1. What is a characteristic of chlorhexidine?
   (A) It is dually charged, which allows it to bind to bacteria and oral structures.
   (B) It is effective in reducing gingivitis but not in caries reduction in the high risk dental patient.
   (C) It is more effective against lactobacilli and *S. sanguis* than *S. mutans*, thus selective for an anticaries effect.
   (D) It is safe for use in children and has no adverse reactions.

2. What is most accurate regarding the acquisition of *S. mutans* in the oral cavity?
   (A) Cross transmission of *S. mutans* from children in day care settings is not thought to occur.
   (B) Furrows of the infant’s tongue appear to be an important ecological niche for early colonization by *S. mutans*.
   (C) Horizontal transmission describes the successful implantation of *S. mutans* from mother to child.
   (D) Presence of a non-shedding surface is needed for colonization by *S. mutans*.

3. In addition to spirochetes, which bacteria are commonly associated with necrotizing ulcerative gingivitis/periodontitis?
   (A) *Actinomycesiocomitans*
   (B) *Bacteroides*
   (C) *Prevotella intermedia*
   (D) *Streptococcus sanguis*

4. What is the primary immunoglobulin found in saliva?
   (A) sIgA
   (B) sIgE
   (C) sIgG
   (D) sIgM
5. What does the cross-over research design allow medical researchers to do?

(A) Improve randomization of their subjects  
(B) Increase statistical power of the study group  
(C) Permit participants to serve as their own control  
(D) Test two independent variables at once

6. What technique can be used to disinfect an alginate impression in less than 10 minutes?

(A) Exposure to ethylene oxide gas  
(B) Exposure to phenolic spray  
(C) Immersion in chlorine compounds  
(D) Immersion in glutaraldehyde

7. What is the American Academy of Pediatrics’ recommended maximum daily juice intake (in ounces) for children between the ages of 1 and 6?

(A) 4-6  
(B) 6-8  
(C) 8-10  
(D) 10-12

8. How many milligrams of fluoride ion are in a typical application (0.5mL) of fluoride varnish?

(A) 2.8  
(B) 5.6  
(C) 11.3  
(D) 22.6
9. What statement regarding pit and fissure sealants is best supported by evidence-based recommendations?
   (A) Placement on early cavitated carious lesions reduces lesion progression.
   (B) Resin-based sealants are more wear-resistant than glass ionomer sealants.
   (C) Routine mechanical preparation (enameloplasty) prior to acid etching enhances retention.
   (D) Use of self-etching bonding agents increases retention.

10. Which best reflects current understanding of mouthguard selection for use during orthodontic care?
    (A) A stock mouthguard that covers both arches is recommended for patients with full banding.
    (B) Boil-and-bite mouthguards are recommended as they are retentive yet allow for occlusal changes.
    (C) Modified custom mouthguards have been found to be the most effective in injury prevention.
    (D) Stock ortho-channel mouthguards are both convenient and proven in protecting the dentoalveolar complex.

11. How many high school students are reported to use some form of tobacco?
    (A) 1 in 5
    (B) 1 in 8
    (C) 1 in 10
    (D) 1 in 13

12. What embryonic tissue gives rise to ameloblasts?
    (A) Ectoderm
    (B) Ectomesoderm
    (C) Endoderm
    (D) Mesoectoderm
13. What is the role of Meckel's cartilage in facial development?

(A) It becomes the mandible by endochondral ossification.
(B) It gives rise to the lesser horn and superior body of the hyoid bone.
(C) It gives rise to the stylohyoid ligament.
(D) It is surrounded by connective tissue that develops into the bony mandible.

14. Which analysis is a tooth size analysis and not an arch space analysis?

(A) Bolton
(B) Moyers
(C) Nance
(D) Tanaka and Johnston

15. On a cephalometric radiograph, where is basion located?

(A) Intersection of the occipital and basisphenoid bones
(B) Intersection of the zygomatic arch and the posterior border of the ramus
(C) Most inferior and anterior point of the foramen magnum
(D) Most inferior and anterior point of the occipital bone

16. Upon cessation of a thumb sucking habit, which change is least likely to correct spontaneously?

(A) Anterior open bite
(B) Increased overjet
(C) Mandibular incisor irregularity
(D) Maxillary arch constriction

17. What is the best space maintainer for the bilateral loss of mandibular primary first molars during the primary dentition with anterior spacing?

(A) Bilateral band and loops
(B) Lingual arch
(C) Removable space maintainer
(D) Determined by molar occlusion
18. What acid binds with calcium and aluminum ions to form the gel phase of glass ionomer cements?

(A) Acetic  
(B) Hydrochloric  
(C) Hydrofluoric  
(D) Polyacrylic

19. Which lingual frenum release technique results in the highest rate of relapse?

(A) Horizontal incision  
(B) Soft tissue laser ablation  
(C) V-Y excision and closure  
(D) Z-plasty

20. What is the most important consideration in the placement of dental implants in the adolescent patient?

(A) Dental and skeletal growth  
(B) Gingival marginal height relative to the length of the implant  
(C) Patient cooperation for post treatment maintenance  
(D) Width and density of the alveolar bone

21. Internal bleaching of nonvital teeth is most commonly associated with which of the following side effects?

(A) Enamel brittleness  
(B) External root resorption  
(C) Gingival recession  
(D) Internal root resorption
22. To minimize his exposure, what position should the clinician assume during radiographic procedures?

(A) 45 degrees from the primary beam as it exits the patient.
(B) 90 degrees from the primary beam as it enters the patient.
(C) 135 degrees from the primary beam as it exits the patient.
(D) 180 degrees from the primary beam as it enters the patient.

23. Which of the following reflects the expression of autism/autism spectrum disorder in children?

(A) Childhood disintegrative disorder first manifests as children reach school age and may be mislabeled as attention deficit disorder.
(B) Children with Asperger disorder have strong verbal skills, trouble with social situations, and obsessive interests.
(C) Children with pervasive developmental disorders exhibit severe language problems and social impairments.
(D) Rett disorder is similar to Asperger disorder but is found only in males of northern European ancestry.

24. What is a characteristic of congenital epulis of the newborn?

(A) Continues to enlarge until removed
(B) Predilection for mandibular alveolar process
(C) Propensity for recurrence following excision
(D) Usually pink, smooth, and pedunculated

25. Herpangina is caused by which virus?

(A) Coxsackie A
(B) Epstein-Barr
(C) Herpes simplex
(D) Varicella zoster
26. What does the international normalized ratio (INR) measure?
   (A) Extrinsic clotting function  
   (B) Intrinsic clotting function  
   (C) Oxygen carrying capacity of the blood  
   (D) Quality of platelets

27. In the diagnosis of temporomandibular dysfunction, what does joint crepitus indicate?
   (A) A muscular problem  
   (B) An anteriorly displaced disk  
   (C) Instability due to damaged ligaments  
   (D) Joint degeneration

28. What are early clinical manifestations of syncope?
   (A) Cold hands and feet, pupillary constriction, dizziness  
   (B) Dry skin, hypotension, and bradycardia  
   (C) Flushed skin tone, visual disturbances, yawning  
   (D) Moist pale skin, tachycardia, dizziness

29. What is a component of Tetralogy of Fallot?
   (A) Atrial septal defect  
   (B) Coarctation of the aorta  
   (C) Tricuspid atresia  
   (D) Ventricular septal defect

30. What condition is associated with fetal alcohol syndrome?
   (A) Cleft palate  
   (B) Macrocephaly  
   (C) Mandibular condylar hypoplasia  
   (D) Preauricular pitting
31. Elective dental care should be deferred with which of the following hematologic profiles?

(A) ANC: 900/mm³
(B) Hemoglobin: 13g/100mL
(C) Platelets: 250,500/mL
(D) PT: 10 seconds

32. Fear of separation from parents peaks between what ages?

(A) 13 and 18 months
(B) 25 and 30 months
(C) 37 and 42 months
(D) 49 and 54 months

33. At what age does a child commonly have adequate communication skills, but still has trouble making consonant sounds such as /l/, /s/, /r/, /v/, /z/, /ch/, /sh/, and /th/?

(A) 2 to 3 years
(B) 4 to 5 years
(C) 6 to 7 years
(D) 8 to 9 years

34. Which helps determine the duration of action of a local anesthetic?

(A) Calcium binding
(B) Potassium binding
(C) Protein binding
(D) Proton releasing

35. Which behavioral method for removing anxiety involves successive approximation to the desired behavior?

(A) Modeling
(B) Playful humor
(C) Shaping
(D) Tell-show-do
36. What is a potential undesirable effect of meperidine?

(A) Increased cardiac and respiratory rates
(B) Increased salivary secretions
(C) Smooth muscle spasms in the GI tract
(D) Subsequent development of hallucinations

37. In a tooth that has undergone a formocresol pulpotomy, which histologic zone of the radicular pulp is associated with fixation?

(A) Acidophilic zone
(B) Inflammatory zone
(C) Linear calcification
(D) Pale staining zone

38. What is the ranked preference (from high to low) for transportation media for an avulsed permanent tooth?

(A) Cold milk, Viaspan™, Hank’s Balanced Salt Solution (HBSS), or saliva
(B) HBSS, Viaspan™, cold milk, or saliva
(C) Saliva, Viaspan™, HBSS, or cold milk
(D) Viaspan™, HBSS, cold milk, or saliva

39. Degloving injuries are associated with what?

(A) Avulsion of gingival tissue
(B) Full thickness mucoperiosteal displacement
(C) Lacerations that heal well without suturing
(D) Loss of an alveolar bone fragment

40. What is the most common site for oral injuries inflicted in abused children?

(A) Gingiva
(B) Lips
(C) Oral mucosa
(D) Teeth