

MIZORAM PUBLIC SERVICE COMMISSION

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

TECHNICAL SUBJECT PAPER - II

Time Allowed : 2 hours

Full Marks : 200

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

- Lactobacilli are numerous in carious lesion because they
 - Are the main causative agent
 - Can produce insoluble extracellular polysaccharides
 - Can attach to smooth enamel surfaces
 - Are secondary invaders
- Which of the following is cariogenic/caries promoting?
 - Selenium
 - Vanadium
 - Strontium
 - Molybdenum
- Dental caries is associated with
 - Streptococcus agalactiae
 - Streptococcus mutans
 - Streptococcus bovis
 - Streptococcus anginosus
- What is the pH at which initiation of caries begins?
 - 3.5 – 4.5
 - 4.3 – 4.5
 - 4.9 – 5.1
 - 5.2 – 5.5
- In the earliest stages of carious lesion. There is loss of
 - Enamel cuticle
 - Organic matrix
 - Interprismatic substance
 - Enamel lamellae
- Initiation of dental caries depends upon
 - Formation large amount of acid
 - Availability of carbohydrate food
 - Viscosity of saliva
 - Localization of acid over tooth surface
- The lateral spread of dental caries is facilitated mostly by the
 - Enamel spindles
 - Dentinoenamel junction
 - Enamel lamellae
 - Striae of retzius
- In a caries – free individual the saliva has
 - Low buffering capacity for acids
 - Medium buffering capacity for acids
 - High buffering capacity for acids
 - Independent of buffering capacity for acids
- Ammonia causes
 - Decrease in plaque formation
 - Increase in plaque formation
 - Increase in calculus formation
 - Causes precipitation of salivary proteins
- The type of caries describe due to lesions which are not clinically diagnosed but detected only on radiographs?
 - Secondary caries
 - Chronic caries
 - Occult caries
 - Incipient caries

11. Chemico-parasitic theory of dental caries is proposed by
 - (a) Miller
 - (b) GV Black
 - (c) Gottlieb
 - (d) Schwartz
12. The attachment of the Actinomyces species to the tooth surface is facilitated by
 - (a) Cilia
 - (b) Flagella
 - (c) Pseudopodia
 - (d) Fimbriae
13. Bacteria free zone of dentinal caries is
 - (a) Zone of decomposed dentin
 - (b) Zone of bacterial invasion
 - (c) Zone of decalcification
 - (d) Zone of dentinal sclerosis
14. Linear enamel caries lesions in deciduous teeth predominate in
 - (a) Maxillary anterior teeth
 - (b) Maxillary posterior teeth
 - (c) Mandibular posterior teeth
 - (d) Mandibular anterior teeth
15. Least cariogenic among these
 - (a) Sucrose
 - (b) Raw starch
 - (c) Cooked starch
 - (d) Fructose
16. Starch is considered to be less cariogenic than monosaccharides and disaccharides because it
 - (a) Does not diffuse through plaque
 - (b) Is rapidly hydrolysed in the mouth
 - (c) Enhances remineralisation
 - (d) Raises the pH in the oral cavity
17. What is the term for the radio opaque area found at the root apex of young permanent teeth involved with a chronic pulpitis?
 - (a) Apical cyst
 - (b) Apical condensing osteitis
 - (c) Chronic apical periodontitis
 - (d) Stage one apical osteofibroses
18. Which of the following is commonly recommended procedure for debridement?
 - (a) Citric acid
 - (b) Hydrogen peroxide-10%
 - (c) Air and water spray
 - (d) Hydrochloric acid
19. When removing a rubber dam, the first step is to
 - (a) Remove the clamp
 - (b) Release the holder
 - (c) Apply a water soluble lubricant
 - (d) Cut the interseptal rubber with scissors.
20. The safest instrument for removing the pulp from a very fine canal is
 - (a) Barbed broach
 - (b) Small K-type file
 - (c) Tempered universal headstroem file
 - (d) Smooth broach
21. The difference between a reamer and a file is in
 - (a) The number of flutes
 - (b) The number of flutes and shape of the shaft
 - (c) The number of flutes and the size of the shaft
 - (d) The shape and size of the shaft.
22. An endodontic reamer is least likely to fracture when inserted in a
 - (a) Wet, clean canal
 - (b) Dry, clean canal
 - (c) Wet, debris laden canal
 - (d) Dry, debris laden canal
23. When pulp cannot be extirpated in narrow canals, which of the following can be used?
 - (a) Obtundant
 - (b) Astringent
 - (c) Haemostatic
 - (d) Mummifying agent
24. Purple coloured reamer is numbered
 - (a) 08
 - (b) 10
 - (c) 15
 - (d) 30
25. Smallest no file is
 - (a) 4
 - (b) 6
 - (c) 8
 - (d) 10

26. RC- prep is a combination of?
(a) EDTA with carbamide peroxide
(b) EDTA with hydrogen peroxide
(c) EDTA with sodium hypochloride
(d) EDTA with urea peroxide and glycol base Glyde
27. Best method to sterilize absorbent point is
(a) Autoclaving
(b) Chemical sterilizer
(c) Glass bead/ salt sterilizer
(d) Passing in ethanol flame
28. Root canal instrument most likely to break during instrumentation is
(a) H-file
(b) K-file
(c) Reamer
(d) Pathfinder
29. The most suitable instrument to remove gutta percha from the root canal is
(a) Barbed broach
(b) Peeso reamer
(c) Tapering fissure bur
(d) Round bur
30. The potentially hazardous irrigant causing an emergency during treatment is
(a) Saliva
(b) Chlorhexidine
(c) Sodium hypochloride
(d) Metrogyl
31. Main cause of failure of endodontic therapy
(a) Improper biomechanical preparation
(b) Improper access cavity preparation
(c) Incomplete obturation
(d) Over extended filing
32. Which of the following is urethane dimethacrylate (UDMA) resin based endosealer?
(a) Endorex
(b) Real seal
(c) Raeko sealer
(d) Tubli seal
33. The most common consequences of bleaching non vital teeth is
(a) Discolouration
(b) Cervical resorption
(c) Apical periodontitis
(d) Root resorption
34. In the walking bleach technique
(a) It uses heat treatment
(b) It requires the patient to report in 24 hours
(c) Can be done with 35 percent hydrogen peroxide
(d) It uses a mixture of sodium perborate and hydrogen peroxide
35. The bleaching material used for night guard vital tooth bleaching is
(a) Superoxol
(b) Anaesthetic ether and hydrochloric acid
(c) Sodium bicarbonate
(d) Carbamide peroxide
36. Tooth discolouration is due to
(a) Acute pulpal abscess
(b) Pulpal hyperemia
(c) Pulpal death
(d) Filling materials
37. Carbamide solution used for bleaching degrades into-
(a) 0.3% sodium perborate
(b) 30% hydrogen peroxide
(c) 3% hydrogen peroxide
(d) 30% sodium perborate
38. Which of the following is not responsible for endogenous staining of teeth during development?
(a) Tetracycline
(b) Rh incompatibility
(c) Neonatal liver disease
(d) Vitamin-C deficiency
39. Which one of the following is used to bleach a discoloured endodontically treated tooth?
(a) Ether
(b) Chloroform
(c) Superoxol
(d) Sodium hypochloride

40. Vital bleaching causes
- (a) Periapical periodontitis
 - (b) Internal resorption
 - (c) External resorption
 - (d) Cervical resorption
41. The "In office" non vital bleaching technique is
- (a) Walking bleach
 - (b) Power bleach technique
 - (c) Thermos catalytic technique
 - (d) Night guard technique
42. Glass ionomer cement is used as a barrier over gutta-percha filling before bleaching an endodontically treated discolored tooth.
- (a) To prevent bleaching agent from dissolving the gutta-percha
 - (b) To prevent percolation of the bleaching agent into the apical area
 - (c) To prevent contamination of bleaching agent
 - (d) To prevent discoloration of tooth from obturation material
43. Till what age tetracycline should not be given to prevent discoloration?
- (a) 3 years
 - (b) 8 years
 - (c) 12 years
 - (d) 18 years
44. Minimum dosage of tetracycline which will show tooth discoloration is
- (a) 5mg/kg body weight
 - (b) 20mg/kg body weight
 - (c) 50 mg/kg body weight
 - (d) 80 mg/kg body weight
45. Dentist prescribed home applied bleaching technique uses
- (a) 35% hydrogen peroxide
 - (b) 10% carbamide peroxide
 - (c) 18% hydrochloric acid
 - (d) Sodium perborate
46. Discolouration of tooth in tetracycline therapy is because of formation of?
- (a) Calcium orthophosphate
 - (b) Dicalcium phosphate dihydrate
 - (c) Calcium oxide
 - (d) Tetracalcium phosphate
47. When undertaking bleaching of vital teeth, the following are done except
- (a) Prophylaxis
 - (b) Use of protective eye glasses
 - (c) Use of local anaesthesia
 - (d) Polishing after treatment
48. A successful major connector must be
- (a) Rigid
 - (b) Flexible
 - (c) Bulky
 - (d) Relieved of all mobile tissues
49. The lingual bar must be
- (a) Flat
 - (b) Half pear-shaped with the bulge superiorly
 - (c) Half pear-shaped with the bulge inferiorly
 - (d) Deep in the lingual sulcus
50. Labial bar is indicated when
- (a) There is a diastema
 - (b) Labial inclination of teeth
 - (c) Lingual inclination of teeth
 - (d) Periodontally weak teeth
51. Single palatal strap is indicated in
- (a) Class II
 - (b) Long span class III
 - (c) Small span class III located anteriorly
 - (d) Small span class III mod 1 located posteriorly
52. The aim of providing rests is
- (a) To maintain the components in one position
 - (b) To distribute occlusal loads to the abutment teeth
 - (c) To make the partial denture tooth-borne
 - (d) To provide a point of fulcrum
53. The outline form of the rest seat should be
- (a) Flat bottomed
 - (b) Round bottomed
 - (c) Triangular
 - (d) Rectangular

54. To prepare a rest seat
- (a) 2.5 mm of marginal ridge is to be reduced
 - (b) 1.5 mm of marginal ridge is to be reduced
 - (c) The outline to have a greater width than length
 - (d) The outline to have a greater length than width
55. The retentive component is placed in
- (a) Gingival 1/3rd
 - (b) Occlusal 1/3rd
 - (c) Middle 1/3rd
 - (d) Junction of middle and occlusal 1/3rd
56. The reciprocal arm should contact the tooth
- (a) When the retentive arm is activated
 - (b) After the retentive has crossed the height of contour
 - (c) Much before the retentive arm is activated
 - (d) After the denture has settled down completely
57. Minimum acceptable height for an abutment preparation is
- (a) The height which provides suitable clearance with the opposing arch
 - (b) About 3mm to 5mm depending upon the tooth
 - (c) That which allows the tooth structure to interfere with the arch of rotation
 - (d) That which does not allow the tooth structure to interfere with the arch of rotation
58. The occlusal clearance required for all metal crown is
- (a) 2 mm
 - (b) 1 – 1.5mm
 - (c) 5 mm
 - (d) 3 mm
59. For the occlusal surface coverage of teeth. The best material is
- (a) Metal
 - (b) Porcelain
 - (c) Acrylic
 - (d) Composite
60. The pontic for maxillary posterior region should be
- (a) Sanitary
 - (b) Point contact
 - (c) Bullet nose
 - (d) Saddle type
61. The pontic for mandibular posterior region should be
- (a) Sanitary
 - (b) Point contact
 - (c) Bullet nose
 - (d) Saddle type
62. The gingivae are healthiest when margins are placed
- (a) 1-2 mm above the gingival crest
 - (b) 1 mm below the gingival crest
 - (c) 2 mm below gingival crest
 - (d) At the gingival crest
63. In a severe class II division 1 malocclusion. We would expect to find
- (a) ANB angle of +8°
 - (b) ANB angle of -8°
 - (c) An ANB of +2°
 - (d) ANB of 0°
64. Chin cup are helpful in treatment of
- (a) Class I malocclusion
 - (b) Class III malocclusion
 - (c) Posterior crossbite
 - (d) Class II div 2
65. Hypothyroidism is characterised by
- (a) Constricted lower arch
 - (b) Short ramus and constricted maxillary arch
 - (c) Class III malocclusion and open bite
 - (d) B & C are true
66. Space maintainers after early loss of E's around 8-9 years of age
- (a) Is not required
 - (b) Results in crowding
 - (c) Can cause impaction of 2nd premolars if not done
 - (d) Will result in impaction of 2nd molars

67. Maxillary incisor cross-bites should be treated
- (a) After 12 years
 - (b) 10-12 years
 - (c) As soon as possible
 - (d) They will correct automatically
68. 'Scissor bite' is a term used to describe
- (a) Anteroposterior crowding with deep bite
 - (b) A type of posterior crossbite where the maxillary segments are completely contained in the mandibular segments
 - (c) All posterior crossbite
 - (d) A type of anterior reverse bite
69. The divisions of Angle's class I were proposed by
- (a) Paul Simon
 - (b) Martin Dewey
 - (c) Edward H Angle
 - (d) Profitt
70. All cross-bites should be treated
- (a) In the primary dentition
 - (b) At least in the mixed dentition
 - (c) In the permanent dentition
 - (d) As early as possible
71. Incisor teeth should not be extracted because
- (a) There is a tendency to develop open bite occlusion
 - (b) There is a tendency to develop an abnormally deep bite
 - (c) It interferes with the distal movement of maxillary/mandibular arch
 - (d) Arch form is difficult to maintain
72. Serial extraction should not be undertaken if there is
- (a) Severe crowding
 - (b) Presence of ectopic eruption
 - (c) Deep bite or open bite
 - (d) Macrodonia
73. In angle's classification of malocclusion, the key to occlusion is taken of
- (a) Upper first permanent molar
 - (b) Upper second permanent molar
 - (c) Lower first permanent molar
 - (d) Upper first deciduous molar
74. 'Ugly duckling' stage in mixed dentition is characterised by
- (a) Increased overjet and overbite
 - (b) Distoangular axial inclination of both maxillary central and lateral incisors, with median diastema
 - (c) Transposition of maxillary central and lateral incisor
 - (d) Retroclination of maxillary central incisor and proclination of lateral incisor
75. The advantage of Angle's classification are
- (a) Conveys precisely what was conceived for ie, relationship of mandibular teeth with respect to maxillary 1st permanent molar.
 - (b) Consider malocclusions in the transverse and vertical planes.
 - (c) The classification can be applied to the deciduous dentition.
 - (d) Individual tooth malpositions have been considered.
76. In Begg's technique, normally strategy for anchorage control is
- (a) Tipping/uprighting
 - (b) Use of additional teeth within the same arch to anchor units
 - (c) Use of extraoral appliance (headgear) to first molar
 - (d) Use of transpalatal bar in upper arch and lingual bar in lower arch
77. Expansion screws produce an expansion of
- (a) 2 mm per turn
 - (b) About 1 mm in each visit
 - (c) 1 mm expansion per half turn
 - (d) 0.25 mm per quarter turn

78. Which of the following should be treated early in complete primary dentition?
- (a) Posterior crossbite caused by mandibular shift
 - (b) Mild to moderate crowding of lower anterior teeth
 - (c) Midline diastema
 - (d) Anterior openbite due to thumb sucking
79. The term “neuroocclusion” for Angle’s class I, “distocclusion” for class II and “mesiocclusion” for class II were suggested by
- (a) Dewey Anderson
 - (b) Angle himself later suggested
 - (c) Lischer
 - (d) Simon
80. Thumb sucking is considered normal till
- (a) 6 months
 - (b) 2 years
 - (c) 3½ – 4 years
 - (d) 6years or till permanent teeth erupt
81. The MAIN cause of Bruxism is
- (a) Physiological problems
 - (b) Periodontal problems
 - (c) Traumatic occlusion
 - (d) Psychological factors
82. Which of the following does not come under primary preventive services provided by the dental professional?
- (a) Professional topical fluoride application
 - (b) Use of fluoride dentifrices
 - (c) Pit and fissure sealants
 - (d) Diet counselling
83. The optimum recommended fluoride level in drinking water supply is
- (a) 0.2 – 0.7 ppm
 - (b) 0.7 – 1.2 ppm
 - (c) 1.2 – 1.7 ppm
 - (d) 1.7 – 2.2 ppm
84. The lethal dose of fluorides for an adult is
- (a) 1.5 to 2.5 gm
 - (b) 2.5 to 10 gm
 - (c) 10 to 15 gm
 - (d) 15 to 20 gm
85. The daily recommended dose of fluoride for children >3 years is
- (a) ≤ 0.5 mg
 - (b) 0.5 - 0.7 mg
 - (c) 1 – 1.5 mg
 - (d) ≥ 1.5 mg
86. To advise intake of 1mg of fluoride the recommended prescription is:
- (a) NaF tablets of 2.2 mg
 - (b) NaF tablets of 1.1 mg
 - (c) 10 drops of NaF
 - (d) A and C
87. Which of the following is the most effective method of preventing dental decay in the general population?
- (a) Oral prophylaxis
 - (b) Systemic fluorides
 - (c) Diet counselling
 - (d) Fluoride mouthwash and toothpaste
88. Toothbrushing in oral hygiene and dental disease cautious persons is recommended:
- (a) Once a day
 - (b) Twice a day
 - (c) After every meal
 - (d) As per patients choice
89. The use of a daily rinse with fluoride mouth rinses, eg NaF 0.05% is recommended because:
- (a) This regimen is more effective
 - (b) It is easier for patient to remember and comply with a daily procedure
 - (c) It is a harmless regimen
 - (d) It is economic cost-wise
90. Which of the following is used as a thickening agent in dentifrices?
- (a) Ca carbonate, Ca phosphate and Ca sulphate
 - (b) Na bicarbonate, NaCl, Al oxide and silicate oxide
 - (c) Na lauryl sulphate and Na lauryl sarcosinate
 - (d) Carboxymethyl cellulose, alginate amylose

91. Choose the most effective mechanical device for cleaning concave interdental surfaces of teeth?
(a) Conventional toothbrushes (b) Powered toothbrushes
(c) Triangular toothpicks (d) Interdental brushes
92. The recommended concentration for acidulated phosphate fluoride applied topically is:
(a) 1.23% (b) 2%
(c) 8% (d) 2.26%
93. Repeated topical applications of a fluoride agent will not produce tooth mottling because:
(a) The fluoride concentration of the solution is weak
(b) The applied fluoride is neutralised by calcium of the saliva
(c) It is not fluoride that produces the mottling seen in fluorosis
(d) The tooth is already calcified and cannot be altered in this fashion
94. At present the most practical method of preventing pit and fissure caries appears to be:
(a) Dietary control of carbohydrates (b) Effective plaque control
(c) Topical fluoride application (d) Adhesive sealants
95. The toothbrushing method least likely to remove plaque in the gingival margin is the:
(a) Sulcular method (b) Scrub method
(c) Modified Stillman (d) Roll stroke
96. Dental health education is considered successful if the patient:
(a) Gains more knowledge about home and professional care
(b) Visits the dentist every six months
(c) Demonstrates proper brushing and flossing techniques
(d) Takes appropriate action to improve oral health
97. In recommending a toothpaste for a patient, consideration is given to:
(a) The amount of stains present on the patients teeth
(b) The need to "whiten" the teeth
(c) The need for caries prevention
(d) The patients plaque situation
98. When treating rampant dental caries an initial step should be to:
(a) Apply topical fluorides to all teeth once a week
(b) Perform a prophylaxis, instruct oral hygiene maintenance habits
(c) Remove all softened tooth structure and seal with zinc oxide eugenol
(d) Restore all teeth as quickly as possible with stainless steel crown
99. What is meant by the legal expression "technical assault"?
(a) It describes undue trauma or excessive discomfort
(b) It is an assault upon a patient in any form other than physical eg verbal or emotional
(c) It the act of touching a person without his consent
(d) It is the process of treating a patient using complex or technical armamentarium rather than using a part of the human body such as a finger.
100. The rationale for the topical application of fluorides in dental caries prevention is that:
(a) Fluorides penetrate the enamel through lamellae
(b) The primary cuticle being less calcified absorbs the fluorides
(c) Acid solubility of the surface enamel is reduced by the fluorides
(d) Keratin content of the enamel is made more resistant to solubility