

- I. Select the correct answer (1.5% for each question)
- In administering a mandibular anesthetic nerve block, the muscle penetrated by the needle is the
    - Buccinator.
    - Medial pterygoid.
    - Lateral pterygoid.
    - Superior constrictor of the pharynx.
  - The predominant glycosaminoglycan of healthy human gingival connective tissue is
    - Hyaluronic acid.
    - Heparan sulfate.
    - Dermatan sulfate.
    - Chondroitin-4-sulfate.
  - Precursor cells for osteoclasts are
    - Monocytes.
    - Endothelial cells.
    - Fused osteoblasts.
    - Undifferentiated fibroblasts.
  - Platelet-derived growth factor (PDGF) has potent effects on the cell migration and mitogenesis of
    - Osteoblasts.
    - Epithelial cells.
    - Endothelial cells.
    - Inflammatory cells.
  - An important antiprotease found in serum and various secretions is
    - gamma-globulin.
    - Deoxy myoglobin.
    - Alpha-2 macroglobulin.
    - Hemoglobin A (alpha<sub>2</sub>, beta<sub>2</sub>)
  - The cyclooxygenase pathway of arachidonic acid metabolism produces a potent platelet aggregator and blood vessel constrictor called
    - Leukotriene B<sub>4</sub> (LTB<sub>4</sub>).
    - Thromboxane A<sub>2</sub> (TXA<sub>2</sub>).
    - Platelet activating factor (PAF).
    - Hydroxyicosatetraenoic acid (HETE).
  - An important buffering system of saliva involves
    - Alpha-amylase.
    - HCO<sub>3</sub><sup>-</sup>/H<sub>2</sub>CO<sub>3</sub>.
    - Proline-rich glycoproteins.
    - Low molecular weight mucins.
  - Cervical enamel projections are found with greatest frequency on
    - Maxillary 1<sup>st</sup> molars.
    - Maxillary 2<sup>nd</sup> molars.
    - Mandibular 1<sup>st</sup> molars.
    - Mandibular 2<sup>nd</sup> molars.

9. The prevalence of accessory root canals in the furcations of permanent molars is
- 5-10%.
  - 15-20%.
  - 25-30%.
  - 35-40%.
10. The increased gingival inflammation associated with an overhanging amalgam restoration is primary due to
- Mercury from the amalgam.
  - Cytotoxic effects of corroded amalgam.
  - Pressure-induced vascular occlusion.
  - Qualitative changes in the subgingival flora.
11. Type I diabetes can cause tendency toward periodontal abscess and rapidly progressing attachment loss by affecting all of the following EXCEPT:
- Host defenses.
  - Collagen metabolism.
  - Periodontal vasculature.
  - Epithelial cell turnover.
12. If ingested, chlorhexidine is primarily
- Absorbed from the oral mucosa.
  - Excreted unchanged in the feces.
  - Absorbed from the small intestine.
  - Broken down into harmless metabolites in the gut.
13. According to Claffey et al. (1986), loss of clinical attachment after scaling and root planning occurs primarily at sites where the gingival tissues are
- thin and bleeding.
  - Thin and nonbleeding.
  - Thick and bleeding.
  - Thick and nonbleeding.
14. In the healing of apically positioned flap, the major source of granulation tissue is from the
- Wound edges.
  - Marrow spaces.
  - Periodontal ligament.
  - Supraperiosteal vessels.
15. In histologic studies of healing in full thickness flaps, bone resorption is maximal at
- 2-4 days.
  - 2 weeks.
  - 2 months.
  - 6 months.
16. The most common types of bone deformities that occur in periodontal disease are
- Craters.
  - Hemisepta.
  - Furca invasions.
  - Circumferential defects.

17. The major reason for postsurgical placement of a periodontal dressing is to
- Promote more rapid wound healing.
  - Prevent microbial colonization of the wound.
  - Help protect the wound from mechanical injury.
  - Prevent postoperative bleeding following periodontal surgery.
18. When using the Branemark implant system, the MINIMAL recommended distance between the fixture and the adjacent teeth is
- 1.0 mm.
  - 1.5 mm.
  - 2.0 mm.
19. As defined by Branemark, the term "osseointegration" indicates that at the implant-bone interface there is
- A thin layer of cementum.
  - An intact junctional epithelium.
  - No evidence of a periimplant radiolucency.
  - A direct structure and functional connection.
20. Glick et al. (1994) reported that a diagnosis of necrotizing ulcerative periodontitis (NUP) in an HIV-infected individual would be predictive of
- Development of Kaposi's sarcoma.
  - A CD4+ T-cell count below 1000/MM<sup>3</sup> in blood.
  - Immune deterioration and progression of AIDS.
  - Loss of the affected teeth within several months.
21. When does the most bone loss occur around dental implants?
- 0-1 years.
  - 2-4 years.
  - 5-7 years.
  - 10-q2 years.
22. Buser et al. (1993) considered that following localized ridge augmentation using guided bone regeneration, the recommended time for implant placement was
- 3 months.
  - 6 months.
  - 9 months.
  - 12 months.
23. According to Lekholm and Zarb (1992), bone presenting a thin cortical layer surrounding a core of low-density trabecular bone would be
- Type 1.
  - Type 2.
  - Type 3.
  - Type 4.
24. A possible contributing factor in pregnancy gingivitis is that female sex hormones
- Depress neutrophil chemotaxis.
  - Promote the deposition of subgingival calculus.
  - Stimulate growth of periodontopathogenic anaerobes.
  - Stimulate collagenase production in the periodontium.

25. According to Nelson (1987), what should be the range of thickness of a subpedicle connective tissue graft for root coverage?
- 0.5 - 1.0 mm.
  - 1.0 - 1.5 mm.
  - 1.5 - 2.0 mm.
  - 2.0 - 2.5 mm.
26. In an examination of demineralized freeze-dried bone allograft (DFDBA) in extraction sockets, Becker et al. (1994) found
- Bone formation without resorption of DFDBA particles.
  - Resorption of DFDBA particles followed by frontal osteoblastic activity.
  - Resorption of DFDBA particles and replacement with fibrous connective tissue.
  - No bone resorption or formation adjacent to DFDBA particles.
27. Ramfjord and Ash established some guidelines for occlusal adjustment. These included all EXCEPT
- Achieving freedom in centric.
  - Eliminating balancing prematurities.
  - Using BULL rule for working interferences.
  - Converting group function to cuspid-rise function.
28. Leknes et al. (1996) reported that cementum tears are a possible risk for
- Pulpal infection.
  - Vertical root fracture.
  - Lateral periodontal cyst.
  - Localized attachment loss.
29. Within the family of bone morphogenetic proteins (BMPs), osteogenin is synonymous with
- BMP-2.
  - BMP-3.
  - BMP-4.
  - BMP-6.
30. The distal furcation of the maxillary first molar is located at the
- Palatal 1/3 of the tooth.
  - Buccal 1/3 of the tooth.
  - Buccal-palatal midpoint of the tooth.
31. In a study of root anatomy, Joseph et al. (1966) found \_\_\_\_\_ of maxillary first premolars had bifurcated roots.
- 17%
  - 37%
  - 57%
  - 77%
32. Coe-Pak<sup>R</sup>, the periodontal dressing, contains all EXCEPT
- Eugenol.
  - Zinc oxide.
  - Lorothidol.
  - Chlorothymol.

33. All of the following are characteristics of the soft tissue interfac of an implant EXCEPT
- Basal lamina.
  - Sulcular epithelium.
  - Junctional epithelium.
  - Connective tissue fiber insertion.
34. Philstrom et al. (1980) found that the absence of gingivsal enlargement following phenytoin medication was best correlated with
- Plaque indices scores.
  - Serum levels of phenytoin.
  - Salivary levels of phenytoin.
  - Duration of the phenytoin therapy.
35. Page and Schroeder described four distinct stages of periodontal disease. The \_\_\_\_\_ stage has the typical features of periodontitis.
- Early.
  - Established.
  - Advanced.
  - Progressive.
36. Which of the following DO NOT produces collagenase?
- Platelets.
  - Fibroblasts.
  - Lymphocytes.
  - Keratinocytes
37. According to Schoeder et al. (1973), approximately \_\_\_\_\_ % collagen loss occurred during the early lesion of gingivitis.
- 10.
  - 25.
  - 50.
  - 70.
38. Rapidly progressive periodontitis patients have been shown to exhibit elevated serum
- Interleukin-2 levels.
  - Interleukin-3 levels.
  - IgG<sub>2</sub> antibodies to *T. denticola*.
  - IgG<sub>2</sub> antibodies to *P. gingivalis*.
39. In generalized prepubertal periodontitis, the primary pathogenic mechanism is
- Neutropenia.
  - Leukocyte adhesion deficiency.
  - Reduced neutrophil phagocytosis.
  - Abnormal lymphocyte transformation.
40. According to Sbdone et al. (1995), the most effective antibodies for the treatment of peri-implantitis were penicillin G or
- Amoxicillin.
  - Clindamycin.
  - Ciprofloxacin.
  - Metronidazole.

41. Tetracyclines may potentiate the action of
- Opioids.
  - Anticoagulants.
  - Anticonvulsants.
  - Oral contraceptives.
42. Several studies have shown that epithelial cells are invaded by *A. actinomycetemcomitans* and
- B. forsythus*.
  - T. denticola*.
  - P. gingivalis*.
  - P. intermedia*.
43. Which of the following inflammatory mediators can regulate Ig production and potentiate cytokine induced class switching within gingival tissues?
- IL-1.
  - PGE<sub>2</sub>.
  - Flurbiprofen.
  - Indomethacin.
44. Which type of hypersensitivity occurs following infection with *Mycobacterium tuberculosis* antigen?
- I.
  - II.
  - III.
  - IV.
45. Tetracycline decreases the effects of penicillin by
- Inducing microsomal enzymes.
  - Decreasing penicillin absorption.
  - Decreasing bacterial reproduction rate.
  - Blocking penicillin receptor sites of bacteria.
46. ALL of the following cytokines have been associated with bone resorption EXCEPT
- Interleukin-1.
  - Lymphotoxin.
  - Gamma interferon.
  - Tumor necrosis factor alpha.
47. Th1 cells produce which of the following cytokines?
- IL-2.
  - IL-4.
  - IL-6.
  - IL-10.
48. Poorly controlled diabetes mellitus may be associated with all of the following EXCEPT
- Polyuria.
  - Polymelia.
  - Polydipsia.
  - Pophagia.

49. In Miller's scale of root mobility, a rating of "2" would indicate movement of the crown \_\_\_\_\_ in ONE direction.
- Less than 0.5 mm.
  - Up to 1 mm.
  - More than 1 mm.
50. Which of the following host factors in gingival Crevicular fluid is NOT present in neutrophil lysosomal granules?
- Elastase.
  - Lactoferrin.
  - Beta-glucuronidase.
  - Aspartate aminotransferase.
51. Which of the following antimicrobials should be avoided in an immunosuppressed renal transplant patient?
- Amoxicillin.
  - Cephalothin.
  - Tetracycline
  - Erythromycin.
52. The term "fremitus" is defined as movement of a tooth when subjected to
- Tongue pressure.
  - Any occlusal force.
  - Bidigital diagnostic testing forces.
  - Parafunctional occlusal forces only.
- II. What are the tooth anatomic factors could modify or predispose to plaque-induced gingival diseases or periodontitis? (6%)
- III. What the minimal requirement for immediate placement of implants (16%)?