



श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान,  
तिरुवनंतपुरम् -11

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL  
SCIENCES & TECHNOLOGY,  
THIRUVANANTHAPURAM—695 011

ENTRANCE EXAMINATION: ACADEMIC SESSION JANUARY 2018

PROGRAMME: DM NEUROLOGY (GENERAL MEDICINE)

Time: 90 min

Max.Marks: 100

(Select the most appropriate answer)

1. Which among the following is the most common myeloproliferative neoplasm driver gene?
  - A. FGFR1
  - B. JAK2
  - C. DKK1
  - D. NFκB
2. Which of the following hypoproliferative anemia is due to cytoplasmic defect of RBC maturation?
  - A. Sideroblastic anemia
  - B. Vitamin B12 deficiency
  - C. Chronic renal failure
  - D. Hemoglobinopathies.
3. What is the commonest mechanism underlying Humoral Hypercalcemia of Malignancy (HHM)?
  - A. Overproduction of Parathyroid Hormone Related Protein (PTHrP)
  - B. Excess production of 1,25-dihydroxy vitamin D
  - C. Excess conversion of procalcitonin to calcitonin
  - D. Excess production of prostaglandin E2

**4. Which of the following bleeding disorders is due to a primary defect of platelet adhesion?**

- A. Glanzmann's thrombaesthesia
- B. Scott syndrome
- C. Afibrinogenemia
- D. von Willibrand's disease

**5. What is Vorapaxar?**

- A. A new antiplatelet agent
- B. An oral anticoagulant
- C. A novel monoclonal antibody for prevention of atherosclerosis in high risk individuals
- D. Neuroprotective agent tried in Parkinson's disease

**6. Local inflammatory response will be absent once absolute neutrophil count (ANC) drops below..**

- A. <100 cells/mm<sup>3</sup>
- B. <400 cells/mm<sup>3</sup>
- C. <300 cells/mm<sup>3</sup>
- D. <200 cells/mm<sup>3</sup>

**7. Which among the following is true regarding natural killer cells?**

- A. Large granular lymphocytes involved in immune surveillance against malignancies
- B. Most NK cells express B lymphocyte lineage markers
- C. NK cell activity is immune (antibody dependent) but complement independent
- D. NK cells are hyperactive in Chediak- Higashi syndrome

**8. Which of the following anti neoplastic drug is a proteasome inhibitor?**

- A. Vorinostat
- B. Bortezomib
- C. Temsirolimus
- D. Axitinib

**9. Which of the following statements about Sickle cell anemia is TRUE?**

- A. Splenic infarction and autosplenectomy occurs before 6 months of age.
- B. Bone marrow transplantation is the treatment of choice for all age groups.
- C. Hydroxy urea is the mainstay treatment for patients with severe disease.
- D. Recurrent stroke risk is extremely low in this population.

**10. Circulating antibodies against PLA2R is associated with which of the following glomerular disorders?**

- A. IgA Nephropathy
- B. Membranous glomerulonephritis
- C. Minimum change disease
- D. Focal segmental glomerulosclerosis

**11. Which of the following is not true?**

- A. Pulmonic ejection sound increases with inspiration
- B. With squatting, murmur of HOCM may disappear
- C. Murmurs of MR and VSD increase with handgrip exercise.
- D. Murmur of MVP becomes longer and often louder with Valsalva maneuver

**12. Which of the following is not true regarding U waves in EKG?**

- A. The normal U wave usually has the same polarity as the T wave.
- B. An abnormal increase in U-wave amplitude can be seen with Hypokalemia but not with Amiodarone intake
- C. Very prominent U waves are a marker of increased susceptibility to the *torsades de pointes* type of ventricular tachycardia
- D. Inversion of the U wave in the precordial leads may be a subtle sign of ischemia.

**13. Myocardial inflammation imaging is done using**

- A. 18F-fluorodeoxyglucose PET
- B. Iodine-123 metaiodobenzylguanidine (MIBG) SPECT
- C. 13N-ammonia PET
- D. Technetium-99m tetrofosmin SPECT

**14. Which of the following Cardiac Imaging Approach has the highest sensitivity for CAD**

- A. Myocardial perfusion PET
- B. Coronary CTA
- C. Cardiac MR perfusion
- D. SPECT MPI

**15 Which organ has the highest blood flow per 100Gm of tissue**

- A. A Skin
- B. B Heart
- C. C Brain
- D. D Kidney

**16. Which of the following is true regarding pediatric EKG analysis?**

- A. Left axis deviation is normal in healthy neonates.
- B. ST elevation is most commonly associated with myocardial injury.
- C. T-wave inversion in the anterior precordial leads (V1–V3) is a normal finding in school-aged children.
- D. Cardiac dysrhythmias are the most common electrocardiographic manifestation of underlying congenital heart disease.

**17. Regarding ventricular tachy-arrhythmias, all are true except**

- A. Polymorphic VT or ventricular fibrillation is more common with Hypertrophic cardiomyopathy
- B. Monomorphic VT is uncommon with prior large myocardial infarction
- C. Sarcoid scars can cause monomorphic VT
- D. Short QT syndromes are associated with ventricular fibrillation

**18. Beck's triad consists of all EXCEPT**

- A. Hypotension with low CVP
- B. Soft or absent heart sounds
- C. Prominent x descent in JVP
- D. Absent y descent in JVP.

**19. Cardiac MRI - choose the incorrect combination**

- A. Late gadolinium enhancement - Myocardial infarction and infiltrative disease
- B. T2-weighted imaging - Myocardial edema
- C. T1 weighted imaging -Myocardial iron infiltration
- D. Cine myocardial tagging -Left ventricular strain

**20. Carney complex will not involve**

- A. Skin
- B. Heart
- C. Breast
- D. Adrenal medulla

**21. Which of the following is true about pulmonary-renal syndrome?**

- A. In anti- GBM antibody disease antibodies are formed against alpha-2 chain of type I collagen
- B. 60-80% patients will have positive ANCA serology in anti-GBM antibody disease
- C. Positive perinuclear ANCA directed against myeloperoxidase in microscopic polyangiitis
- D. Wegener's granulomatosis is not a pauci-immune glomerulonephritis

**22. Which of the following is not a feature of lupus nephritis?**

- A. The prognosis of class V nephritis is better compared to class III/IV
- B. Hypocomplementemia is noted during acute flares
- C. Class II to IV nephritis shows increasing degrees of mesangial proliferation
- D. Immunofluorescence is usually negative for IgG, IgA and IgM

**23. Which of the following disorders predispose to very low HDL levels in blood?**

- A. Lipoprotein lipase deficiency
- B. Apo C II deficiency
- C. Tangier's disease
- D. Familial defective apo B-100

**24. In pseudohypoparathyroidism which of the following is seen in association:**

- A. Di George syndrome
- B. Shortening of 2<sup>nd</sup> and 3<sup>rd</sup> metacarpal and metatarsal
- C. Parathyroid aplasia with autoimmunity
- D. TSH resistance and raised TSH

**25. Which of the following is the most likely cause of hypokalemic hypochloremic alkalosis with hypomagnesemia and associated with hypocalcemia and ECG showing QT prolongation?**

- A. Gitelman's syndrome
- B. Liddle's syndrome
- C. Bartter's syndrome
- D. Type IV Renal tubular acidosis

**26. Wells' score is used in the clinical assessment of patients having suspected:**

- A. Pulmonary embolism
- B. Acute Respiratory Distress Syndrome
- C. Multi-organ failure
- D. Septicemia

**27. Fanconi's syndrome usually leads to type 2 RTA with aminoaciduria, glycosuria and phosphaturia. Which of the following is also a presenting feature of this syndrome in adults?**

- A. Osteomalacia
- B. Anaemia
- C. Thrombocytopenia
- D. Mental retardation

**28. For a male patient aged 76 years with a history of diabetes and mild renal disease, with a blood pressure of 128/70, what is his risk of contrast nephropathy?**

- A. 1%
- B. 7.5%
- C. 25%
- D. 60%

**29. Serum has the same composition as plasma except that its**

- A. Fibrinogen and clotting factor II, V and VIII have been removed
- B. Hageman factor is removed
- C. Serotonin level is reduced
- D. Fibrinogen and clotting factor II, IV and VIII have been removed

**30. A 26-year-old female presents with hematuria and proteinuria without associated dysuria, abdominal pain. On examination she appears cachectic with absent buccal fat pads and shrunken eyes. Which of the following is the most likely finding on blood evaluation?**

- A. Low C3 levels
- B. Low C4 levels
- C. Antinuclear antibodies
- D. Cryoglobulins

**31. A patient is found to have hyperkalaemia, hyperchloraemic acidosis and a urinary pH of 5.0. Which of the following treatments is most useful given the type of acidosis?**

- A. Prednisolone
- B. Fludrocortisone
- C. Bicarbonate
- D. ACE inhibitors

**32. Which of the following statements regarding chancroid is NOT correct**

- A. Haemophilus ducreyi is the etiologic agent
- B. Organism can be easily grown in the culture medium
- C. Either Azithromycin or ceftriaxone is the drug of choice
- D. Clinical treatment failure in HIV-seropositive patients may reflect co-infection with herpes simplex virus

**33. Total electrical alternans (P-QRS-T) with sinus tachycardia is a relatively specific sign of which condition**

- A. Taka- Tsubo Syndrome
- B. Acute pericarditis
- C. Cardiac tamponade
- D. Ventricular aneurysm

**34. The statement regarding transcatheter aortic valve replacement are all true except**

- A. TAVR is associated with less chance of stroke
- B. Higher incidence of post procedural paravalvular AR
- C. Procedural success rates exceed 90%
- D. Usually done in high risk surgical adult patients



**35. Micronutrient malnutrition is found in sick patients requiring prolonged ICU stay. In this scenario, cork screw hairs in the lower extremity is usually associated with which deficiency?**

- A. Zinc
- B. Folic acid
- C. Vitamin C
- D. Vitamin B6

**36. Which of the following conditions result in predominant hypertriglyceridemia?**

- A. Sitosterolemia
- B. Familial defective apoB-100
- C. Autosomal dominant hypercholesterolemia type 3
- D. Familial Apo C-II deficiency

**37. Which of the following cancer chemotherapeutic agents- malignancy is a mismatch**

- A. Imatinib- CML
- B. Genfitinib- SCLC
- C. Sunitinib- Pancreatic neuroendocrinal tumour
- D. Everolimus- Renal Cell Carcinoma

**38. As per the Third Universal Definition of Myocardial Infarction, what does Type 4b myocardial infarction mean?**

- A. Infarction due to a supply-demand mismatch
- B. Infarction causing sudden death without the opportunity for biomarker or ECG confirmation
- C. Infarction related to thrombosis of a coronary stent
- D. Infarction related to coronary artery bypass grafting

**39. Zika virus belongs to which among the following families?**

- A. Picornaviridae
- B. Coronaviridae
- C. Togaviridae
- D. Flaviviridae

**40. The characteristic ocular finding seen in basilar invagination is the following**

- A. Square wave jerks
- B. Down beat nystagmus
- C. Upbeat nystagmus
- D. Opsoclonus

**41. At a cellular level what effect of hypokalemia on cardiac muscle cells will provide a rationale for the EKG changes seen in hypokalemia**

- A. Hypokalemia hyperpolarizes cells
- B. The membrane potential would move away from the potassium equilibration potential
- C. The potassium current in Phase 4 is abolished
- D. The membrane potential would move toward the potassium equilibration potential

**42. Which of the following statements regarding Whipple's disease is TRUE?**

- A. The disease is caused by a gram negative bacterium
- B. Characteristic feature is presence PAS positive macrophages in small intestine
- C. Intracellular bacillary load is the most important indicator of disease activity
- D. Dementia is usually an early symptom

**43. Which of the following is protective in ulcerative colitis?**

- A. Oral contraceptives
- B. Smoking cessation
- C. Antibiotic use in the first year of life
- D. Appendectomy

**44. The NCEP-ATPIII criteria for the metabolic syndrome: which statement is incorrect?**

- A. Central obesity -waist circumference > 95 cm for men and 80 cm for women
- B. Hypertriglyceridemia (TG > 150 mg /dL)
- C. Low HDL cholesterol (<40mg/dL (men), < 50 mg /dL (women))
- D. Hypertension: BP > 130 mm systolic or > 85mm diastolic

**45. Which of the following parameters are NOT taken in the calculation of MELD (Model for End Stage Liver Disease)?**

- A. Serum bilirubin
- B. Prothrombin time (INR)
- C. Serum creatinine
- D. Serum albumin

**46. Which of the following laboratory features is NOT consistent with the diagnosis of autoimmune hepatitis?**

- A. Normal serum alkaline phosphatase
- B. Decreased gamma globulin levels
- C. Positive rheumatoid factor
- D. High titre of antinuclear antibodies

**47. What is Zieve's syndrome?**

- A. Autoimmune haemolytic anemia with thrombocytopenia
- B. Aplastic anemia in chronic hepatitis C
- C. Haemolytic anemia in severe alcoholic hepatitis
- D. Microangiopathic haemolytic anemia in primary biliary cirrhosis

**48. Which of the following statements is FALSE regarding prolactin?**

- A. Polypeptide hormone
- B. Growth hormone and prolactin have the same precursors
- C. Secretion is continuous
- D. Predominant control mechanism for prolactin secretion is inhibitory

**49. Which of the following syndromes is NOT associated with decreased secretion of Gonadotropin Releasing Hormone (GnRH)?**

- A. Kallmann syndrome
- B. Lawrence Moon Biedl syndrome
- C. Prader Willy syndrome
- D. Angelman syndrome

**50. The most common tumour associated with multiple endocrine neoplasia type 1 is**

- A. Pituitary adenoma
- B. Parathyroid adenoma
- C. Enteropancreatic tumours
- D. Pheochromocytoma

**51. Immunotherapy is less likely to be effective in encephalopathy associated with all of the following auto-antibodies except**

- A. Anti neuronal nuclear antibody-1
- B. Anti neuronal nuclear antibody 2
- C. Anti leucine rich glioma inactivated 1 antibody
- D. Anti glutamic acid decarboxylase 65 antibody

52. Which of the following patterns of CSF Amyloid beta and tau is most consistent with the diagnosis of Alzheimer disease?
- A. Elevated A beta and tau
  - B. Elevated A beta 42, reduced total tau and phosphorylated tau
  - C. Elevated t-tau and p-tau, reduced A beta 42
  - D. Reduced A beta 42, t-tau and p-tau
53. A 34- year-old male presented with a one year history and signs of spastic paraparesis, spastic dysarthria and palatal myoclonus. His brain MRI revealed medullary atrophy with bilateral T2W hyperintensities in the dentate nuclei and middle cerebellar peduncles. A similar history was noted in his father who died in his fourth decade. Which of the following disorders is most likely
- A. Adrenoleukodystrophy
  - B. Krabbe disease
  - C. Metachromatic leukodystrophy
  - D. Alexander disease
54. The language function most likely to be impaired following left thalamic hemorrhage is
- A. Comprehension
  - B. Fluency
  - C. Prosody
  - D. Repetition
55. Which of the following cortical areas is involved in the comprehension of emotions of other people?
- A. Anterior insular cortex
  - B. Inferior frontal gyrus
  - C. Inferior parietal lobule
  - D. Temporoparietal junction

**56. Which of the following tests would indicate a major neurocognitive disorder over and above a major depressive disorder?**

- A. Inattention
- B. Impairment in construction tasks
- C. Psychomotor slowing
- D. Intact temporal orientation

**57. Which of the following antipsychotics is particularly useful in improving treatment-resistant psychosis and also in reducing suicide risk?**

- A. Arpiprazole
- B. Clozapine
- C. Haloperidol
- D. Risperidone

**58. Which of the following is a feature of alexia with agraphia**

- A. Associated with Broca's aphasia
- B. Associated with lesion in the left medial occipitotemporal junction
- C. Associated with colour anomia
- D. Associated with right inferior quadrantanopia

59. A 60-year-old woman presents with 2 months of pain radiating from her buttock down to her right leg. She has right foot drop, with severe foot dorsiflexion weakness and sensory deficit in the right lateral leg and dorsum of the foot. NCS showed reduced CMAP amplitude recorded from the tibialis anterior and extensor digitorum brevis muscles and normal superficial peroneal SNAP amplitude. Needle EMG shows fibrillation potentials and reduced recruitment in the tibialis anterior, extensor digitorum brevis, extensor hallucis, peroneus longus, tibialis posterior and flexor digitorum longus. Which of the following is the most likely diagnosis?

- A. L5 radiculopathy
- B. S1 radiculopathy
- C. Common peroneal neuropathy
- D. Sciatic nerve injury

60. Which of the following tests would you recommend in a 45-year-old lady with rapidly progressive dementia associated with diarrhoea, bloating, joint aches, weight loss and abnormal rhythmic facial and eye movements?

- A. HIV-ELISA
- B. CSF PCR for *Tropheryma whippelii*
- C. Blood PCR for *Borrelia burgdorferi*
- D. CSF PCR for Herpes simplex virus

61. Which of the following viruses is thought to have a strong association with the pathogenesis of multiple sclerosis?

- A. Human herpes virus 7
- B. Epstein Barr virus
- C. Cytomegalovirus
- D. Coxsackie virus B

- 62. Which of the following neuropsychological tests is most useful to test an important executive function, i.e ability to suppress irrelevant or interfering stimuli?**
- A. Controlled Oral Word Association Test
  - B. Wisconsin Card Sorting Test
  - C. Antisaccade task
  - D. Visual subset of Weschler Memory Scale
- 63. Which of the following ocular findings is highly characteristic of multiple sclerosis?**
- A. Rebound nystagmus
  - B. Upbeat nystagmus
  - C. Periodic alternating nystagmus
  - D. Acquired pendular nystagmus
- 64. Which of the following neuropathies present characteristically with autonomic neuropathy?**
- A. Charcot Marie Tooth disease
  - B. Refsum's disease
  - C. Familial amyloid polyneuropathy
  - D. Adrenomyeloneuropathy
- 65. Which of the following diabetic neuropathies has the least association with the degree of glycemic control and duration of diabetes?**
- A. Diabetic neuropathic cachexia
  - B. Diabetic sensorimotor polyneuropathy
  - C. Diabetic autonomic neuropathy
  - D. Diabetic lumbosacral radiculoplexopathy



**66. Which is true statement regarding Membrane potential**

- A. Decrease in extra cellular Ca concentration increases the excitability of the nerve
- B. Decrease in the Ca concentration can stabilize the membrane
- C. Increasing the external Na concentration will reduce the size of Action potential
- D. Decreasing the external K decreases the resting membrane potential

**67. Which of the following statements regarding dystrophinopathies is FALSE?**

- A. Point mutations are the commonest genetic abnormality in dystrophinopathies
- B. In-frame mutation results in Becker phenotype and out of frame mutation produces Duchenne phenotype
- C. Corticosteroid therapy may prolong ambulation in these patients
- D. Female carriers can present with cardiomyopathy

**68. A 50-year-old male patient presented with sub-acute onset limb girdle pattern of weakness 2 months after starting high dose Atorvastatin therapy which continued to worsen in spite of stopping the drug. His serum creatinine phosphokinase level was 5600 IU/L. Which of the following statements is FALSE regarding this patient?**

- A. Antibodies to HMGCoA reductase may be elevated
- B. The patient should be investigated for connective tissue diseases and malignancies
- C. Muscle biopsy will show extensive perimysial and endomysial infiltration with lymphocytes
- D. The treatment of choice is corticosteroid

**69. Which of the following statements is correct regarding disorders of corpus callosum**

- A. They result from abnormalities in the third trimester of pregnancy
- B. Complete agenesis of corpus callosum is more common than partial agenesis.
- C. They result from abnormalities in the commissural plate
- D. Corpus callosum agenesis is rarely seen in isolation

**70. A 30-year old gentleman from South India presents with three-year history of generalized chorea. His family members also reported significant behavioral disturbances in the patient. He has seizures of recent onset and his examination revealed disabling oro-mandibular choreo-dystonic movements, potentially injuring his tongue and lips. He also has clinical evidence of a peripheral neuropathy. No other family member is affected. Which among the following genes is most likely to be abnormal in him?**

- A. VPS13A gene
- B. Junctophilin-3 gene
- C. TBP gene
- D. PRRT2 gene

**71. Which among the following is the commonest target used for Deep Brain Stimulation (DBS) for Parkinson's disease**

- A. Subthalamic Nucleus
- B. Globus Pallidus Externus
- C. Substantia Nigra
- D. Caudate Nucleus

**72. STRIDE-PD study addressed which of the following therapies in Parkinson's disease?**

- A. Dopamine agonist
- B. Amantadine
- C. Monoamine Oxidase-B (MAO-B) Inhibitors
- D. Catechol-O-Methyl Transferase (COMT) Inhibitors

**73. Which among the following is the commonest cause of bacterial meningitis in adults?**

- A. Staphylococcus aureus
- B. Haemophilus Influenzae
- C. Streptococcus pneumoniae
- D. Streptococcus pyogenes

**74. Nephrogenic systemic fibrosis occurs in response to:**

- A. Intravenous iodinated computerized tomography (CT) contrast
- B. Gadolinium contrast used for MRI
- C. Pittsburgh Compound B
- D. I-123 Meta-iodobenzylguanidine

**75. Which of the following features would make a diagnosis of Aquaporin 4 antibody positive neuromyelitis optica spectrum disorder highly likely?**

- A. Typical optic neuritis
- B. Area postrema syndrome
- C. Multiple asymptomatic brain lesions
- D. Encephalopathic presentation in childhood

**76. The first reflex response to appear after spinal shock wears off**

- A. Slight contraction of the leg flexors and adductors in response to noxious stimuli
- B. Slight contraction of the leg extensors and abductors in response to noxious stimuli
- C. Slight contraction of the leg extensors and adductors in response to noxious stimuli
- D. Slight contraction of the leg flexors and abductors in response to noxious stimuli

**77. The neurological disorder "Brown-Vialetto-Van Laere syndrome" responds to treatment with high doses of:**

- A. Riboflavin
- B. Niacin
- C. Vitamin E
- D. Alpha Lipoic Acid

**78. Which among the following muscles internally rotate the thigh at the hip?**

- A. Gluteus Medius
- B. Gluteus maximus
- C. Piriformis
- D. Obturator externus

**79. Pigmentary retinal degeneration is seen in which among the following Spinocerebellar Ataxia (SCA) syndromes?**

- A. SCA-2
- B. SCA-8
- C. SCA-6
- D. SCA-7

**80. Which among the following form part of the "Neural Integrator" for horizontal gaze?**

- A. Rostral Interstitial nucleus of Medial Longitudinal Fasciculus (riMLF)
- B. Interstitial nucleus of Cajal (INC)
- C. Nucleus PropositusHypoglossi/ Medial Vestibular Nucleus
- D. Pontine Paramedian Reticular Formation

**81. Which among the following neurological syndromes is seen in advanced HIV infection, when CD4 count drops below 200 cells/mm<sup>3</sup>**

- A. Demyelinating polyradiculoneuropathy
- B. HIV associated dementia
- C. Zidovudine associated myopathy
- D. Zoster associated radiculopathy

**82. Regarding HAND- all are false except**

- A. Generally an early complication of HIV infection seen in almost 1/3 rd patients
- B. Frascati criteria for clinical staging of HAND defines "mild neurocognitive disorder" as 1 SD below mean in 2 cognitive domains
- C. Anti retroviral therapy causes little or no improvement
- D. The prostate gland serve as a reservoir for HIV virus causing neurocognitive manifestations

**83. In most of the current series on Progressive multifocal leukoencephalopathy (PML), what is the most common precipitating factor?**

- A. Natalizumab exposure
- B. NHL chemotherapy with Rituximab
- C. HIV infection
- D. Crohn's disease treatment

**84. A 45-year-old woman presented with pulsatile tinnitus and was diagnosed with cranial dural arterio-venous fistula (DAVF). Which of the following is correct regarding this condition?**

- A. Cortical venous drainage is associated with higher risk of hemorrhage
- B. Drainage to a dural venous sinus is seen in less than 1% of patients
- C. Endovascular embolisation does not play a role in the treatment of DAVFs
- D. These lesions have a parenchymal nidus and pial arterial supply

**85. Which of the following statements about acute pyogenic meningitis is TRUE?**

- A. All patients should undergo neuroimaging prior to CSF analysis
- B. Patient should be initiated on empirical antibiotics if pyogenic meningitis is suspected, only after CSF has been sent for culture.
- C. If an imaging before CSF analysis is planned, to avoid delay in initiation of antibiotics, send a blood culture before starting empirical therapy.
- D. All patients should receive 3<sup>rd</sup> generation Cephalosporin and Vancomycin as the first empirical therapy in suspected pyogenic meningitis, regardless of age.

**86. In healthy human adults, REM (Rapid Eye Movement) sleep occupies what fraction of total sleep time?**

- A. 10-15%
- B. 20-25%
- C. 30-35%
- D. 50%

**87. Which of the following structures is involved in the pathophysiology of narcolepsy with cataplexy?**

- A. Lateral hypothalamus
- B. Pedunculopontine nucleus
- C. Superior olivary nucleus
- D. Suprachiasmatic nucleus

**88. If the Anterior lobe of the cerebellum is removed in a decerebrate animal there will be**

- A. Hyperactivity of the flexor muscles
- B. Hyperactivity of the extensor muscles
- C. Hyperactivity of both the flexors and extensor muscles
- D. There will be no change in the rigidity

**89. Spontaneous intracranial hypotension is most commonly due to a CSF leak in the -**

- A. Cervical region
- B. Thoracic region
- C. Lumbar region
- D. Cribriform plate

**90. The lenticulostriate branches provide blood supply to all, except**

- A. Putamen
- B. Thalamus
- C. Head and body of caudate
- E. External globus pallidus

**91. A 67-year-old male patient with diabetes mellitus, hypertension and dyslipidemia presented with acute onset paraplegia in the emergency department. While he was gardening, he had sudden onset back ache with radiating pain in the right leg and had difficulty in walking the previous day. On examination his peripheral pulses were palpable and regular. He had a grade 0-1 power of the both lower limbs with loss of pain and temperature sensation below umbilicus. The vibration and joint position sense was preserved and he had absent knee and ankle jerk. He was catheterized for urinary retention. What is the most likely diagnosis in him?**

- A. Central cord syndrome
- B. Acute transverse myelitis
- C. Anterior spinal artery occlusion
- D. Spinal epidural abscess

**92. The following statements regarding Glioblastoma are all true except**

- A. The peak age of onset is 50 -60 years
- B. It is the second most common malignant primary brain tumor in adults
- C. The average survival in patients receiving radiotherapy and chemotherapy is approximately 1 to 1.5 years
- D. Glioblastoma most commonly occurs in the deep white matter, basal ganglia and thalamus

**93. Regarding the use of antiepileptic drugs in elderly, which of the following is correct?**

- A. The distribution of hydrophilic drugs increases
- B. Hepatic blood flow, bile flow and protein synthesis increase along with hepatic metabolism
- C. Gastric acidity may decrease, making weakly basic drugs less easily absorbed and weakly acidic drugs more easily absorbed.
- D. Renal blood flow increases, but glomerular filtration rate decreases.

**94. A one-year-old girl born of consanguineous parentage presented to you with history of developmental delay and seizures. Examination showed a floppy child and she was just able to sit with support. A scaling seborrheic and erythematous rash was noted around the eyes, nose, mouth and on the extremities along with alopecia. What will the treatment in this situation?**

- A. Ketogenic diet
- B. Supplementation with CoQ and Carnitine
- C. Biotin supplementation
- D. Folinic acid supplementation

**95. Which of the following is the earliest step in the proposed pathophysiology of migraine?**

- A. Meningeal blood vessel dilation
- B. Cortical spreading depression
- C. Release of vasoactive neuropeptides from trigeminal sensory nerves
- D. Local release of Substance P upon stimulation by trigeminal afferents

**96. The muscle protein that connects the Z line to the M line is**

- A Troponin
- B Titin
- C Actinin
- D Desmin

**97. Rufinamide is a new FDA approved drug used orally and intravenously in**

- A. Refractory status epilepticus
- B. Refractory status dystonicus
- C. Refractory partial seizure of temporal origin (TLE)
- D. Refractory seizures in Lennox- Gastaut syndrome



**98. A 40-year-old man presents with multiple cranial neuropathies. A tumor is found compressing the brain stem and given the radiologic appearance, there is suspicion of a chordoma. Which of the following is correct regarding this tumor?**

- A. It is composed of physaliphorous cells
- B. It is only encountered in the clivus region
- C. It invades nervous tissue, but spares bone
- D. Surgery does not play a role in treatment, but irradiation is best.

**99. TRAIL and FADD are**

- A. Linked with HIV treatment regimens (antiretroviral regimens)
- B. TNF-related apoptosis-inducing ligand and Fas-associated death domain in apoptosis
- C. Tuberculosis related anti-inflammatory lymphocytes and Follicular activating dipeptide diastases associated with pathogenesis of TB
- D. Synonyms of gene therapies in AML and CML which are under phase I trial.

**100. A 65-year-old woman presents with abrupt onset akinetic mutism, lack of motivation, apathy, leg weakness and incontinence. You suspect she may have had a stroke. Which of the following locations could explain her symptoms?**

- A. Dominant temporal lobe infarct
- B. Non-dominant parietal lobe infarct
- C. Bilateral anterior cerebral artery infarcts
- D. Anterior bilateral thalamic infarcts

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