

Sikkim Public Service Commission

Main Written Examination for the Post

Dental Surgeon(Jr Grade)

Paper - II

Time Allowed : 3 Hrs.

Maximum Marks : 300

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before answering the questions :-

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to fill in the Roll Number and Test Booklet Serial Number carefully and without any omission or discrepancy at the appropriate places in the **OMR ANSWER SHEET**.
3. **Use only Black Ball Point Pen to fill the OMR sheet**
4. Do not write anything else on the OMR Answer Sheet except the required information.
5. *This Test Booklet contains two Sections i.e Section A and B. Section A contains 100 items of Multiple Choice Questions for 2 Marks each. Section B contains Conventional/Subjective type of questions.*
6. *Section B, Conventional/Subjective comprises of two parts I (Long Answer Questions for 50 Marks) & II (Short Answer Questions 50 Marks). Total 07 questions needs to be answered in Section B, Section B Part I - 2 Questions (compulsory) and Section B Part II - 5 questions (compulsory).*
7. Before you proceed to mark in the Answer Sheet (OMR), you have to fill in some particulars in the Answer Sheet (OMR) as per given instructions.
8. After you have completed filling in all your responses on the Answer Sheet (OMR) and the examination has concluded, you should hand over the OMR & Conventional Answer sheet to the Invigilator only. You are permitted to take away the Test Booklet.
9. **Marking Scheme**
There will be negative marking for wrong answers marked by a candidate in the objective type question papers.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to the question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

SECTION A

Multiple Choice Questions

1. In which of the following papillae of the tongue are the taste buds predominantly located
A) Circumvallate
B) Filiform
C) Foliate
D) Fungiform
2. All of the following muscles are grouped together as "muscles of mastication" except
A) Buccinator
B) Masseter
C) Temporalis
D) Pterygoids
3. All of the following are branches of external carotid artery except
A) Superior thyroid artery
B) Anterior ethmoidal artery
C) Posterior auricular artery
D) Occipital artery
4. Maxillary artery is a branch of
A) External carotid artery
B) Internal carotid artery
C) Trigeminal artery
D) Facial artery
5. Which one of the following is not a monosaccharide
A) Glucose
B) Sucrose
C) Fructose
D) Galactose
6. In vitamin A deficiency, patient complains of all of the following except
A) Night blindness
B) Xerophthalmia
C) Keratosis
D) Phosphoric calciuria

7. Which of the following is most responsible for normal nerve conduction?
- A) Na
 - B) K
 - C) Ca
 - D) Cl
8. The nerve fibres having the largest diameter are
- A) Preganglionic autonomic fibres
 - B) Dorsal root C fibres
 - C) Somatic motor fibres
 - D) Motor fibres to muscle spindles
9. Iron in haemoglobin exists as
- A) Ferrous ion
 - B) Ferric form
 - C) Metallic
 - D) Negative ion
10. Blood agar is
- A) Simple media
 - B) Transport media
 - C) Enriched media
 - D) Differential media
11. The host tissue response in acute inflammation is all except
- A) Exudative
 - B) Necrotizing
 - C) Granulomatous
 - D) Cytopathic
12. Neoplasia of blood vessel is called
- A) Angioma
 - B) Haematoma
 - C) Lymphosarcoma
 - D) Papilloma
13. First-pass mechanism of drugs is most significant in drugs given by
- A) Oral route
 - B) Sublingually
 - C) Intramuscular route
 - D) Intravascular route

14. Which of the following is not a third generation cephalosporin?
- A) Cefotaxime
 - B) Cefoperazone
 - C) Cefixime
 - D) Cefadroxil
15. A child permanently stained teeth reports. He was most probably administered
- A) Diphenylhydantoin
 - B) Tetracycline
 - C) Digoxin
 - D) Amoxycillin
16. The last permanent incisor to erupt
- A) Upper centrals
 - B) Lower centrals
 - C) Upper laterals
 - D) Lower laterals
17. Five cusps are present in
- A) Maxillary first molar only
 - B) Mandibular first molar only
 - C) Maxillary and mandibular first molar
 - D) Maxillary and mandibular second molar
18. The fundamental statistical indicator is
- A) Mean
 - B) Median
 - C) Variance
 - D) Mode
19. The student's test is
- A) A test for comparing proportions
 - B) A nonparametric test
 - C) A test for comparing averages
 - D) A test for comparing variances
20. Among the following which is the best sampling method?
- A) Snowball
 - B) Quota
 - C) Purposive
 - D) Random

21. Best method to show trend of amends with passage of time is?
- A) Line diagram
 - B) Bar diagram
 - C) Histogram
 - D) Pie chart
22. A child consumes a toxic dose of fluoride. You will
- A) Induce vomiting
 - B) Give a lot of fluids
 - C) Give a lot of fluids and sodium bicarbonates
 - D) Give milk, calcium tablets or magnesium tablets
23. The principal sites of growth of the mandible include all except
- A) Posterior surface of Ramus
 - B) Condylar process
 - C) Coronoid process
 - D) Symphysis
24. Functional matrix theory was proposed by
- A) Sicher
 - B) James Scott
 - C) Melvin Moss
 - D) Enlow
25. The mandible grows longer by apposition of new bone on the posterior surface of
- A) Condyle
 - B) Coronoid
 - C) Symphysis
 - D) Ramus
26. Protrusion of tongue is brought out by
- A) Genioglossus
 - B) Intrinsic muscles of tongue
 - C) Styloglossus
 - D) Palatoglossus
27. Muscle that attaches to zygomatic process of maxilla
- A) Masseter
 - B) Buccinator
 - C) Middle temporal
 - D) Medial pterygoid

28. Origin of maxillary artery in the head and facial region is
- A) Angle of mandible
 - B) Neck of condyle
 - C) Body of mandible
 - D) Coronoid
29. Koplik's spots are associated with one of the following
- A) Viral infection
 - B) Diabetes
 - C) Measles
 - D) Rubella
30. Majority of drugs are transported across the membrane by
- A) Passive diffusion
 - B) Active transport
 - C) Facilitated transport
 - D) Filtration
31. Therapeutic index indicates
- A) Drug toxicity
 - B) Drug efficacy
 - C) Drug safety
 - D) Drug's potency
32. Any one of the three rounded protuberances seen on incisal ridges of newly erupted incisor is called
- A) Tubercle
 - B) Cusp
 - C) Mamelon
 - D) Fossa
33. The only reaction pulp elicits to any kind of stimulus is
- A) Pain
 - B) Touch
 - C) Temperature
 - D) All the above
34. Which of the following is most responsible for normal nerve conduction?
- A) Na
 - B) K
 - C) Ca
 - D) Cl

35. The dimension of Biologic width is?
- A) 2.04 mm
 - B) 4.02 mm
 - C) 6.5 mm
 - D) 5 mm
36. Which of the following is not a measure of dispersion?
- A) Range
 - B) Mode
 - C) Mean Deviation
 - D) Standard Deviation
37. Frankl behavior rating scale was given in-
- A) 1962
 - B) 1982
 - C) 1999
 - D) 1778
38. Spread of dispersion is measured by
- A) Ratio
 - B) Coefficient of variation
 - C) Mode
 - D) Frequency
39. The component of plaque that causes adhesion is
- A) Bacteria
 - B) Mucin
 - C) Glucan
 - D) All of the above
40. Least cariogenic sugar is
- A) Sucrose
 - B) Fructose
 - C) Xylitol
 - D) Lactose
41. Most common morphological variation is seen in:
- | | |
|-------------------------------|----------------------|
| A) Mandibular Lateral incisor | C) Maxillary Canine |
| B) Maxillary Lateral Incisor | D) Mandibular Canine |

42. Which of the following are poorly calcified Enamel:

- A) Gnarled Enamel and Enamel rods
- B) Enamel lamellae and incremental lines
- C) Perikymata and Gnarled Enamel
- D) Enamel rods and incremental lines

43. A pear-shaped radiolucency causing displacement of the roots of vital maxillary lateral and cuspid teeth is characteristic of-

- A) Globulomaxillary cyst
- B) Primordial cyst
- C) Nasoalveolar cyst
- D) Lateral Periodontal cyst

44. Lesion that characteristically occurs on the alveolar ridge of infants -

- A) Congenital lymphangioma
- B) Fordyce granules
- C) Bohn's nodules
- D) Retrocuspid papilla

45. Features of familial multiple neurofibroma with café-au-lait spots of skin are typical of-

- A) Von-recklinghausen's disease of the skin
- B) Paget's disease of skin
- C) Papillon lefevre syndrome
- D) familial fibrous dysplasia

46. All are derived landmarks of cephalogram except-

- A) Sella
- B) Porion
- C) Articulare
- D) PTM

47. Adenoid faces is a feature of-

- | | |
|------------------|------------|
| A) Class 2 div 1 | C) Class 3 |
| B) Class 2 div 2 | D) Class 1 |

48. Features seen in vertical growers are all except-

- A) Downward and backward rotation of mandible
- B) Increase in anterior facial height
- C) High mandibular plane angle
- D) Strong elevators

49. Which instrument is used to locate canal orifice-
- A) Smooth broaches
 - B) Endodontic explorer
 - C) Canal opener
 - D) GG drill
50. The most favorable prognosis is seen in which type of root fracture-
- A) Apical third
 - B) Middle third
 - C) Cervical third
 - D) Junction of middle and cervical third
51. Most numerous fibres in dental pulp are-
- A) A-delta
 - B) A-beta
 - C) C fibres
 - D) Gamma fibres
52. Diameter of D16 of file 35-
- A) 0.67mm
 - B) 0.35mm
 - C) 0.067mm
 - D) 0.35mm
53. Change in colour of traumatized tooth is evident in-
- A) 1-2 weeks after injury
 - B) 2-3 weeks after injury
 - C) 3-4 weeks after injury
 - D) within few days
54. The first fluoride-containing dentifrice (CREST) had-
- A) Stannous fluoride
 - B) Sodium fluoride
 - C) Acidulated phosphate fluoride
 - D) Sodium monofluorophosphate
55. Which is the commonest type of injury in the orofacial region-
- A) Laceration
 - B) Concussion
 - C) Abrasion
 - D) Avulsion

56. A patient aged 10 years, has lost a maxillary permanent Central Incisor, correct treatment is to-
- A) Construct a suitable space maintainer immediately
 - B) Delay treatment until a fixed bridge can be constructed
 - C) Allow complete healing before considering a replacement
 - D) Observe
57. Masochistic habits are associated with-
- A) Gullian barre syndrome
 - B) Lesch-Nyhan syndrome
 - C) Stevens Johnson syndrome
 - D) Patterson Kelly syndrome
58. Where are the dentist's feet during any procedure when four-handed dentistry is being practiced-
- A) on the stool support rim
 - B) on the floor
 - C) on the dental chair base
 - D) wherever is convenient
59. Evidence of development of human tooth can be observed as early as-
- A) 6th week of embryonic life
 - B) 11th week of embryonic life
 - C) 14th week of embryonic life
 - D) 16th week of embryonic life
60. Epstein's pearls are seen in-
- A) Attached gingiva
 - B) Floor of mouth
 - C) Midpalatineraphe
 - D) Alveolar ridge
61. Oedipus and Electra complexes are seen in which stages of psychosexual theory-
- A) Oral
 - B) Anal
 - C) Phallic
 - D) Latency

62. To diagnose TMJ pain, which nerve block is given?

- A) Auriculotemporal nerve block
- B) Mandibular Nerve block
- C) IANB
- D) Maxillary Nerve block

63. Most common cause of shock in polytrauma case-

- A) Hypovolemic shock
- B) Circulatory shock
- C) Distributive shock
- D) Neurogenic shock

64. Predominant immunoglobulin in GCF-

- A) IgA
- B) IgG
- C) IgM
- D) IgE

65. Langer technique is-

- A) Sub-epithelial connective tissue graft
- B) free gingival graft
- C) Fenestration and dehiscence
- D) Incision given on lingual surface of mandible from Mesio-facial line angle of 1st molar to distal surface of 3rd molar

66. Earliest clinical sign of gingivitis is-

- A) Bleeding on probing
- B) Change in colour
- C) Change in contour
- D) Change in size

67. Maximum number of fibers in PDL are-

- A) Oblique fibers
- B) Transseptal fibers
- C) Alveolar crest fibers
- D) Horizontal fibers

68. Burtonian line is seen in poisoning of-

- | | |
|------------|----------------|
| A) Lead | C) Heavy metal |
| B) Mercury | D) Arsenic |

69. Slit collimator is used in-
- A) Orthopantomogram
 - B) Water's view
 - C) Occlusal view
 - D) Lateral cephalogram
70. Best imaging tech to view TMJ derangement is-
- A) MRI
 - B) CT
 - C) Pantomography
 - D) PET scan
71. Fogging of X-ray film occurs due to-
- A) Improper processing
 - B) Short film-source distance
 - C) Placement of reverse film packet
 - D) Excessive bending
72. All of the following statements about denture stomatitis are true except-
- A) Usually associated with a sore mouth
 - B) Usually associated with wearing a denture at night
 - C) More common in diabetics
 - D) More common in men
73. Fleeting pain sores are caused by-
- A) Overextended denture borders
 - B) Occluding face height being too great
 - C) Malocclusion
 - D) None of these
74. Punched-out lesions on alveolar ridge is due to
- A) Acrylic nodules on tissue surface of denture
 - B) Disturbed occlusion
 - C) Overextended borders of denture
 - D) Narrow occlusal table
75. The highest mercury concentration in amalgam filling is found-
- A) At the margin of restoration
 - B) In the center of restoration
 - C) In deepest part of restoration
 - D) None of these

76. The addition of which of these can accelerate the setting time of zinc oxide cement-
- A) Zinc acetate
 - B) Barium sulphate
 - C) Zinc sulphate
 - D) Barium chloride
77. Green strength with reference to plaster means-
- A) Dry strength
 - B) Compressive strength
 - C) Strength due to green colour of stone
 - D) Wet strength
78. Beta-hemihydrate particles absorb-
- A) More water
 - B) Less water
 - C) No water
 - D) None of the above
79. Hysteresis in a hydrocolloid gel is-
- A) Moisture absorption
 - B) Temperature lag between gelation and liquefaction
 - C) Phenomenon of conversion of gel into sol
 - D) All of the above.
80. In the post-eruptive phase, a tooth undergoes primarily:
- A) Rotational movement
 - B) Movements in distal direction
 - C) Movements in apical direction
 - D) Movements in axial and mesial direction
81. Incremental lines are a result of variation in;
- A) Proliferation
 - B) Histodifferentiation
 - C) Morphodifferentiation
 - D) Rhythmic apposition
82. In a developing tooth, if the Hertwig's sheath and the epithelial diaphragm fail to form, the resulting tooth would exhibit-
- A) No radicular dentine
 - B) Malformed or fused roots
 - C) Acellular, but no cellular cementum
 - D) Defective enamel in cervical region

83. Gagging reflex is caused by
- A) Trigeminal nerve
 - B) Glossopharyngeal Nerve
 - C) Facial nerve
 - D) Recurrent laryngeal
84. The sterilization of Gutta Percha is achieved by
- A) Heat
 - B) Chemical sterilization
 - C) Flame
 - D) Autoclave
85. A seven year old boy fell off his bicycle 2 days ago and broke his Permanent Maxillary central incisor. The pulp horn is visible as a pin point. The tooth is vital. Your treatment will be
- A) Pulpectomy
 - B) Place calcium hydroxide and fill with composite resin
 - C) Calcium hydroxide pulpotomy
 - D) Root canal treatment
86. Which is the only dental tissue that lose its formative cells as it matures
- A) Enamel
 - B) Dentine
 - C) Pulp
 - D) Cementum
87. Density of film is decreased by increasing the
- A) MA
 - B) Exposure time
 - C) Developing time
 - D) Rinsing time
88. The best space maintainer is
- A) Lingual holding arch
 - B) Pulpectomised primary tooth
 - C) Band and loop maintainer
 - D) Removable partial denture

89. All of the following are keratinised EXCEPT of

- A) Crevicular epithelium
- B) Palatal epithelium
- C) Alveolar mucosa
- D) Free gingiva

90. The MOST cause of gingival irritation is

- A) Calculus
- B) Plaque
- C) Caries
- D) Restorative material

91. Which of the following factors can affect the shape and size of the pulp canal

- A) Chemical irritation and caries
- B) Trauma and function
- C) Attrition, wear and aging of the patient
- D) All of the above

92. Following a periodontal surgery; periodontal dressing will

- A) Help in tissue adoption
- B) Decrease the patient's discomfort
- C) Enhance the rate of healing
- D) Control bleeding and maintain blood clot

93. Where does the bone resorption show in a necrosis pulp of deciduous molar

- A) at the root apex
- B) At the bifurcation
- C) On the buccal side of the tooth
- D) On the lingual side of the tooth

94. To extract upper deciduous molar, the movement should be

- A) Buccal first to move tooth
- B) Palatal first to move tooth
- C) Distal first to move tooth
- D) Rotation movement

95. Which of the following is **MOST** useful in differentiating between apical abscess and periodontal abscess
- A) Percussion
 - B) Vitality tests
 - C) Cold tests
 - D) Heat tests
96. What is the ideal length for a post in post-core in an endodontically treated tooth
- A) 2/3 of the tooth length
 - B) 1/2 of the tooth length
 - C) 1.5 times that of the crown
 - D) Same as the anticipated crown
97. At birth, the oral cavity usually contains
- A) *S. mutans* only
 - B) No micro organism
 - C) *S. mutans* and *S. salivaris*
 - D) Lactobacilli and *S. mutans*
98. At birth, some calcified dental tissues are presented
- A) All deciduous teeth and all permanent incisors
 - B) All deciduous teeth and permanent central incisors
 - C) All deciduous teeth and the first permanent molars
 - D) Deciduous teeth only
99. Which muscle acts on the disto lingual contour of lower denture
- A) Mentalis
 - B) Masseter
 - C) Mylohyoid
 - D) Buccinator
100. Loss of sensation in the lower lip may be produced by
- A) Bell's palsy
 - B) Traumatic bone cyst
 - C) Trigeminal neuralgia
 - D) Fracture in the mandible first molar region

SECTION B

I - LONG ANSWER QUESTIONS (Any Two)

(2x25=50)

1. Enumerate the branches of the trigeminal nerve. Describe the course and distribution of the trigeminal nerve and discuss about its nuclei at the level of upper pons.
2. Enumerate the theories of growth and development. Describe in detail the Functional Matrix Theory. Write about the pre-natal and post-natal development of maxilla.
3. Discuss the role of systematic diseases on periodontal health. Describe in detail the effect of diabetes on progression of periodontal diseases. How does periodontitis affect glycemic control in diabetic patients?
4. Define and classify Jaw relations? Describe in detail vertical and horizontal Jaw relations.

II - SHORT ANSWER QUESTIONS

(Answer any five)

(5x10=50)

- i. Write in detail about the various muscles of mastication including their origin, insertion and functions along with diagrams. Describe the accessory muscles of mastication.
- ii. Classify Pulpotomy. Write in detail about the procedure of formocresol pulpotomy.
- iii. Describe classes of cavity preparation given by G.V.Black. Write the steps of class I cavity preparation for amalgam for a permanent maxillary molar.
- iv. Classify odontogenic tumours. Describe etiology, pathogenesis, clinical features, radiological features and histological features of ameloblastoma.
- v. Classify types of gingival enlargement. Write in detail about drug-induced gingival enlargement.
- vi. Describe in detail, the factors affecting balanced occlusion.
- vii. Classify Le-Fort fractures. Describe in detail about clinical features and management of Le-Fort III fracture.
- viii. Write in detail about the various biological effects of radiations on human cells.
- ix. What are the various routes of drug administration? Describe the absorption, distribution, metabolism and excretion of drugs in the human body.
- x. Classify Local anaesthetic agents. Write in detail about the various theories of mechanism of action of local anaesthetics.