Mock Board Exam 2008

1. A recent systematic review (Torabinejad et al., 2007) compared therapeutic outcomes of nonsurgical root canal treatment with three alternative treatments that involve extraction of the affected tooth: (1) tooth replacement using a FPD, (2) tooth replacement using an implant supported single crown and (3) no tooth replacement. Findings of this systematic review indicate:
   
a. Single implants restored with crowns and nonsurgical endodontic treatments resulted in superior long-term survival compared to fixed partial dentures.
b. Priority in treatment planning should be given to retain the teeth through root canal treatment and replacement with an implant-supported single crown should not be considered.
c. Endodontically treated teeth should be replaced with implant-supported single crowns.
d. Extraction of teeth without replacement is preferred over fabricating a fixed partial denture.
e. None of the above reflect conclusion of this systematic review.

Answer: a


2. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight questions using a systematic review approach. What consensus findings were reported in response to the question: “Does the type of implant prosthesis affect outcomes for edentulous arches?” (Please provide the most appropriate answer):

a. Based on available studies, there is no clear evidence that prosthesis type affects post-placement prosthesis maintenance requirements.
b. There is an abundance of scientifically valid evidence addressing this question for treatment extending to 15 years following prosthesis placement.
c. Based on available studies, maxillary removable implant-assisted prostheses are associated with high mean implant survival over 5 to 10 years.
d. Based on available studies, there is no clear evidence that prosthesis type (fixed vs. removable) affects implant survival.
e. The abundance of scientifically suitable evidence comparing maxillary fixed and removable prostheses made their comparison valid with respect to implant survival over 5 to 10 years.
3. What is a function of vanadium in titanium (Ti-6Al-4V) alloy?

a. Stabilizes the beta phase of the alloy
b. Stabilizes the alpha phase of the alloy
c. Destabilizes the alpha phase of the alloy
d. None of the above

Answer: a


4. Stereographic mandibular movement recordings (also known as “stereograms”) are used to:

a. Fabricate custom incisal tables
b. Establish functionally generated pathways
c. Program the TMJ articulator
d. Fabricate surgical stents

Answer: c


5. Which cellular component is most affected by therapeutic radiation?

a. Nucleus
b. Mitochondria
c. Cell wall
d. Endoplasmic reticulum

Answer: a

6. Alloys formulated for use in metal-ceramic restorations must possess carefully controlled coefficients of thermal expansion. It is essential that the coefficient of thermal expansion of the metal must be:

a. Slightly greater than the matched porcelain
b. Slightly less than the matched porcelain
c. Exactly the same as the matching porcelain
d. Significantly greater than the matching porcelain

Answer: a


7. The stylomandibular ligament:

a. Originates at the styloid process and inserts just inferior to the lingula
b. Limits posterior movement of the mandible
c. Originates at the spine of the sphenoid bone and inserts inferior to the lingula
d. Limits extreme protrusion of the mandible

Answer: d


8. The angle formed by the intersection of the protrusive and nonworking side condylar paths as viewed in the sagittal plane (i.e., posterior vertical flag) of a pantographic tracing is termed:

a. Stuart’s angle
b. Frankfort mandibular angle
c. Fischer’s angle
d. Bennett’s angle
e. Lucia’s angle

Answer: c

9. Desirable occlusal contact relationships for removable partial dentures include all of the following EXCEPT:

a. Simultaneous bilateral contacts of opposing posterior teeth must occur in centric relation.
b. Balanced contact of opposing posterior teeth in a straightforward protrusive relationship and functional excursive positions is desired when an opposing complete denture or bilateral distal extension maxillary removable partial denture is placed.
c. In the Kennedy Class IV removable partial denture configuration, contact of opposing anterior teeth in the planned intercuspal position is desired to prevent a continuous eruption of the opposing natural incisors.
d. Working and balancing side contacts should be formulated for maxillary or mandibular unilateral distal extension removable partial dentures.

Answer: d


10. Clinicians should be very careful that the pulpal temperature does not rise during tooth preparation. An increase in temperature of more than ____°C is considered potentially detrimental to pulp health.

a. 4
b. 6
c. 2
d. 8

Answer: b

11. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight PICO questions using a systematic review approach. What consensus findings were reported in response to the question: “For teeth requiring endodontic treatment, what are the differences in outcomes of restored endodontically treated teeth compared to implant-supported restorations?” (Please provide the most appropriate answer.):

a. There is no statistically significant difference in survival outcome between these two treatment modalities.
b. The decision to treat a compromised tooth with nonsurgical endodontics followed by an appropriate restoration or replace it with an implant should be based on treatment outcome.
c. In general, treating a compromised tooth with nonsurgical endodontics followed by an appropriate restoration has a lower survival rate than extracting that tooth and placing a single implant restoration.
d. In general, treating a compromised tooth with nonsurgical endodontics followed by an appropriate restoration has a higher survival rate than extracting that tooth and placing a single implant restoration.
e. The quality and methodology of the published literature in this area of interest are ideal for addressing this question.

Answer: a


12. After removing a polyether impression from the mouth, it is rinsed in tap water and air dried. In order to disinfect the impression, which of the following regimens should be followed?

a. Submerge and soak the impression in a 2% glutaraldehyde solution
b. Spray disinfect the impression with a chlorine containing compound
c. Spray disinfect the impression with an iodophor solution
d. Disinfect the impression using an alcohol containing rinse
e. Disinfect the impression by submergence in chlorhexidine

Answer: b

13. The primary mode of failure in all-ceramic crowns is

a. Cone cracks
b. Radial cracks
c. Compound cracks
d. Lunar cracks
e. Continuous cracks

Answer: b


14. “Combination syndrome” most commonly occurs when an edentulous maxilla is opposed by natural mandibular anterior teeth. The syndrome is characterized by all of the following except:

a. Bone loss from the anterior portion of the maxillary ridge
b. Down-growth of the maxillary tuberosities
c. Maxillary papillary hyperplasia in the hard palate
d. Mandibular midline paresthesia
e. Extrusion of the mandibular anterior teeth

Answer: d


15. A prosthodontist removes an existing crown and determines that the existing preparation exhibits inadequate resistance form, with a total occlusal convergence of 20° and an occlusal-cervical height of less than 3mm. Which of the following would likely be most effective in significantly enhancing the resistance form of this preparation?

a. Placing proximal groves or boxes maintaining the 20° of total occlusal convergence
b. Placing an occlusal isthmus
c. Reducing the total occlusal convergence in the cervical half of the axial walls to 8°
d. Placing buccal-lingual groves maintaining the total occlusal convergence of 20°

Answer: c

16. Advantages of digital imaging include all of the following, **EXCEPT**:

a. Allows for a paperless office  
b. Ability to obtain consultation from a remote source  
c. Images can be transferred via telecommunications technology for remote viewing and study  
d. Images can be manipulated or adjusted while being viewed  
e. There is less risk of cross-contamination between patients

**Answer:** e


17. Rosen *et al.* (1999) used a “bone-added osteotome sinus floor elevation” technique in which graft materials and osteotomes were used to elevate the sinus membrane through the osteotomy prior to implant placement. The most important determinant of implant survival was:

a. Type of graft material used  
b. Type of implant surface used  
c. Number of months of loading on implants  
d. Presence of at least 5mm of bone between ridge crest and sinus floor pre-operatively

**Answer:** d


18. Changing the facebow transfer third point of reference after programming the articulator using eccentric (lateral) interocclusal records will affect the accuracy of the:

a. Intercondylar distance  
b. Tooth contact relationships in centric occlusion  
c. Condylar inclination relationships to the occlusal plane  
d. Anterior disocclusive angle  
e. All of the above

**Answer:** c

19. In 1978, Crum and Rooney compared bone loss between patients with natural tooth complete overdentures and patients with conventional complete dentures. After following patients for 5 years, results indicated:

   a. Bone resorption was 8 times less in the posterior mandible in patients with overdentures.
   b. Bone resorption was 8 times more in the posterior mandible in patients with over dentures.
   c. In patients with overdentures, the amount of vertical mandibular bone loss was 0.6mm on average.
   d. The alveolar bone immediately posterior to the canines is NOT preserved.

   Answer: c


20. Which of the following is not a basic rule of the “geometry” of intraoral dental radiology?

   a. The source-to-tooth distance should be as short as is practical.
   b. The tooth-to-film (or tooth-to-digital sensor) distance should be as short as is practical.
   c. The tooth and the film (or the digital sensor) should be as parallel as is practical.
   d. The central x-ray beam should be perpendicular to the tooth as well as the film (or the face of the digital sensor).

   Answer: a


21. Differences in the coefficients of thermal expansion between a metal framework and its porcelain veneer are critical to the success of metal-ceramic restorations. Within what percentage should the coefficients of thermal expansion of a successful metal-ceramic system be matched?

   a. 0.01%
   b. 1.0%
   c. 4.0%
   d. 10%

   Answer: c

22. To reduce metamerism and to provide a vital appearance, dental porcelain should:

   a. Exhibit a blue-white color when viewed under ultraviolet light
   b. Exhibit a blue-yellow color when viewed under ultraviolet light
   c. Have no fluorescent characteristics
   d. Be externally characterized using low fusing glazes

**Answer:** a


23. As discussed by Parker *et al.* (1988), the limiting taper of a tooth preparation in fixed prosthodontics depends on:

   a. The height/base ratio of the preparation
   b. The taper of the preparation
   c. The diameter of the preparation
   d. The finish line used in the preparation
   e. Both a and b are correct

**Answer:** e


24. According to the Albrektsson’s (1986) suggested minimum success criteria for dental implants, how many millimeters of radiographic vertical bone loss per annum is considered within normal limits after the first year in function?

   a. 0.1 mm
   b. 0.2 mm
   c. 0.3 mm
   d. 0.5 mm
   e. 0.7 mm

**Answer:** b

25. With respect to relief for the guide plate advocated by Dr. Kratochvil (DATE) and its use on primary abutments for Kennedy class 1 or 2 removable partial dentures, Dr. Kratochvil suggested:

   a. That 28 ga. wax relief be provided during blockout of the master cast in the area to be contacted by the guiding plate
   b. That 32 ga. wax relief be provided during blockout of the master cast in the area to be contacted by the guiding plate
   c. That 24 ga. wax relief be provided during blockout of the master cast in the area to be contacted by the guiding plate
   d. That 22 ga. wax relief be provided during blockout of the master cast in the area to be contacted by the guiding plate
   e. That functional relief (i.e., physiologic adjustment) be provided to the framework before the altered cast impression is made

**Answer:** e

**Reference:**

26. Lateral cephalometric planes may aid in the determination of relationships important to diagnosis and treatment planning in prosthodontics. The McNamara line relates the:

   a. Anteroposterior relationship of maxilla and mandible to cranial base
   b. Relationship of maxillary teeth to the maxilla
   c. Relationship of mandibular teeth to the mandible
   d. Vertical relationship of mandible and maxilla to cranial base and to each other

**Answer:** a


27. The relative distribution (i.e., from most frequent to least frequent) of palatal tumors by histologic origin is:

   a. Salivary > Mesenchymal > Epidermoid > Metastatic
   b. Epidermoid > Salivary > Metastatic > Mesenchymal
   c. Salivary > Epidermoid > Metastatic > Mesenchymal
   d. Epidermoid > Salivary > Mesenchymal > Metastatic
   e. Epidermoid > Salivary > Chondral > Metastatic
Answer: d


28. Lidocaine and Mepivacaine local anesthetics are:

a. Amides
b. Esters
c. Proteins
d. Glycosides
e. None of the above

Answer: a


29. A statistical test used to analyze two (unpaired) treatment groups with quantitative data is:

a. A Mann Whitney test
b. A chi-squared analysis
c. An unpaired t-test
d. An Analysis of variance
e. All of the above

Answer: c


30. While considering published research in order to answer a well-defined PICO question during a systematic review, you are interested in qualifying the large volume of articles you have accumulated from various professional journals. With respect to study design, which of the following represents the highest level of evidence?

a. Prospective study in sequential cases
b. Randomized controlled clinic trial
c. Case report
d. Cohort or retrospective study
e. Randomized placebo-controlled double-blind clinical trial
Answer: e


31. When considering the design of a rotational path RPD, which of the following statements is NOT TRUE:

a. As the number of minor connectors increase, the potential difficulty of rotating the framework into place also increases.
b. The further a minor connector is from the axis of framework rotation, the greater the curvature of the arc of framework placement.
c. Block out of the master cast must be determined by radii extending at right angles from the planned axis of framework rotation.
d. The closer a minor connector is to the axis of framework rotation, the greater the curvature of the arc of framework placement.

Answer: b


32. A gold casting alloy may be hardened if it contains a sufficient amount of which element?

a. Silver
b. Palladium
c. Copper
d. Tin
e. Platinum

Answer: c


33. The Au content of gold foil is approximately:

a. 75%
b. 78%
c. 83%
d. 85%
e. 99%
34. Limited cone beam computerized tomography (LCBCT) has several advantages when compared to spiral computerized tomography (SCT). The advantages of LCBCT include all of the following EXCEPT:

a. Decreased total absorbed radiation  
b. Improved spatial resolution on cross-sectional images  
c. Increased field size  
d. Greater suitability for dental applications  
e. Improved visualization of cancellous bone

**Answer:** c


35. Drug interactions are most likely to occur with which of the following antibiotics?

a. Amoxicillin (Amoxil)  
b. Cephalexin (Keflex)  
c. Erythromycin (E-Mycin)  
d. Metronidazole (Flagyl)  
e. Doxycycline (Vibramycin)

**Answer:** c


36. Surgical removal of the entire eye and surrounding structure is known as

a. Evulsion  
b. Exenteration  
c. Evisceration  
d. Scleration
37. Surgical modifications which may improve the prognosis for maxillary obturator prosthetic rehabilitation include all of the following EXCEPT:

a. Conservation of premaxilla
b. Skin graft of cheek flap
c. Medial bony margin coverage using palatal mucosa
d. Surgical resection through trans-septal bone approximating the tooth bordering the proposed defect

Answer: d


38. For sinus augmentation procedures in preparation for dental implant placement, several different grafting materials and material combinations have been experimentally evaluated and clinically used. Bone formation following maxillary sinus grafting is fastest and most complete when:

a. A combination of autogenous bone, porous hydroxy appetite and demineralized freeze dried bone is used as the grafting material
b. Autogenous bone is used as the grafting material
c. Alloplasts are used as the grafting material
d. All grafting materials produce the same results with respect to rate and completeness of bone formation.

Answer: b


39. Eriksson and Albrektsson have reported that bone cell necrosis in rabbits occurs at temperatures higher than:

a. 39ºC (86ºF)
b. 47ºC (104ºF)
c. 50ºC (122ºF)
d. 66ºC (140ºF)
Answer: b


40. How does an INCREASE in the intercondylar distance affect the occlusal groove pattern on mandibular molars?

a. No effect on the groove pattern in discernable
b. Moves the groove pattern mesial resulting in a more obtuse angular relationship between working and balancing pathways
c. Moves the groove pattern distal resulting in a more acute angular relationship between working and balancing pathways
d. Deepen the grooves to accommodate opposing palatal cusps

Answer: c


41. Untreated obstructive sleep apnea can result in which of the following (provide the most appropriate answer):

a. Systemic hypertension
b. Angina
c. Depression
d. Stroke
e. All of the above

Answer: e


42. All of the following are common anti-anxiety drug agents EXCEPT:

a. Nitrous oxide and oxygen
b. Flurazepam
c. Pentobarbital
d. Alcohol
e. Meperidine
43. In tooth formation, the bell stage is characterized by all of the following cells EXCEPT:

a. Inner enamel epithelial cells  
b. Outer enamel epithelial cells  
c. Stratum intermedium cells  
d. Stellate reticulum cells  
e. Odontoblasts and ameloblasts

Answer: e


44. What is the effect of cigarette smoking on dental implant survival when implants are placed in grafted maxillary sinuses?

a. Smoking has no effect on implant survival rate.  
b. Smoking increases blood supply and improves healing.  
c. Smoking is detrimental to the success of osseointegrated implants in grafted maxillary sinuses regardless of the quantity of cigarettes consumed.  
d. Smoking is detrimental to the success of osseointegrated implants in grafted maxillary sinuses only in heavy smokers.  
e. None of the above are true.

Answer: c


45. All of the following statements are true regarding wrought wires used for retentive clasp arms EXCEPT:

a. When wrought wire is heated, its physical properties and microstructure may be considerably altered.  
b. The tensile strength of a wrought structure is over 95% greater than that of the cast alloy from which it was made.  
c. A wrought structure having a smaller cross-section than a cast structure may be used as a retainer arm (retentive) to perform the same function.  
d. A minimum yield strength of 60,000 psi is required for the retentive element of a wrought wire direct retainer.

Answer: b


46. Porosities in noble metal castings are classified as solidification defects, trapped gas inclusions, and residual air inclusions. Which of the following fall into the solidification defects classification?

a. Pinhole porosity
b. Gas inclusion porosity
c. Localized shrinkage porosity
d. Subsurface porosity

Answer: c


47. The intrusion of teeth in fixed partial dentures supported by both implants and natural teeth is hypothesized to be caused by:

a. Disuse atrophy
b. Differential energy dissipation
c. Mandibular flexure
d. Fixed partial denture flexure
e. All of the above

Answer: e


48. Magnetic resonance imaging (MRI) does not use ionizing radiation to form diagnostic images, but depends on _________ atoms in the body reacting a certain way in a magnetic field.

a. Oxygen
b. Titanium
c. Hydrogen
d. Carbon
49. The velopharyngeal closure pattern in normal patients varies among individuals. Which of the following is the most common pattern of velopharyngeal closure?

a. Circular pattern  
b. Coronal pattern  
c. Circular pattern with Passavant’s ridge  
d. Sagittal pattern

Answer: b


50. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight PICO questions using a systematic review approach. What consensus findings were reported in response to the question: “How do smoking, diabetes and periodontitis affect outcomes of implant treatment?” (Please provide the most appropriate answer.):

a. The effects of cigarette smoking tend to be more pronounced in Type I bone.  
b. A history of treated periodontitis does appear to adversely affect implant survival rates.  
c. It could not be shown that cigarette smoking has an adverse effect upon implant survival and success.  
d. Type II diabetes may have an adverse effect on implant survival rates, but the limited number of studies that qualified for inclusion in the systematic review did not permit definitive conclusions.  
e. No conclusive evidence was found for any of these factors.

Answer: d

51. Radiation absorbed dose is used to quantify the amount of ionizing radiation received by a patient. The following doses are equivalent, with the exception of:

a. 1.0 Gy  
b. 100 rad  
c. 114 R  
d. 100 ergs/g of air

**Answer:** d


52. Mandibular lateral translation affects the following aspects of occlusal morphology:

a. Cusp height  
b. Fossa depth  
c. Cusp height and fossa depth  
d. Ridge and groove direction  
e. Cusp height, fossa depth, and ridge and groove direction

**Answer:** e


53. A Hounsfield unit is a normalized index of x-ray attenuation and is based upon three substances. The substances are:

a. Water, barium, air  
b. Bone, blood, oxygen  
c. Water, bone, barium  
d. Air, bone, water  
e. Water, air, blood

**Answer:** d

54. Which one of the following implant crown designs is most likely to undergo prosthetic screw loosening?

a. Buccolingualy narrow crown supported by a wide diameter implant
b. Buccolingually wide crown supported by a wide diameter implant
c. Buccolingually wide crown supported by 2 regular diameter implants
d. Buccolingually narrow crown supported by 2 regular diameter implants
e. Screws will not loosen as long as manufacturers’ recommendations are followed

**Answer:** b

**Reference:** Bakaeen LG, Winkler S, Neff PA. The effect of implant diameter, restoration design, and occlusal table variations on screw loosening of posterior single-tooth implant restorations. J Oral Implantol 2001; 27; 63-72

55. Early wound healing around endosseous implants involves phenotypic conversion of mesenchymal cells into bone-forming cells. What is the term given to this phenomenon?

a. Osseoinduction
b. Osseoinversion
c. Appositional bone growth
d. Contact osteogenesis
e. Diapedesis

**Answer:** a


56. The trigeminal nerve has both motor and sensory functions. Which division of the trigeminal nerve also contains proprioceptive fibers that serve the deep sensibility of the muscles of mastication?

a. V1 the ophthalmic division
b. V2 the maxillary division
c. V3 the mandibular division
d. None of the above

**Answer:** c

57. According to the 2006 Academy of Osseointegration Consensus, what was the apparent effect of time-to-loading for implant-borne prostheses?

a. Immediate loading was a disadvantage
b. Delayed loading was significantly more predictable than other methods
c. Immediate loading only proved comparable with delayed loading in removable prostheses
d. Immediate loading only proved comparable with delayed loading in fixed prostheses
e. Although the average outcome favored delayed loading, there was no definitive evidence that immediate or early loading cannot be safe

**Answer:** e


58. Which of the following statements regarding the “golden proportion” is correct?

a. The ratio between the mesiodistal diameter of the maxillary lateral incisor and the central incisor should be equal to 0.718
b. The golden proportion differs from the average mesiodistal measurements of natural teeth
c. The ratio between the mesiodistal diameter of the maxillary lateral incisor and the central incisor should be equal to 0.518
d. The ratio between the mesiodistal diameter of the maxillary lateral incisor and the central incisor should be equal to 0.818

**Answer:** b


59. Root anatomy and morphology may impact oral hygiene and plaque removal procedures. Differences in root form also may complicate tooth preparation, and may predispose the root to endodontic involvement, fracture or perforation. Which of the following is true regarding the roots of maxillary first premolars?

a. Approximately 55% of maxillary first premolars have two roots with a bifurcation located in the middle third
b. Approximately 80% of maxillary first premolars are single rooted
c. Approximately 30% of maxillary first premolars are single rooted
d. They possess the longest root in the maxillary arch and thus are important for proprioception
60. When powder and liquid components of a heat-activated denture base resin system are mixed in proper proportions the resultant mass passes through five distinct stages of consistency. At which stage should the mass be introduced into the mold cavity to begin the compression molding process?

a. Sandy  
b. Stringy  
c. Doughy  
d. Rubbery  
e. Stiff

**Answer:** c


61. Multi-slice Computerized Tomography systems provide all the following technical benefits EXCEPT:

a. Increased volume coverage  
b. Shorter scan times  
c. Improved axial (longitudinal) resolution  
d. Elimination of streak artifacts when radiodense dental restorations are present  
e. Better use of the X-ray tube output

**Answer:** d

**Reference:** Vannier MW, Craniofacial computed tomography scanning: technology, applications, and future trends. Orthod Craniofacial Res 6 (Suppl. 1), 2003; 23-30

62. “Combination syndrome” was first described by:

a. Jones  
b. Simmons  
c. Kelly  
d. Christensen  
e. Pound
Answer: c


63. According to Niles Guichet, the four determinants of mandibular movements are:

   a. The right TMJ, the left TMJ, occlusion and the neuromuscular determinant
   b. The condylar guidance, incisal guidance, cusp height and compensating curves
   c. The cusp angle, the glenoid fossa, the articular disk and ligaments
   d. Muscle coordination, parafunctional habits, interocclusal distance and horizontal overlap

   Answer: a


64. When a pulpless molar is restored using a prefabricated post with a direct core reconstruction and a complete crown, and there is only 1.5-2 mm height of tooth structure coronal to the finish line of the crown preparation, the core material of choice is:

   a. Silver-modified glass ionomer
   b. Composite resin
   c. Compomer
   d. Silver amalgam

   Answer: d


65. The debate continues as to whether or not centric relation is the correct position for the condyles when the teeth are in maximum intercuspation. If the elevator muscles contract to occlude the teeth in an eccentric position, what additional muscle activity in addition to elevator muscles must be coordinated to provide the muscle braced maximum intercuspation position?

   a. Contraction of the infrahyoid muscles to stabilize the mandibular position
   b. Release of the deep masseter to avoid conflict with the medial pterygoid muscle
   c. Differential contraction of the positioner muscles, specifically the inferior pterygoids

   Answer: c

66. Cobalt-chromium alloys and gold alloys may be used in the construction of retentive clasp arms for removable partial dentures. As might be expected, differences in the physical properties of these alloys warrant careful consideration. Which of the following statements regarding cobalt-chrome alloys and gold alloys is NOT true?

a. The retentive clasp arms for both alloys should be approximately the same size
b. The depth of undercut used for retention must be reduced by one half when a cobalt-chromium alloy is used
c. Cobalt-chromium alloys are reported to work harden more rapidly than gold alloys
d. Cobalt-chromium alloys usually have larger grain sizes and lower proportional limits
e. Gold alloy retentive clasps are approximately four times as flexible as cobalt-chromium alloy retentive clasps

Answer: e


67. Utilizing a facebow when mounting a master cast on a semi-adjustable articulator may have adverse esthetic consequences because:

a. The esthetic reference plane and intercondylar axis may not be parallel
b. The incisal edge position of the anterior restorations may be placed too far labially
c. Condylar determinants may not be accurately transferred
d. None of the above

Answer: a


68. Trauma from occlusion, in the presence of periodontitis most commonly results in:

a. Narrowing of the periodontal ligament space
b. Pulpal necrosis
c. The formation of intrabony pockets
d. Dental intrusion
e. Decrease in biologic width

Answer: c

69. The addition of yttrium, cerium, magnesium or calcium to zirconium oxide is to:

a. Stabilize it in its tetragonal form  
b. Stabilize it in its monoclinic form  
c. Increase opacity  
d. Decrease opacity  
e. Prevent “greening” of the ceramic

**Answer:** a


70. Radiographs have limited use in the identification of TMJ pathologic conditions. However, several plane film techniques are useful to image the TMJ. All of the following are used when the clinician has reason to believe a joint pathosis exists except:

a. Panoramic film  
b. Submentovertex view  
c. Lateral transcranial view  
d. Transpharyngeal view  
e. Transmaxillary view

**Answer:** b


71. Which of the following best describes the retrodiscal tissues referred to as the bilaminar zone of the TMJ?

a. Elastic and fibrous tissue that is highly innervated by the auriculotemporal nerve  
b. A thin ligamentous structure that is reinforced laterally by the temporomandibular ligament  
c. Avascular hyaline cartilage  
d. Vascular, highly innervated fibrocartilage  
e. Fibrous connective tissue innervated by the temporal nerve

**Answer:** a

72. All of the following statements are correct as related to implant length except:
   a. 7mm implants had the greatest failure rate when compared to all implant lengths
   b. Implant lengths is defined as the dimension from the top or superior implant thread to the apex
   c. Bone type and cortical bone engagement may be more important than the implant length

   **Answer:** b


73. In dental photography the depth of field depends on the aperture and the magnification. Which of the following statements is true?
   a. The smaller the aperture the greater the depth of field
   b. The smaller the aperture number the greater the depth of field
   c. Increased magnification is associated with an increase in the depth of field
   d. Beyond a certain magnification, the depth of field is constant

   **Answer:** a


74. Which is not an advantage of immediate complete dentures?
   a. The denture acts as a bandage or splint.
   b. Splinting promotes rapid healing and protects the blood clot.
   c. Patients seem to function in speech, deglutition, and mastication much sooner.
   d. Patients are not as reluctant to have diseased teeth removed if they are replaced immediately
   e. Bone is contoured by the immediate dentures and the osteoclastic action may be of lesser magnitude in unhealed bone

   **Answer:** e

75. One of the treatment goals in placing occlusal restorations should be to produce posterior occlusion with molar disclusion in eccentric movements (i.e., a buffer space that will eliminate occlusal interferences and non-axial forces). According to Shillingburg, what is the minimum recommended buffer space on the non-working side?

a. 0.5 mm  
b. 1.0 mm  
c. 1.5 mm  
d. 2.0 mm

**Answer:** b


76. Upon completion of the pantographic tracing, a fully adjustable articulator is set and the data provided becomes the “diagnostic information” for that patient. According to Clyde Schuyler, setting the instrument to establish the “Occlusal Prescription” typically requires reducing the steepness of the recorded condylar inclination by what amount?

a. 3 degrees.  
b. 5 degrees  
c. 10 degrees  
d. 15 degrees  
e. 0 degrees

**Answer:** b

**Reference:** Schuyler C. Incomplete citation (title), J Prosthet Dent. 1959, 9:3. P376

77. Multiple sclerosis is a complex neurological condition that may affect prosthodontic care. A diagnostic symptom for multiple sclerosis in people under 40 years of age is:

a. Uncontrollable tongue trust  
b. Nocturnal bruxism  
c. Temporal muscle spasm  
d. Trigeminal neuralgia  
e. Dysphagia

**Answer:** d

**Reference:** Fiske Griffiths and Thompson, Dental Update 2002.; 29:273 - 283
78. The surface of a denture which contacts the supporting soft tissues and has its contours determined by the impression is called:

a. The cameo surface  
b. The haversian surface  
c. The meniscal surface  
d. The intaglio surface  
e. The barocline surface

**Answer:** d

**Reference:** The Glossary of Prosthodontic Terms, J Prosthet Dent 2005; 94:45

79. A patient presents for full-mouth reconstruction which will require restoration of the occlusal vertical dimension. Laminate veneers will be placed on teeth #23-26. The positions, angulations, and shades of #23-26 need not be altered. The cemento-enamel junctions are positioned at the free gingival margins. What is the desired amount of axial tooth reduction by location?

a. 0.5mm incisal third of facial aspect, 0.5mm cervical third facial aspect, 0.5mm middle third of facial aspect.

b. 0.3mm incisal third of facial aspect, 0.7mm cervical third facial aspect, 0.1mm middle third of facial aspect.

c. 0.5mm incisal third of facial aspect, 0.7mm cervical third facial aspect, 0.7mm middle third of facial aspect.

d. 0.3mm incisal third of facial aspect, 0.5mm cervical third facial aspect, 0.5mm middle third of facial aspect.

**Answer:** d


80. A patient has undergone a subtotal maxillectomy and has completed a full course post-operative radiotherapy. To assist in this patient’s management you should:

1. Perform a thorough oral prophylaxis and treat the patients remaining teeth with an acidulated fluoride in-office tray application
2. Make alginate impressions of the remaining dentition and fabricate fluoride carriers from a suitable mouth guard material
3. Prescribe either a 1% NaF or 0.4% Stannous Flouride Gel to be applied in the fluoride carriers.
81. According to Demer which of the following is not a contraindication to the use of the RPI system for extension base RPD applications?

a. Lack of vestibular depth  
b. Severe soft tissue undercuts  
c. Mesially inclined abutment tooth  
d. Use of an abutment tooth without an antagonist in the opposing arch  
e. None of the above

**Answer:** d


82. Sleep apnea syndrome is a disorder associated with repetitive cessation of breathing during sleep. What constitutes an apneic episode and how many of these apneic episodes during 7 hours of nocturnal sleep are required to make the correct diagnosis of sleep apnea?

a. An apneic episode is defined as the cessation of airflow at the mouth and nose for more than 5 seconds and 15 or more apneic episodes are required to confirm a diagnosis of sleep apnea  
b. An apneic episode is defined as the cessation of airflow at the mouth and nose for more than 10 seconds and 20 or more apneic episodes are required to confirm a diagnosis of sleep apnea  
c. An apneic episode is defined as the cessation of airflow at the mouth and nose for more than 10 seconds and 30 or more apneic episodes are required to confirm a diagnosis of sleep apnea  
d. An apneic episode is defined as the cessation of airflow at the mouth and nose for more than 15 seconds and 20 or more apneic episodes are required to confirm a diagnosis of sleep apnea  
e. An apneic episode is defined as the cessation of airflow at the mouth and nose for more than 15 seconds and 30 or more apneic episodes are required to confirm a diagnosis of sleep apnea

**Answer:** c

83. Feldspathic dental porcelain consists of two phases. One is the vitreous (or glass) phase, and the other is the crystalline (or mineral) phase. The crystalline phase is leucite. Increasing the leucite content will have all of the following effects EXCEPT:

   a. Increase the coefficient of thermal expansion of the porcelain
   b. Increase the strength of the porcelain
   c. Increase the opacity of the porcelain
   d. Increase the firing temperature of the porcelain

   Answer: d


84. Brittleness is a primary disadvantage of which of the following fixed provisional restorative materials?

   a. Poly(methylmethacrylate)
   b. Poly(ethylmethacrylate)
   c. Poly(vinylethyl methacrylate)
   d. Visible light cured urethane dimethacrylate

   Answer: d


85. The group of muscles referred to as “the muscles of mastication” are listed by various authors and anatomists. The most controversial of the group is the superior head of the lateral pterygoid muscle. According to Okeson, what is the insertion of the superior head of the lateral pterygoid muscle?

   a. Neck of the condyle in the pterygoid fovea
   b. The anterior edge of the articular disc
   c. The neck of the condyle and the articular disc
   d. The posterior edge of the articular disc
   e. The superior surface of the coronoid process

   Answer: c

Answer: c


86. Structures bordering the retromylohyoid fossa include:

a. Mylohyoid muscle, pterygoid raphe, submandibular gland, genioglossus muscle
b. Levator palatini muscle, mylohyoid muscle, superior constrictor muscle, submandibular gland
c. Buccinator muscle, sublingual gland, genioglossus muscle, pterygoid raphe
d. Sublingual gland, mylohyoid muscle, palatoglossus muscle, superior constrictor muscle
e. Sublingual gland, pterygoid raphe, palatoglossus muscle, superior constrictor muscle

Answer: d


87. Which of the following statements is incorrect as to the use of wide diameter implants?

a. Using wider implants in flared sockets does not improve implant survival prognosis
b. The use of wider diameter implants allows maximum utilization of available bone improving stress distribution to bone
c. Wide diameter implants can be used instead of bone grafting in excessively resorbed maxillae
d. Wide diameter implants have greater surface areas than regular diameter implants of identical length and surface topography

Answer: c

88. The anatomy of the hard palate influences the area of support for a maxillary complete denture. Which one of the following is FALSE?

a. Submucosa of the median palatal suture is very close to the underlying bone and should be relieved
b. The horizontal hard palate is a primary area of support
c. Rugae contribute significantly to the stress-bearing role
d. Submucosa anterolateral to the median palatal suture contains adipose tissue and is displaceable
e. Submucosa posterolateral to the median palatal suture contains glandular tissue and is non-displaceable

**Answer:** e


89. When considering a 3-unit all-ceramic posterior fixed partial denture, which of the following is most important for success?

a. Connectors at least 9 mm²
b. >2 mm occlusal reduction
c. >1.5 mm axial reduction
d. Using a ceramic core that is not opaque

**Answer:** a


90. According to Nelson et al., (2007), which of the following is TRUE regarding dental implants used in the rehabilitation of patients following tumor resection:

a. Their success rate is higher than in implants placed in healthy individuals
b. Dental implants are contraindicated in patients with history of tumor resection
c. Their success rate does not differ from those places in healthy individuals
d. Their success rate is lower than implants placed in healthy individuals

**Answer:** d

91. When evaluating the positions of maxillary anterior teeth in a complete denture, which of the following situations best indicates the incisal edges of the teeth are positioned too far inferiorly (too low)?

a. An “f” sound is more likely to sound like a “v”

b. An excess of pink wax (gingiva) is noted above the central incisors when the patient smiles

c. The teeth appear more posterior than the wet-dry line of the lower lip during a labial-dental sound “f”

d. When making a lingual-dental sound (“th”) the tip of the tongue protrudes less than 3 mm.

e. There is 3-4mm of space between the maxillary and mandibular incisors during the pronunciation of sibilant sounds.

Answer: a

Reference: Zarb GA, Bolender CL. Boucher’s Prosthodontic Treatment for Edentulous Patients. 11th Ed. P351-352

92. A lingual bar major connector for a mandibular removable partial denture should be:

a. Half pear shaped in cross section

b. Half round in cross section

c. Flexible for patient comfort

d. 3 mm in height

e. Positioned <3mm from the gingival margins

Answer: a


93. Several measures are used to minimize or eliminate screw loosening in implant borne restorations. These include all of the following except:

a. Implants placed parallel to the forces of occlusion

b. Occlusion adjusted to direct forces in the long axes of implants

c. Antirotational features engaged for single teeth

d. Components tightened with 10-15 N-cm of torque

Answer: d

Reference: Block MS, Kent JN, Guerra LR: Implants in Dentistry, W. B. Saunders, Philadelphia, PA, 1997, P 92-93
94. Traditional polyvinylsiloxane (addition silicone) impression materials are considered hydrophobic. Considering this statement, which of the following is/are true?

a. When a gypsum mixture is poured into a polyvinylsiloxane impression, low contact angles are formed.
b. Surfactants are incorporated in polyvinylsiloxanes by manufacturers to make these impression materials more hydrophilic.
c. Traditional polyvinylsiloxane impression materials are far more hydrophilic than polyether impression materials.
d. Both a and b are true statements.
e. All of the above (a, b and c) are true statements.

**Answer:** b


95. The physiologic space which lies between the dorsum of the tongue and the palate is known as:

a. The freeway space
b. The space of Donders
c. The respiratory space
d. The space of Williams
e. The fenestrum

**Answer:** b


96. Metal-ceramic restorations are commonly used in prosthodontics. To achieve effective bonding between metal and ceramic components:

a. Oxide layers must be thick to add strength
b. The porcelain must have a higher coefficient of thermal expansion than the corresponding alloy
c. Oxide forming elements must be replenished in previously cast gold or palladium-based alloys
d. Gold based alloys generally require greater effort to mask the oxide layer than base metals

**Answer:** c

97. Jerbi’s classic method for trimming casts in the construction of immediate complete dentures is called:

a. Rule of resorption  
b. Rule of thirds  
c. Transitional denture technique  
d. Law of fours  
e. The angular reduction theory

Answer: b


98. A material which becomes less viscous upon the repeated application of pressure is said to undergo “shear thinning.” Such a material is described as:

a. Rheopectic  
b. Anisotropic  
c. Thixotropic  
d. Eutectic  
e. Barocentric

Answer: c


99. Appropriate placement of removable partial denture components is an essential part of RPD therapy. The posterior border of a maxillary major connector should be positioned:

a. At the vibrating line  
b. 2mm posterior to the vibrating line  
c. Overlying the fovea palatini  
d. On unyielding areas of the hard palate  
e. No farther distal than the mesial surface of the maxillary first molar

Answer: d

100. Which material is commonly added to nickel-based alloys to reduce the liquidus temperature and facilitate casting of the metal?

   a. Potassium
   b. Indium
   c. Tin
   d. Gallium
   e. Beryllium

   **Answer:** e


101. Noble metals such as platinum and palladium are commonly added to polyvinyl siloxane impression materials. These metals serve primarily as:

   a. Retarders
   b. Surface tension reducing agents
   c. Hydrogen scavengers
   d. Opacifying agents
   e. Strengthening agents

   **Answer:** c


102. A patient reports to your office seeking a maxillary removable partial denture. Teeth #6, 7, and 8 are missing. What is the Kennedy classification for this pattern of partial endentulism?

   a. Kennedy Class I
   b. Kennedy Class II
   c. Kennedy Class III
   d. Kennedy Class IV

   **Answer:** c

103. According to the 2006 Academy of Osseointegration Consensus, how does the timing of Implant placement to extraction affect outcomes?

   a. No factor proved definitive
   b. Implants placed in healed sites definitely have better success and survival
   c. Degree of bone loss effects implant survival
   d. Prosthesis stability definitely affects implant health.
   e. There was a difference between the success of immediate and early placed implants

   **Answer:** a


104. Who provided the eight rules which govern application of the Kennedy classification system for partially edentulous arches?

   a. Kuebker
   b. DeVan
   c. Applegate
   d. Bailyn
   e. House

   **Answer:** c


105. All of the following statements are correct, **EXCEPT**:

   a. The main sensory branches of the trigeminal nerve are the ophthalmic, maxillary, mandibular
   b. The main branches of the maxillary nerve are the pterygopalatine nerve, the infra-orbital nerve and the zygomatic nerve
   c. The mandibular nerve is a mixed nerve, mainly motor, some sensory functions
   d. The chorda tympani nerve has taste fibers and post ganglionic sympathetic secretory fibers

   **Answer:** d

106. Which of the following is the most common fixed partial denture complication?

a. Need for endodontic treatment  
b. Periodontal disease  
c. Loss of retention  
d. Caries  

**Answer:** d  


107. When determining whether it is advisable to functionally load an implant immediately after or within one week of placement, the implant should exhibit an insertion torque of at least 20Ncm and an Implant Stability Quotient (ISQ) of at least:

a. 50  
b. 60  
c. 75  
d. 35  

**Answer:** b  


108. The concept of material stress is often considered in material science. Which of the following statements is true with regard to stress?

a. Stress is a change in length per unit length of a body subjected to load  
b. Stress is designated as force per unit area  
c. Stress is an internal reaction to an applied or external strain  
d. A common unit of stress is megaNewtons or mN  
e. All of the above statements (a, b, c and d) are true with regard to stress  

**Answer:** b  

109. Potential disadvantages of cone-beam computerized tomography include all of the following EXCEPT:

a. Limited dynamic range of the x-ray area detectors compared with multi-slice systems
b. Truncated view artifacts noticed as white edges at the border of the field of view
c. Beam hardening artifacts as a result of lower-intensity imaging of the jaw at the posterior lingual side of the maxilla and mandible
d. Several rotations of the gantry around the patient are needed for image acquisition
e. Radiation scatter

Answer: d


110. Mulling of citrus fruits can cause erosion on

a. Mandibular first molars
b. On maxillary and mandibular posterior teeth, greater than anterior teeth
c. Lingual surfaces of maxillary anterior teeth
d. Facial surfaces of maxillary anterior teeth

Answer: b


111. According to Goodacre et al., 1995, all of the following instruments are safe for the preparation of posts for maxillary central incisors with the Exception of:

a. Number 2 and 4 round burs
b. Parapost size 3-5
c. Gates glidden size 1-5
d. Peeso reamers size 5-6

Answer: d

112. Dr. ENT referred Mr. Jones a 68 year-old diagnosed with a squamous cell carcinoma of the gingival tissues adjacent to tooth numbers 13 and 14. CAT scan assessment reveals bone destruction and extension of this lesion into the floor of the left maxillary sinus. Dr. ENT medically prescribed the fabrication of a surgical obturator. Which of the following are key criteria to assess and plan for its fabrication.

1. The teeth that will remain following tumor resection
2. The posterior extent of the resection
3. The amount of remaining hard palate
4. The occlusal relationship of the remaining teeth
5. The periodontal health of the dentition.

   a. 1, 2, 4, 5
   b. 1, 2, 3
   c. 2, 3, 4
   d. all of the above

**Answer:** d


113. What element in cobalt-chromium alloys and nickel-chromium alloys is responsible for tarnish and corrosion resistance?

a. Nickel
b. Aluminum
c. Beryllium
d. Silicon
e. Chromium

**Answer:** e

114. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight questions using a systematic review approach. What consensus findings were reported in response to the question: “What is the effect on outcomes of time-to-loading of a fixed or removable prosthesis placed on implant(s)?”

a. Statistical comparisons between immediate loading and delayed loading subgroups were valid due to the homogeneity of trials within the systematic review.
b. Implant survival was a common outcome and the criteria used to assess survival were consistent across studies included in the systematic review.
c. Despite a tendency favoring the longest time-to-loading protocols, no generalized clinical recommendations can be made because potential influencing factors on outcomes were underrepresented.
d. Immediate loading protocols demonstrate significantly better outcomes than delayed loading protocols.
e. It is appropriate to represent the pooled outcome of this systematic review as informative to general clinical applications in implant dentistry.

Answer: c


115. Dental ceramics are classified according to fusion temperature. What is the primary application for high-fusing (1315° to 1370°C) dental ceramics?

a. Metalceramic crowns
b. All ceramic crowns
c. Denture teeth
d. Porcelain laminate veneers
e. High-fusing ceramics have never been used in dentistry

Answer: c

116. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight questions using a systematic review approach. What consensus findings were reported in response to the question: “In patients requiring single-tooth replacement, what are the outcomes of implant- as compared to tooth-supported restorations?” (Please provide the most appropriate answer):

a. At the time of the review, no studies directly comparing tooth-supported fixed partial and implant-supported crowns were available.
b. At 60 months, the pooled success rate of implant-supported crowns and conventional (tooth-supported) fixed partial dentures is statistically equal.
c. At 60 months, the pooled success rate of implant-supported crowns and resin-bonded (tooth-supported) fixed partial dentures is statistically equal.
d. Only a and b are correct.
e. Only a and c are correct.

**Answer:** d

**Reference:** Salinas, T.J. and Eckert, S.E. (2007): In patients requiring single-tooth replacement, what are the outcomes of implant- as compared to tooth-supported restorations? International Journal of Oral & Maxillofacial Implants 22(suppl.):71-95

117. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight PICO questions using a systematic review approach. What consensus findings were reported in response to the question: “Does the type of implant prosthesis affect outcomes in the partially edentulous patient?” (Please provide the most appropriate answer):

a. Cement retained fixed prostheses were found to have statistically significantly higher implant success and survival rates compared to screw retained prostheses
b. Implant support fixed partial dentures were found to have statistically significantly higher implant success rates compared to implant-tooth supported fixed partial dentures
c. Implant support fixed partial dentures were found to have statistically significantly higher prosthesis success rates compared to implant-tooth supported fixed partial dentures
d. The type of implant abutment used had a substantial affect on implant success, implant survival and prosthesis survival for all restorations studied
e. The studies included in this systematic review provided insufficient information to ascertain the impact of restorative material on implant survival or success

**Answer:** e

118. A lever consists of a rigid bar, a fulcrum, an object to be moved (resistance), and an applied force (power). Consider a situation in which the fulcrum is located at one end of the bar, the resistance is located centrally, and the power is applied at the opposite end of the bar. This describes:

a. A first-class lever
b. A second-class lever
c. A third-class lever
d. A fourth-class lever

**Answer:** b


119. Anterior deprogramming devices are available in many forms. The “leaf gauge” is one such device. The person credited with introduction of the leaf gauge is:

a. Huffman
b. Stuart
c. Long
d. Dawson
e. McHorris

**Answer:** c


120. A Swing-Lock removable partial denture displays a hinged buccal or labial bar attached to a conventional major connector. The Swing-Lock concept was introduced by:

a. Stewart
b. Kennedy
c. Simonsen
d. Murchison
e. Simmons

**Answer:** e

**Reference:** Simmons JJ. Swinglock stabilization and retention. Texas Dent J 1963;81:10-12
121. Which of the following grafts are used to restore continuity to the mandible following composite resection,

1. Vascularized Fibula Free Flap
2. Vascularized Radial Forearm Free Flap
3. Vascularized Iliac Crest Free Flap
4. Block Iliac Crest Graft

a. 1, 2, 3
b. 3, 4
c. 1, 2, 3
d. All of the above

**Answer:** d


122. Availability of space is a key factor in whether a lingual bar major connector may be used in removable partial denture therapy. To accommodate a lingual bar, at least _______________ of vertical space must be present between the gingival margins and the active floor of the mouth.

a. 3mm
b. 4mm
c. 5mm
d. 6mm
e. 8mm

**Answer:** e


123. Eccles and Jenkins classification is pertaining to:

a. Grading of amount and type of resorption of the residual alveolar ridge
b. Grading of erosion
c. Grading of attrition
d. Grading tissue quality at the residual alveolar ridge
Answer: b


124. Tongue position is believed to exert a significant effect on the stability of conventional mandibular complete dentures. Which author is most commonly associated with tongue posture and its relationship to mandibular complete denture stability?

a. Lauritzen  
b. Frush  
c. Neil  
d. Stone  
e. Wright

Answer: e


125. “Dentogenics” refers to a school of thought for the creation lifelike removable prostheses. The accompanying theories are based upon three factors. They are:

a. Pitch, proportion, and number  
b. Number, position, and color  
c. Sex, personality, and age  
d. Color, contour, and cusp angulation,  
e. Position, proportion, and brightness

Answer: c


126. When a panoramic radiograph is taken with the patient correctly positioned, the average magnification is:

a. 15% to 20% in the vertical dimension.  
b. 25% to 30% in the vertical dimension  
c. 15% to 20% in the horizontal dimension  
d. there is no magnification
127. Which of the following is not an absolute contraindication to implant placement:

a. Bruxism  
b. Intravenous biphosphonate therapy  
c. Presenile dementia  
d. An absolute neutrophil count level less than 1000 cells/mm³

Answer: a


128. When casting a gold alloy crown, the portion of the flame used to heat the metal is:

a. The mixing zone.  
b. The combustion zone.  
c. The reducing zone.  
d. The oxidizing zone.

Answer: c


129. Hanau’s Quint may be expressed as a mathematical formula which permits the user to assess the interrelationships of its components. This mathematical expression is known as:

a. Christensen’s formula  
b. Hanau’s law  
c. Thielemann’s formula  
d. Beam’s law  
e. Beresin’s formula

Answer: c

Reference: Thielemann K. Biomechanik der Parendentose, Berlin, Hermann Meusser Verlag, 1938, P 24
130. Which of the following factors was NOT associated with an increased risk of implant failure, as described in a recent article by Moy (IJOMI, 2005)?

a. Increasing age  
b. Gender  
c. Smoking  
d. Diabetes  
e. Head & neck radiation

**Answer:** b  


131. Complete dentures may be cleaned using a variety of commercially-available chemical cleansers. When mixed with water, effervescing cleansers release oxygen which breaks down, dissolves, and floats away organic deposits. These oxygenating cleansers are based upon the decomposition of:

a. Sodium citrate  
b. Sodium perborate  
c. Benzoyl peroxide  
d. Titanium dioxide  
e. Hydroquinone

**Answer:** b  


132. The RPI concept for removable partial denture clasping was introduced by:

a. Stewart  
b. Kratochvil  
c. Krol  
d. Kuebker  
e. Applegate

**Answer:** c  

133. Posselt’s Envelope of Motion is:

a. A two-dimensional representation of mandibular motion in the horizontal plane  
b. A two-dimensional representation of mandibular motion in the sagittal plane  
c. A two-dimensional representation of mandibular motion in the frontal plane  
d. A three-dimensional representation of mandibular motion in the horizontal, sagittal, and frontal planes

**Answer:** d


134. According to Okeson, which factor appears to have the greatest influence upon nocturnal bruxism/nocturnal muscle activity?

a. Malocclusion  
b. Stress  
c. Resting muscle length  
d. Frankfort mandibular angle  
e. Incisor length

**Answer:** b


135. Which of the following best describes the location of the neurovascular bundle from the mandibular foramen to the mental foramen?

a. It is nearly always in close proximity to the lingual mandibular cortex  
b. It is frequently within 3 mm to the buccal mandibular cortex  
c. It is located 2-3 mm from the inferior border of the mandible  
d. There is great variation in the bucco-lingual location of the neurovascular bundle

**Answer:** a

136. The ADA Specification No. 8 covers the following dental cements.

  a. zinc phosphate
  b. glass ionomer
  c. resin cement
  d. all dental cements

   **Answer:** a


137. According to Tarnow et al. (2003), in the majority of cases, what approximate soft tissue papilla height can be expected to form over the crest of bone between two adjacent implants?

  a. 1mm
  b. 3mm
  c. 5mm
  d. 7mm

   **Answer:** b

   **Reference:** Tarnow D et al. Vertical distance from the crest of bone to the height of the interproximal papilla between adjacent implants. J Periodontol 2003; 74:1785 8

138. An implant to replace a missing #19 has been treatment planned for one of your patients. You noted in your examination that the #19 residual ridge area has a Lekholm-Zarb Classification B ridge defect. What kind of radiographic imaging technique would be most diagnostic in determining if an implant can be placed in the proper location and a likely probability of achieving primary stability without prior site preparation?

  a. Conventional Tomogram
  b. Cone-Beam Computerized Tomography (CBCT)
  c. Digital Panoramic Radiograph
  d. Three Periapical Radiographs at different horizontal angulations

   **Answer:** b

139. The term “arcon” is a contraction of the words “articulator” and “condyle,” and is used to describe a distinct class of articulators. By definition, an arcon articulator displays the following characteristics:

a. The fossa assemblies are attached to the maxillary member, while the condylar analogs are attached to the mandibular member  
b. The fossa assemblies are attached to the mandibular member, while the condylar analogs are attached to the maxillary member  
c. The fossa assemblies are linear, while the condylar analogs are spherical  
d. The fossa assemblies are gently curved, while the condylar analogs are spherical  
e. The condylar path elements and condylar elements cannot be detached

Answer: a


140. What types of microorganisms are present the most in periimplantitis?

a. Gram positive aerobics  
b. Gram negative aerobics  
c. Gram negative anaerobic and facultative  
d. Gram positive anaerobes

Answer: c


141. As of 2006, a full scan of maxilla and mandible with cone-beam tomography (30-100 microsieverts) generates an effective radiation dose ____________ that of a conventional analog panoramic radiograph (75 kV, 8 mA, and 15 seconds)

a. Greater than  
b. Less than  
c. Similar to

Answer: a

142. Intraoral carcinoma is most commonly located on/in which structure:

   a. Floor of the mouth  
   b. Lateral or ventral tongue  
   c. Soft palate  
   d. Buccal mucosa

**Answer:** b

Saunders Co. P361

143. Hanau’s Quint consists of five components which are commonly used in the creation of balanced articulations. Components of Hanau’s Quint include all of the following except:

   a. Condylar inclination  
   b. Cusp height  
   c. Incisal inclination  
   d. lateral translation  
   e. Occlusal plane orientation

**Answer:** d

**Reference:** Hanau R. Articulation defined, analyzed, and formulated. J Am Dent Assoc
1926;13:1694-1709

144. Benzoyl peroxide is commonly used in denture base resins. What is the primary purpose of benzoyl peroxide denture base resins?

   a. Activator  
   b. Initiator  
   c. Crosslinking agent  
   d. Scavenger  
   e. Inhibitor

**Answer:** b

**Reference:** Phoenix RD. Denture Base Resins. In Phillips’ Science of Dental Materials,
145. In order to minimize the loss of vertical crestal bone between implants, what is the minimum distance apart the implants should be placed?

a. 1 mm  
b. 2 mm  
c. 3 mm  
d. 4 mm  

**Answer:** c  


146. Hydroquinone is commonly added to the liquid component of denture base resins. What is the primary purpose of hydroquinone in such liquids?

a. Activator  
b. Initiator  
c. Crosslinking agent  
d. Scavenger  
e. Inhibitor  

**Answer:** e  


147. What is the active ingredient in most toothpastes marketed in the United States for desensitizing teeth?

a. Ferric oxalate  
b. Potassium nitrate  
c. Strontium chloride  
d. Tetrasodium pyrophosphate  

**Answer:** b  

148. What is the observed volumetric shrinkage of heat-activated denture base resin upon polymerization?

a. 25%
b. 21%
c. 10%
d. 7%
e. <1%

**Answer:** d


149. Camper’s plane is commonly used as a guide to the antero-posterior inclination of the occlusal plane when establishing jaw relation records for edentulous patients. The landmarks used to develop Camper’s plane are:

a. The inferior border of the right or left ala of the nose and the superior border of the tragus of the ears.
b. The inferior border of the right or left ala of the nose and the most posterior point of the tragus of the ears.
c. The inferior border of the right or left ala of the nose and the inferior border of the tragus of the ears.
d. The superior border of the right or left ala of the nose and the superior border of the tragus of the ears.

**Answer:** a

**Reference:** The Glossary of Prosthodontic Terms, J Prosthet Dent 2005; 94:72
150. The State of the Science on Implant Dentistry Consensus Conference (2006) addressed eight questions using a systematic review approach. What consensus findings were reported in response to the question: “Which hard tissue augmentation techniques are the most successful in furnishing bony support for implant placement?” (Please provide the most appropriate answer):

a. The maxillary sinus augmentation procedures and associated implant placements have been well documented with reasonable long-term follow-up data
b. Detailed documentation and long-term follow-up data are not available for alveolar ridge augmentation procedures and associated with implant placements
c. Five year success rates for implants placed in areas of sinus augmentations compare favorably with implants placed conventionally in the absence of sinus grafts.
d. Only a and c are correct
e. All of the above (a, b and c) are correct

Answer: e