

# MIZORAM PUBLIC SERVICE COMMISSION

## TECHNICAL COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO THE POST OF GRADE-III OF MIZORAM HEALTH SERVICE (GDMO SUB-CADRE) UNDER HEALTH & FAMILY WELFARE DEPARTMENT, GOVERNMENT OF MIZORAM. OCTOBER, 2022

### TECHNICAL SUBJECT PAPER - I

Time Allowed : 2 hours

Full Marks : 200

*All questions carry equal marks of 2 each.  
Attempt all questions.*

- The mechanism that permits Ig to be synthesized in either a membrane bound or secreted form is:
  - Allelic expression
  - Differential RNA processing
  - Codominant expression
  - Class switch recombination
- Which of the following is not involved in the production of IgA antibodies:
  - Peyer's patches
  - Macrophages
  - Tuft cells
  - B cells
- Functional unit of kidney:
  - Hilum
  - Neurons
  - Nephron
  - Medulla
- Most likely organism causing urinary tract infection:
  - Pseudomonas
  - E.Coli
  - Klebsiella
  - Streptococcal faecalis
- Most common cause of CKD:
  - Obesity
  - Diabetes mellitus
  - Polycystic kidney disease
  - Analgesic nephropathy
- Mechanism of anemia in CKD:
  - Deficiency of vitamin B12
  - Deficiency of erythropoietin
  - Deficiency of vitamin K
  - Low protein intake
- Following complement component is involved in opsonisation:
  - C3b
  - C5b
  - C3a
  - C5a
- Following is a neprilysin inhibitor:
  - Captopril
  - Nesiritide
  - Perindopril
  - Sacubitril
- C3 nephritic factor is an autoantibody associated with:
  - Type 1 MPGN
  - Type 2 MPGN
  - Type 3 MPGN
  - IgA nephropathy
- Brain Natriuretic Peptide (BNP) is primarily synthesized in:
  - Choroid plexus of ventricles
  - Cardiac ventricles
  - Atrial cardiomyocytes
  - Pericytes in the tubulointerstitial compartment

11. Markers of AKI :
- (a) Urinary IL – 18
  - (b) Urinary MCP – 1
  - (c) ACR
  - (d) Erythropoietin
12. Hormone released by posterior pituitary :
- (a) Oxytocin
  - (b) TSH
  - (c) LH
  - (d) Prolactin
13. Sleep wake cycle of the body is regulated by :
- (a) Prolactin
  - (b) Cortisol
  - (c) Melatonin
  - (d) Progesterone
14. The master gland of the endocrine system is :
- (a) Bartholin gland
  - (b) Pituitary gland
  - (c) Thyroid gland
  - (d) Adrenal gland
15. Diabetes Insipidus is due to deficiency of :
- (a) Aldosterone
  - (b) Vasopressin
  - (c) Insulin
  - (d) Progesterone
16. If a chemical agent is produced by a cell and if the agent acts on the same cell, the effect is termed as:
- (a) Endocrine effect
  - (b) Paracrine effect
  - (c) Autocrine effect
  - (d) Neural effect
17. Growth hormone is also called as :
- (a) Somatostatin
  - (b) Somatomedin
  - (c) Somatocrinin
  - (d) Somatotropin
18. Storage form of thyroid hormone is :
- (a) T3
  - (b) T4
  - (c) Thyroglobulin
  - (d) ACTH
19. A 50 year old female complains of swelling and tenderness at the metacarpophalangeal joints and wrist of both hands with stiffness in the hands lasting for more than 1 hour for the past 6 months. There is no history of alopecia, photosensitivity, kidney disease or rash. What is the most likely diagnosis in this patient?
- (a) Polymyalgia rheumatica
  - (b) Osteoarthritis
  - (c) Rheumatoid arthritis
  - (d) Gouty arthritis
20. A 45 year old female, a known case of asthma for the past 5 years presented with a 5 months history of numbness in the left upper and both lower limbs. On examination there is asymmetric neuropathy with palpable purpura over the lower limbs. On investigation there is eosinophilia. What is the likely diagnosis?
- (a) SLE
  - (b) Polyarteritis nodosa
  - (c) Giant cell arteritis
  - (d) EGPA
21. A 20 year old female presents with malar rash exacerbated by sun exposure. She has a history of myalgia, arthralgia without joint deformity over the course of several years. She also has a history of hematuria with no history of drug intake prior to the onset of these symptoms. The best screening test for her disease would be :
- (a) Anti ds DNA antibody
  - (b) Anti nuclear antibody
  - (c) Anti RNP antibody
  - (d) Anti histone antibody
22. HLAB27 is associated with :
- (a) Rheumatoid arthritis
  - (b) SLE
  - (c) Ankylosing spondylitis
  - (d) Systemic sclerosis

23. Which joints are spared in rheumatoid arthritis :
- (a) PIP (b) DIP  
(c) MCP (d) Wrist
24. Gottron's papules are seen in :
- (a) SLE (b) Systemic sclerosis  
(c) Dermatomyositis (d) Tuberculosis
25. Following is a disease that is transmitted genetically as an autosomal dominant trait located on chromosome 4 :
- (a) Guillain Barre' syndrome (b) Huntington's disease  
(c) Multiple sclerosis (d) Encephalitis
26. Mask like facial expressions; slow, shuffling gait; pill – rolling movement of hands; stooping posture; tremor at rest is seen in :
- (a) Myasthenia gravis (b) Stroke  
(c) Multiple sclerosis (d) Parkinson's disease
27. Demyelination of the white matter of the nervous system is seen in :
- (a) Seizure disorder (b) Parkinson's disease  
(c) Spinal cord injury (d) Multiple sclerosis
28. What frequency of tremor would you expect in Parkinson's disease :
- (a) 1Hz (b) 2Hz  
(c) 5Hz (d) 7Hz
29. A lesion of the occipital lobe causes:
- (a) Acalculia (b) Astereognosis  
(c) Constructional apraxia (d) Cortical blindness
30. A 72 year old female presents with a 3 months history of depression, social disinhibition, anosmia and aphasia. The most likely lesion is at the :
- (a) Parietal lobe (b) Frontal lobe  
(c) Temporal lobe (d) Occipital lobe
31. Storage form of iron in the body :
- (a) Hemosiderin (b) Ferritin  
(c) Transferrin (d) Hemoglobin
32. Site of folate absorption is :
- (a) Jejunum (b) Stomach  
(c) Ileum (d) Caecum
33. Biochemical etiology of Alzheimer's disease relates to :
- (a) Acetylcholine (b) GABA  
(c) Epinephrine (d) Dopamine
34. Growth phase of hair follicle is :
- (a) Anagen (b) Catagen  
(c) Melagen (d) Telogen
35. Most common blood transfusion reaction is :
- (a) Febrile non hemolytic transfusion reaction (b) Seizure  
(c) Transmission of infections (d) Electrolyte imbalance

36. One unit of fresh blood arises Hb% concentration by :
- (a) 0.1 gm% (b) 1 gm%  
(c) 2 gm% (d) 2.2 gm%
37. Blood group system related to McLeod syndrome is :
- (a) Kell (b) Kidd  
(c) Duffy (d) Lewis
38. Primary function of hemoglobin is :
- (a) Store iron (b) Carry oxygen to peripheral tissues  
(c) Give RBC's their color (d) Transport glucose
39. At what age does the thymus reach its maximal size :
- (a) During the first year of life (b) Teenage years (puberty)  
(c) Between 40 and 50 years of age (d) After 70 years of age
40. In order for T cells to respond to the antigen for which they are specific, they need to recognize which of the following :
- (a) B cells  
(b) The antigenic epitope displayed by MHC molecules  
(c) Immunoglobulin  
(d) Cytokines
41. The Quantiferon test is based on which of the following :
- (a) The response of macrophages to the antigen  
(b) The cytokine response of Th1 cells to their specific antigen  
(c) The inability of macrophages to digest the antigen  
(d) The interaction of CD4 + T cells and macrophages
42. Bloody diarrhoea with mucus is the symptoms of :
- (a) Pancreatitis (b) Peptic ulcer disease  
(c) Ulcerative colitis (d) Paralytic ileus
43. An absence of pigment in the skin is called:
- (a) Acanthosis nigricans (b) Albinism  
(c) Melanism (d) Xanthoderma
44. A chronic dermatitis of unknown etiology with a history of allergy is called :
- (a) Actinic dermatitis (b) Atopic dermatitis  
(c) Stasis dermatitis (d) Seborrheic dermatitis
45. Which of the following is a fungal infection :
- (a) Lichen planus (b) Keratosis  
(c) Seborrhea (d) Tinea capitis
46. Which of the following is impaired in gout :
- (a) Protein metabolism (b) Ketone metabolism  
(c) Purine metabolism (d) Pyrimidine metabolism
47. The accumulation of calcium pyrophosphate crystals in small joint is :
- (a) Gout (b) Rheumatoid arthritis  
(c) Pseudogout (d) Tuberculous arthritis
48. Graves' disease or Basedow's disease is due to :
- (a) Hyperactivity of adrenal cortex (b) Hypoactivity of thyroid gland  
(c) Hyperactivity of thyroid gland (d) Hypoactivity of islets of Langerhans

49. The most commonly identified trigger for Guillain Barre' syndrome is :
- (a) Staphylococcus aureus (b) Campylobacter jejuni infection  
(c) Immunisation (d) Surgery
50. A 45 years female complain with repeated bout of abdominal pain, severe hypertension, sweating and pallor, the most probable diagnosis is :
- (a) Conn's syndrome (b) Cushing's syndrome  
(c) Pheochromocytoma (d) Thyroid storm
51. Which of the following statement regarding Zika virus is TRUE:
- (a) Transmitted by the bite of culex mosquito (b) Associated with bilateral pneumonia and ARDS  
(c) Belong to filovirus group (d) Congenital transmission leads to microcephaly
52. Most common cause of pleural effusion in children is-
- (a) TB (b) Congestive heart failure  
(c) Bacterial pneumonia (d) Malignancy
53. Significant difference of blood pressure in upper and lower limbs is found in-
- (a) Tetralogy of Fallot (b) Kawasaki disease  
(c) PDA (d) Coarctation of aorta
54. Most common pathogen of pneumonia in children < 5 years old is-
- (a) Streptococcus Pneumoniae (b) Mycoplasma Pneumoniae  
(c) Group A Streptococcus (d) H. Influenza type b
55. Shakir tape is used for
- (a) Measurement of height (b) Measurement of length of infant  
(c) Measurement of mid-arm circumference (d) Measurement of skin pad thickness
56. Which of the following can a one-year-old can perform
- (a) Jumps (b) Drinks from cup  
(c) Speaks one or two words with meaning (d) Build tower of 6 blocks
57. Neonatal period extends upto –
- (a) 21 days of life (b) 30 days of life  
(c) 28 days of life (d) 35 days of life
58. Birth weight of a child doubles by
- (a) 2 months (b) 3 months  
(c) 4 months (d) 5 months
59. Recommended duration of exclusive breastfeeding is
- (a) 5 months (b) 6 months  
(c) 9 months (d) 1 year
60. The MOST common cause of under-5 mortality in developing world is
- (a) diarrheal disease (b) pneumonia  
(c) malaria (d) neonatal disease
61. All the following are recognizable teratogens EXCEPT
- (a) ethanol (b) antiepileptic medications  
(c) hypothermia (d) mercury
62. One of the following is FALSE in hemolytic disease of the newborn caused by Rh incompatibility
- (a) infant is Rh Positive (b) never occur in first-born infant  
(c) severe anemia can be seen (d) can be associated with stillbirth/hydrops

63. The therapeutic effect of phototherapy depends on the following factors EXCEPT
- (a) distance between the lights and the infant
  - (b) skin colour
  - (c) surface area of exposed skin
  - (d) rate of haemolysis
64. A search to determine the cause of jaundice should be made in all the following conditions EXCEPT
- (a) if it appears in the first 24 hour of life
  - (b) clay coloured stool
  - (c) if jaundice persists after 14 days of life
  - (d) if direct bilirubin fraction is  $>1$  mg/dL at any time
65. In males, the first visible sign of puberty is
- (a) Testicular enlargement
  - (b) Development of pubic hair
  - (c) Change in voice
  - (d) Increase in penile length
66. Immunization is one of the most beneficial and cost-effective disease prevention measures. As a result of effective and safe vaccines, which of the following diseases has been eradicated?
- (a) smallpox
  - (b) polio
  - (c) measles
  - (d) pertussis
67. The least common clinical feature of typhoid fever in children is
- (a) diarrhoea
  - (b) abdominal pain
  - (c) splenomegaly
  - (d) headache
68. Features of infants with congenital rubella syndrome are all EXCEPT:
- (a) deafness
  - (b) cataracts
  - (c) limb deformities
  - (d) patent ductus arteriosus
69. Congenital heart disease causing cyanosis without respiratory distress includes the following EXCEPT
- (a) tricuspid atresia
  - (b) aortic stenosis
  - (c) pulmonary atresia
  - (d) tetralogy of Fallot
70. One of the following is a sign of right-sided heart failure
- (a) edema
  - (b) orthopnea
  - (c) wheezing
  - (d) pulmonary edema
71. Vitamin K-dependent clotting factors include all the following EXCEPT
- (a) factor IX
  - (b) factor II
  - (c) factor VII
  - (d) factor I
72. Of the following, the LEAST likely feature of acute immune thrombocytopenia (ITP) is
- (a) a preceding viral infection
  - (b) isolated splenomegaly
  - (c) isolated thrombocytopenia
  - (d) mucocutaneous bleeding
73. Indications for dialysis in acute kidney injury include all the following EXCEPT
- (a) anuria/oliguria
  - (b) persistent hypercalcemia
  - (c) severe metabolic acidosis
  - (d) volume overload
74. All the following are risk factors for urinary tract infection EXCEPT
- (a) poor toilet training
  - (b) pinworm infestation
  - (c) male gender
  - (d) voiding dysfunction
75. Precocious puberty in girls is defined by the onset of secondary sexual characteristics before the age of
- (a) 7 yr
  - (b) 8 yr
  - (c) 9 yr
  - (d) 10 yr

76. The MOST severe form of Cerebral Palsy (CP) is  
(a) spastic diplegia (b) dyskinetic CP  
(c) spastic hemiplegia (d) spastic quadriplegia
77. Risk factors for bacterial meningitis are all EXCEPT:  
(a) liver dysfunction (b) overcrowding  
(c) poor socio-economic condition (d) skull fracture
78. According to IMNCI, which type of plan would you follow for the management of a child who was classified as having severe dehydration?  
(a) Plan A (b) Plan B  
(c) Plan C (d) Plan D
79. A child aged 2 years is considered to have fast breathing if he has a respiratory rate of:  
(a) 60 bpm or more (b) 50 bpm or more  
(c) 40 bpm or more (d) All of the above
80. According to IMNCI, ALL are signs of severe dehydration EXCEPT:  
(a) Drinks eagerly (b) Sunken eyes  
(c) Skin pinch goes back very slowly (d) Lethargic
81. In routine worm treatment, every child should be given ALBENDAZOLE/MEBENDAZOLE every...  
(a) 2 months from the age of one year (b) 9 months from the age of one year  
(c) 9 weeks from the age of one year (d) 6 months from the age of one year
82. All of the following options are signs of measles EXCEPT:  
(a) Generalized rash (b) Stiff neck  
(c) Cough or runny nose (d) Koplik spots
83. General danger signs in IMNCI includes all EXCEPT:  
(a) Vomits everything (b) Convulsion  
(c) Unable to sleep (d) Unable to drink and breastfeed
84. A 4 months old infant is not able to breastfeed and chest indrawing is present. This can be classified as (as per IMNCI):  
(a) Pneumonia (b) Severe Pneumonia  
(c) No Pneumonia (cold or cough) (d) Mild Pneumonia
85. Most common type of cerebral palsy associated with prematurity is:  
(a) spastic hemiplegia (b) spastic quadriplegia  
(c) extrapyramidal CP (d) spastic diplegia
86. All of the following diseases are covered under 'Mission Indradhanush' Program EXCEPT:  
(a) JE (b) Hepatitis B  
(c) Whooping cough (d) Diphtheria
87. Which of the following vaccines is most sensitive to heat:  
(a) OPV (b) BCG  
(c) DPT (d) Measles
88. Incorrect match is:  
(a) Measles – Edmonston Zagreb (b) Mumps – Jeryl Lynn strain  
(c) Rubella – RA 27/3 (d) OPV - Salk

89. Weight for height less than -3SD in growth chart indicates  
(a) Underweight (b) Mild malnutrition  
(c) Moderate malnutrition (d) Severe malnutrition
90. Head holding is achieved by a normally developing child at:  
(a) 3 months (b) 2 months  
(c) 5 months (d) 6 months
91. Most common acyanotic congenital heart disease:  
(a) PDA (b) VSD  
(c) ASD (d) Tetralogy of Fallot
92. Kwashiorkor is characterised by all features EXCEPT:  
(a) Baggy pant appearance (b) Edema  
(c) Flag sign hair changes (d) Flaky paint dermatosis
93. Respiratory distress syndrome/ Hyaline Membrane disease is a condition commonly associated with:  
(a) postmaturity (b) early onset sepsis  
(c) meconium aspiration (d) prematurity
94. The most important indicator of effective ventilation when resuscitating a newborn baby is:  
(a) Chest rise (b) Spontaneous respiratory efforts  
(c) Rise in Heart Rate (d) Improvement in tone & colour of the baby
95. Correct latching technique in breastfeeding are ALL, EXCEPT:  
(a) Mouth wide open  
(b) Areola visible more on the upper side than lower side  
(c) Baby's chin touches the breast  
(d) Sucking with rest in between
96. Edward syndrome is:  
(a) Trisomy 18 (b) Trisomy 21  
(c) Trisomy 16 (d) Trisomy 13
97. A child is able to draw circle at  
(a) 2 years of age (b) 3 years of age  
(c) 4 years of age (d) 5 years of age
98. VLBW and ELBW neonate are defined as:  
(a) Birth weight < 2000 grams and < 1000 grams respectively  
(b) Birth weight < 1500 grams and < 1000 grams respectively  
(c) Birth weight < 2000 grams and < 1250 grams respectively  
(d) Birth weight < 1500 grams and < 1250 grams respectively
99. Heat loss in newborn occurs through the following ways EXCEPT:  
(a) Radiation (b) Convection  
(c) Conduction (d) Condensation
100. TRUE about Cephalohematoma:  
(a) Does not cross the suture line and has distinct margin  
(b) More commonly seen than caput succedaneum  
(c) Located at the subcutaneous plane  
(d) Resolves in few days