Difficulty managing finances
 - (4) Impaired procedural memory
 - (5) Question not attempted
104. Which of the following is the major component of neurofibrillary tangles ?
- (1) Hyperphosphorylated tau protein
 - (2) Neurofilament protein
 - (3) Ubiquitin
 - (4) Amyloid
 - (5) Question not attempted

105. A 30-year-old woman suffers a carotid dissection. An angiogram shows a "string of beads" formation. Which of the following is the most likely diagnosis ?
- (1) Ehlers-Danlos syndrome
 - (2) Fibromuscular dysplasia
 - (3) Marfan syndrome
 - (4) Moyamoya disease
 - (5) Question not attempted
106. In the retina, which cells receive impulses directly from the photoreceptors ?
- (1) Amacrine cells
 - (2) Bipolar cells
 - (3) Ganglion cells
 - (4) Horizontal cells
 - (5) Question not attempted
107. Which of the following is not a risk factor for aneurismal subarachnoid haemorrhage ?
- (1) Aneurysm more than 7 mm in size
 - (2) Pregnancy and delivery
 - (3) Significant life event in the past month
 - (4) Smoking
 - (5) Question not attempted
108. Which of the following is the most common pituitary lesion ?
- (1) Pituitary adenoma
 - (2) Pituitary carcinoma
 - (3) Lymphocytic hypophysitis
 - (4) Metastasis
 - (5) Question not attempted
109. Which of the following causes acquired antithrombin deficiency ?
- (1) Asparaginase
 - (2) Cyclophosphamide
 - (3) 5-Fluorouracil
 - (4) Methotrexate
 - (5) Question not attempted
110. A 42-year-old man presents with ptosis on the left, numbness of his left face and right arm and leg, vomiting, vertigo, and falling to the right. Occlusion of which artery is most likely responsible ?
- (1) Vertebral artery
 - (2) Anterior inferior cerebellar artery
 - (3) Superior cerebellar artery
 - (4) Posterior cerebral artery
 - (5) Question not attempted
111. A patient with suspected autonomic dysfunction performing the Valsalva maneuver does not demonstrate the normal increase in blood pressure during phase 4. What does this finding suggest ?
- (1) Orthostatic hypotension
 - (2) Parkinson disease
 - (3) Parasympathetic dysfunction
 - (4) Sympathetic dysfunction
 - (5) Question not attempted
112. What is the most common pineal tumor ?
- (1) Germinoma
 - (2) Pineoblastoma
 - (3) Pineocytoma
 - (4) Astrocytoma
 - (5) Question not attempted

113. Which of the following is an infiltrating malignant glial tumor that spreads to involve multiple areas of the brain but does not have a clear epicenter ?
- (1) Astroblastoma
 - (2) Chordoid glioma
 - (3) Gliomatosis cerebri
 - (4) Glioblastoma multiforme
 - (5) Question not attempted
114. Which of the following is least likely to be the cause of an intraventricular tumor ?
- (1) Subependymal giant cell astrocytoma
 - (2) Central neurocytoma
 - (3) Subependymoma
 - (4) Paraganglioma
 - (5) Question not attempted
115. What is Cushing's triad ?
- (1) Hypotension, bradycardia, apnea
 - (2) Hypertension, tachycardia, apnea
 - (3) Hypotension, tachycardia, tachypnea
 - (4) Hypertension (widened pulse pressure), bradycardia and irregular respirations
 - (5) Question not attempted
116. Which of the following cells are most susceptible to hypoxic-ischemic injury ?
- (1) Astrocytes
 - (2) Hippocampal pyramidal cells of Sommer's sector (CA1)
 - (3) Neurons of cortical layers III, V and VI
 - (4) Oligodendrocytes
 - (5) Question not attempted
117. The electroencephalogram (EEG) finding of 14- and 6-Hz positive spikes is classically associated with which condition ?
- (1) Benzodiazepine intoxication
 - (2) Cardiac arrest
 - (3) Renal failure
 - (4) Reye syndrome
 - (5) Question not attempted
118. A 55-year-old man presents with vertigo when he sits up in the morning every morning for the past 2 weeks. He feels better when he lies down. The events last about 30 seconds. He has no hearing loss. His neurological examination is normal. The Dix-Hallpike maneuver is negative. Which treatment should be offered ?
- (1) Canalith repositioning procedure
 - (2) Meclizine
 - (3) Prednisone
 - (4) Scopolamine
 - (5) Question not attempted
119. A 67-year-old man with a history of prostate cancer presents to the emergency department with lower back pain and leg weakness. MRI shows spinal metastases. What is the first step ?
- (1) Administer high-dose dexamethasone.
 - (2) Arrange for spinal radiation therapy.
 - (3) Make arrangements for surgery.
 - (4) Order a CT myelogram.
 - (5) Question not attempted

120. Which structure carries auditory information from the superior olivary complex to the inferior colliculus ?

- (1) Cochlear nuclei
- (2) Lateral lemniscus
- (3) Medial lemniscus
- (4) Medial geniculate nucleus
- (5) Question not attempted

121. Which of the following treatments for elevated ICP is reserved primarily for acute treatment ?

- (1) Hyperventilation
- (2) Mannitol
- (3) Hypertonic saline
- (4) Hypothermia
- (5) Question not attempted

122. A patient with a port-wine stain involving the first division of the trigeminal nerve develops seizures. Head computed tomography shows dystrophic calcification. Which of the following is most likely to occur in this condition ?

- (1) Cataract
- (2) Coloboma
- (3) Glaucoma
- (4) Optic nerve hypoplasia
- (5) Question not attempted

123. A patient is non-responsive and has pinpoint pupils in midposition that do not move with the doll's eye maneuver. Where is the lesion ?

- (1) Thalamus
- (2) Midbrain
- (3) Pons
- (4) Medulla
- (5) Question not attempted

124. A 50-year-old man presents with decreased vision in the left eye. On examination, he also has decreased colour vision in the left eye. He has optic nerve edema on the right. He also has decreased olfaction. What is the most likely diagnosis ?

- (1) Anterior ischemic optic neuropathy
- (2) Leber hereditary optic neuropathy
- (3) Olfactory groove meningioma
- (4) Optic neuritis
- (5) Question not attempted

125. A child with a history of infantile spasms is found to have chorioretinal lacunae. Which of the following is most likely to occur in this condition ?

- (1) Deafness
- (2) Glaucoma
- (3) Agenesis of the corpus callosum
- (4) Periventricular nodular heterotopias
- (5) Question not attempted

126. Which of the following muscles is not innervated by the oculomotor nerve ?

- (1) Ciliary muscle
- (2) Iris sphincter
- (3) Muller's muscle
- (4) Superior rectus
- (5) Question not attempted

127. All of the following studies indicate that multiple sclerosis is under some genetic control except-

- (1) GWAS studies
- (2) Variations of HLA genes in MHC
- (3) Monozygotic twin studies
- (4) Sanger sequencing
- (5) Question not attempted

128. Appropriately match the stages of disease prevention with the stage of the disease.

List-1

List-2

- | | |
|--------------|--|
| a. Primary | i. From clinical symptoms to promoting remission |
| b. Secondary | ii. From pathological onset to clinical symptoms |
| c. Tertiary | iii. Upto pathological onset of the disease |
| | iv. Preventing further relapse and deaths |

- | | | | |
|-----|------------------------|-----|----|
| | a | b | c |
| (1) | iii | i | ii |
| (2) | ii | iii | iv |
| (3) | iii | ii | i |
| (4) | ii | i | iv |
| (5) | Question not attempted | | |

129. In studies involving CNS transplantation of stem cells or genetically engineered cells, which of the factors that influence graft survival is true ?

- (1) Transplant grafts in CNS have shorter survival time than peripheral grafts.
- (2) Periventricular location of graft is most susceptible to survival.
- (3) Host immunosuppression is not needed as CNS is immune privileged site.
- (4) Neural stem cells inhibit T cell apoptosis.
- (5) Question not attempted

130. Patients with dementia show variation in severity of cognitive impairment that does not correspond to brain damage. Which one of the following statements is true for the concept of reserve ?

- (1) Cognitive reserve is a passive entity.
- (2) Brain reserve is not predetermined and modifiable.
- (3) High education levels are associated with lower cognitive performance.
- (4) Patients with higher cognitive reserve have higher burden of disease pathology.
- (5) Question not attempted

131. In a patient with cerebrovascular accident, the use of a 10-degree prism will help with which of the deficits given below ?

- (1) Hemianopia
- (2) Hemineglect
- (3) Agraphia
- (4) Visual agnosia
- (5) Question not attempted

132. A middle aged lady presents with pulsatile tinnitus without symptoms of raised intracranial pressure. She is found to have dural arteriovenous fistula. Which of the following indicates a good outcome ?

- (1) Presence of lower cranial nerve palsies
- (2) Retrograde flow into cortical veins on DSA
- (3) Fundus showing optic disc venous pulsations
- (4) Presence of venous ectasia
- (5) Question not attempted

133. A patient presents with the 'worst headache of life'. He is evaluated and it is decided that an endovascular procedure should be done. What is the ideal time for the procedure to achieve best outcome ?

- (1) < 24 hours
- (2) > 24 hours but < 2 weeks
- (3) > 2 weeks but < 30 days
- (4) > 30 days
- (5) Question not attempted

134. Transcranial magnetic stimulation in a PD patient with mirror movements will show-

- (1) Stimulation produces prolonged silent period
- (2) Stimulation produces increased interhemispheric inhibition
- (3) Stimulation produces bilateral motor evoked potential
- (4) Stimulation produces surround inhibition
- (5) Question not attempted

135. GPi DBS in PD patients has the following benefit compared to STN DBS-

- (1) Allows greater reduction in dopaminergic medications
- (2) Has higher risk of neuropsychiatric changes
- (3) Is better for suppression of dyskinesia
- (4) Higher benefit in medication off state
- (5) Question not attempted

136. Which of the following medications is absolutely contraindicated in a patient with dementia with Lewy bodies ?

- (1) Citalopram
- (2) Haloperidol
- (3) Levodopa
- (4) Rivastigmine
- (5) Question not attempted

137. The following neurodegenerative disorders are alpha synucleinopathies except-

- (1) Corticobasal degeneration
- (2) Parkinson disease
- (3) Multiple system atrophy
- (4) Diffuse Lewy body disease
- (5) Question not attempted

138. Which of the following statements best describes variant Jakob-Creutzfeldt disease ?

- (1) 70-year-old with cognitive decline and cortical ribboning
- (2) 25-year-old with initial psychiatric features and pulvinar sign
- (3) 75-year-old with initial psychiatric features, ataxia and cortical ribboning
- (4) 30-year-old with familial psychiatric features and cognitive decline and thalamic hyperintensity
- (5) Question not attempted

139. The following biomarker has the highest specificity for sporadic Jakob-Creutzfeldt disease :

- (1) EEG
- (2) CSF 14-3-3 protein by western blot
- (3) Nasal RT-QulC
- (4) CSF RT-QulC
- (5) Question not attempted

140. An unknown person is brought to the emergency with head injury. After initial management in the ICU, he is found to have absent brainstem signs. Some of the associated findings noted are given below. Under which circumstances, can the medical board proceed with apnea test for brain death certification ?

- a. Found to have high blood alcohol content
- b. Found to have temperature of 38 °C
- c. Found to have serum sodium of 138 meq/L
- d. Found to have systolic BP < 90mm Hg

- (1) a + b
- (2) b + c
- (3) c + d
- (4) b + d
- (5) Question not attempted

141. The region responsible for complex cognitive and socially appropriate behaviour with respect to voiding is-

- (1) Posterior cingulate gyrus
- (2) Medial prefrontal cortex
- (3) Dorsolateral frontal cortex
- (4) Hypothalamus
- (5) Question not attempted

142. A patient with difficulty in walking and bladder symptoms undergoes an ultrasound and is found to have hydronephros and trabeculated bladder. The most likely location of lesion responsible for bladder dysfunction will be-

- (1) Frontal cortex/subcortical connections
- (2) Infrapontine suprasacral location
- (3) Cauda equina location
- (4) Sacral plexus
- (5) Question not attempted

143. An elderly gentleman complains of difficulty in standing still as he experiences unsteadiness though he does not fall. Symptoms are relieved by walking or sitting. Tremorogram shows a 16 Hz tremor of trunk and legs. What is the management ?

- (1) Beta blockers
- (2) Primidone
- (3) Trihexiphenydl
- (4) Clonazepam
- (5) Question not attempted

144. The combination of truncal gait ataxia and truncal tremor with titubation will be associated with which of the following conditions ?

- (1) Vermian involvement
- (2) PICA territory involvement
- (3) Anterior lobe cerebellar involvement
- (4) Flocculonodular lobe involvement
- (5) Question not attempted

145. A 45-year-old man presents with progressive spastic paraparesis over 3 years. Which of the following features will favour the diagnosis of tropical spastic paraparesis ?

- (1) Painful sensory neuropathy
- (2) Spasticity in upper limbs
- (3) Bulbar dysfunction
- (4) Fasciculations in limbs
- (5) Question not attempted

146. The CSF findings that suggest measles inclusion body encephalitis are-

- (1) Normal protein with no measles viral antibodies
- (2) Elevated protein with no measles viral antibodies
- (3) Normal protein with high titres of measles viral antibodies
- (4) Increased proteins with high titres of measles viral antibodies
- (5) Question not attempted

147. A patient presents with high grade fever followed by maculopapular rash and polyarthralgias. After a few days he developed paraparesis. Laboratory investigations suggest Chikungunya infection. Which of the following neurological causes are unlikely diagnosis ?

- (1) Guillain-Barre syndrome
- (2) Hypokalemic periodic paralysis
- (3) Myelitis
- (4) Myasthenic crisis
- (5) Question not attempted

148. A middle-aged man presents with right focal to bilateral tonic clonic seizure for which he is investigated. Contrast CT head shows a solitary ring enhancing lesion. Patient is diagnosed to have neurocysticercosis and given steroids and albendazole. On 4th day, patient collapses and is found to have acute hydrocephalus. What is the possible cause ?

- (1) Sellar NCC
- (2) Intraventricular NCC
- (3) Intraspinal NCC
- (4) Multiple parenchymal NCC
- (5) Question not attempted

149. The Spatula test is positive in which of the following conditions ?

- (1) Pharyngeal diphtheria
- (2) Strychnine poisoning
- (3) Tetanus
- (4) Rabies
- (5) Question not attempted

150. A patient admitted in the intensive care is noted to be quadriplegic with multiple lower cranial nerve palsies. He is however alert and able to respond by blinking his eyes. Which of the following conditions is not consistent with the above features ?

- (1) Acute inflammatory demyelinating polyneuropathy
- (2) Central pontine myelinolysis
- (3) Pontine infarct
- (4) Post CPR diffuse hypoxic encephalopathy
- (5) Question not attempted

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- (1) Sellar NCC
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- (1) Pharyngeal dysphagia
- (2) Strychnine poisoning
- (3) Tetanus
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- (2) Central pontine myelinolysis
- (3) Pontine infarct
- (4) Post CPR diffuse hypoxic encephalopathy
- (5) Question not attempted

151. A 45-year-old man presents with progressive spastic paraparesis over 8 years. Which of the following features will favour the diagnosis of tropical spastic paraparesis?

- (1) Painful sensory neuropathy
- (2) Spasticity in upper limbs
- (3) Bulbar dysfunction
- (4) Fasciculations in limbs
- (5) Question not attempted

152. The CSF findings that suggest measles infection body encephalitis are:

- (1) Normal protein with no measles viral antibodies
- (2) Elevated protein with no measles viral antibodies
- (3) Normal protein with high titres of measles viral antibodies
- (4) Increased protein with high titres of measles viral antibodies
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153. A patient presents with high grade fever followed by maculopapular rash and polyarthralgia. After a few days he developed paraparesis. Laboratory investigations suggest Chikungunya infection. Which of the following neurological causes are unlikely diagnosis?

- (1) Guillain-Barre syndrome
- (2) Hypokalaemic periodic paralysis
- (3) Myelitis
- (4) Myositis
- (5) Question not attempted

