

RESTORATIVE DENTISTRY D262
PROGRESS EXAMINATION #2
April 16, 2008

Corrected

NAME: _____

PRECLINIC SEAT NUMBER: _____

EXAMINATION NUMBER: _____ A

41

1. Please read all directions before starting the examination.
2. Your examination booklet should contain 5 pages with a total of 50 questions. Please check to verify you have all of the examination.
3. Write your name and preclinic seat number on the cover of the examination booklet.
4. Write your name and Temple ID number on the computerized answer sheet in the appropriate boxes. Blacken the corresponding letters and digits below the boxes.
5. On the reverse side of the computerized answer sheet sign your name and write the number and letter (A or B) of your test booklet in the box labeled identification information.
6. Be sure to darken all circles on the answer sheet before the end of the examination. Extra time will not be given at the end of the examination for this purpose.
7. Choose the best answer for each question. No questions will be answered during the examination.
8. Return the computerized answer form **AND** the entire examination booklet to the proctor.

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1. According to material presented in the Shillingburg text, to minimize stress in the cement interface between the preparation and the restoration, an axial wall taper of _____ degrees has been suggested as optimum; however research by Mack estimates that a minimum taper of _____ degrees is necessary just to insure the absence of undercuts.

- a. 2 - 6; 18 b. 3 - 5; 15 - 20 c. 6; 8 d. 2 - 6; 12

2. According to material presented in the Shillingburg text, a taper or total convergence of _____ degrees has been proposed as being achievable clinically while still affording adequate retention.

- a. 9 b. 12 c. 16 d. 20 e. 25

3. Darker shades and microfilled composites are more difficult to cure because filler particles and coloring agents tend to scatter or absorb the curing light in the first 1 to 2 mm of material.

- a. both statements are true c. statement one is true; statement two is false
b. both statements are false d. statement one is false; statement two is true.

4. The mesial proximal contact of a full gold crown (tooth # 3) should be located:

1. in the midline of the tooth buccolingually
2. at the marginal ridge
3. in the middle of the occlusal one-third of the proximal surface
4. buccal to the midline of the tooth
5. in the middle one-third of the tooth occlusogingivally

- a. 3, 4 b. 1, 4 c. 4, 5 d. 2, 4 e. 1, 3

5. *Streptococcus mutans* is considered to be a principle etiologic agent of caries because it produces organic acids and it

- a. metabolizes substrate from saliva c. derives energy from enamel constituents
b. forms a gelatinous matrix d. lives symbiotically with *Lactobacillus acidophilus*

6. Whenever possible, a syringe should be used for placing composite resin because

- a. the need for etching procedures is eliminated
- b. the need for applying enamel bonding agent is eliminated
- c. the possibility of trapping air in a restoration is minimized
- d. a syringe allows for less amount of composite material to be mixed

7. Which of the following factors contributes the greatest amount of retention to a cast gold crown restoration

- a. proximal cavosurface margin chamfer
- b. uniform occlusal reduction
- c. rounded occlusal line angles
- d. properly placed functional cusp bevel
- e. near parallel axial walls

8. Supplemental retention on abutment teeth is made possible by

- a. parallel alignment
- b. greater bulk of metal
- c. proper cementing technique
- d. a chamfer-type preparation
- ☒ e. proper use of grooves and box forms

9. Gavelis *et al* found that tooth preparations with _____ permitted the most complete seating of a crown.

- a. parallel bevels
- ☒ b. shoulders
- c. chamfers
- d. reverse bevels

10. All of the following are true regarding the use of the knife edge finish line for cast gold restorations except:

- a. the axial reduction may fade out instead of terminating in a definite finish line
- b. difficulty in identification may make waxing of the restoration difficult
- c. it is more susceptible to distortion under occlusal forces
- ☒ d. can result in undercontoured restorations

11. A large carious lesion on the distal surface of a maxillary central incisor involving the incisal angle is a

- 1. Class I lesion
- 2. Class II lesion
- 3. Class IV lesion
- 4. pit and fissure lesion
- 5. smooth surface lesion

- a. 1 only
- b. 2 and 5
- ☒ c. 3 and 5
- d. 3 only
- e. 4 only

12. Clinical interpretation of pain from pulpal inflammation (hyperemia) is somewhat empiric, but nonetheless important to the successful practice of operative dentistry. If an irritant, such as touching ice to the tooth, causes pain that lingers more than 15 seconds after removal of the irritant, the condition of the pulp is called _____ and resolution of the condition is possible by _____.

- a. reversible pulpitis; root canal therapy
- b. reversible pulpitis; immediate restorative treatment (operative dentistry)
- ☒ c. irreversible pulpitis; root canal therapy
- d. irreversible pulpitis; immediate restorative treatment (operative dentistry)

13. Overcontoured crowns can be the result of

- 1. the need for added retention
- 2. overbulking by technicians
- 3. insufficient tooth reduction
- 4. periodontal considerations
- ☒ 5. lack of a functional cusp bevel

- a. all of the above
- b. 2, 3 and 4
- ☒ c. 2, 3 and 5
- d. 1, 3 and 5
- e. 3 and 5

14. The rubber dam retainer that should be used on partially erupted molars is

- a. 212
- b. W56
- ☒ c. 14A
- d. W2

15. Which of the following are true statements concerning the placement of gingival finish lines for full gold crowns

- ☒ 1. Finish lines should be placed in enamel when it is possible to do so.
- ☒ 2. Finish lines must be placed so that they can be duplicated by the impression, without tearing or deforming the impression when it is removed from the mouth.
- 3. In a caries prone individual, it is best to place the finish line subgingival because the gingival sulcus is caries-free.
- ☒ 4. The finish line should extend beyond existing restorations onto sound tooth structure.
- ☒ 5. The deeper the finish line (restoration margin) resides in the gingival sulcus, the greater the inflammatory response of the periodontium.

- a. all of the above are true

- ~~b. 1, 2, 3, 4~~
- ☒ c. 1, 2, 4, 5
- ~~d. 2, 4 and 5 only~~
- ~~e. 1, 4 and 5 only~~

16. The current consensus is that dentin bonding agents bond primarily _____ to tooth structure.

- a. chemically
- ☒ b. mechanically
- c. via hydrogen bonding

17. Which of the following statements is true concerning the preparation for a composite veneer

- ☒ 1 Mesial and distal contact should be broken for improved esthetics
- ☒ 2 The preparation should penetrate $\frac{1}{2}$ the thickness of the enamel
- ☒ 3 The margin should always extend subgingival
- ☒ 4 Reduce the incisal edge to minimize the occurrence of protrusive interferences
- ☒ 5 The desired margin configuration is the chamfer

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

18. A chamfer margin is formed as the negative image of a round-end tapered diamond; therefore a chamfer should not be wider than half the diameter of the bur used, otherwise a lip of unsupported enamel results.

- ☒ a. both statements are true
- b. both statements are false
- c. statement one is true; statements two is false
- d. statement one is false; statement two is true

19. The "wet bonding" technique has been shown to enhance bond strengths because water preserves the porosity of collagen networks available for monomer interdiffusion. If the dentin surface is dried with air, the collagen undergoes immediate collapse and prevents resin monomers from penetrating.

- ☒ a. both statements are true
- b. both statements are false
- c. statement one is true; statements two is false
- d. statement one is false; statement two is true

20. After the dentist has completed an etching procedure on a Class III composite preparation, the preparation becomes contaminated with saliva. In response, the dentist should do which of the following?

- a. Blow away the saliva with air, then proceed
- b. Rinse away the saliva with water, dry the preparation, then proceed
- c. Wipe away the saliva with a cotton pellet, rinse the preparation with water, dry it with air, then proceed
- ☒ d. Rinse away the saliva with water, dry the preparation with air, then repeat the etching procedure

21. In a full gold crown preparation, the purpose of the seating groove is to

- a. prevent any rotational tendencies during cementation
- b. help guide the casting to place during cementation
- c. provide resistance and retention form
- d. two of the above
- ☒ e. all of the above

22. Microfill resin composites generally have a _____ percentage filler content than other types of resin composites.

- ☒ a. lower
- b. higher

23. Non-working side interferences generally occur on the inner aspects of which teeth?

- ☒ 1 facial cusps of mandibular molars
- 2 facial cusps of maxillary premolars
- ☒ 3 lingual cusps of maxillary molars
- 4 facial cusps of maxillary molars.

a. 2 and 4 ☒ b. 1 and 3 c. 2 and 3 d. 3 and 4

Maxi L
Maxi B

24. Regarding light curing of composite resin, which of the following statements are true

- 1. The tip of the curing light should be within 2 mm of the composite surface
- 2. It is recommended that no more than 1.5 – 2 mm increments be light-cured at a time.
- 3. The degree-of-conversion (or degree of cure) is related to both the intensity of light and duration of exposure.
- 4. Most light-curing requires a minimum of 20 seconds for adequate curing under optimal conditions of access
- ☒ 5. Using a hand held curing light, most dental composites can be cured to levels of 75% degree of conversion of the reactive monomer sites.

60%

☒ a. all statements are true b. 2, 3, 5 c. 2, 3, 4 d. 1, 2, 4, 5 ☒ e. 1, 2, 3, 4

25. A dentist is preparing Tooth # 30 for an occlusal amalgam restoration. Once the ideal outline form and depth have been established, the dentist notes that caries remains on the facial, pulpal, and lingual walls of the preparation. The next step in treatment is to

- ☒ a. extend the outline form
- b. remove the caries with a spoon excavator
- c. remove the caries with a large round bur on high speed
- d. remove the caries with a large round bur on slow speed

26. It is more difficult to bond to dentin than to enamel because:

- a. dentin contains more mineralized tooth structure *F*
- b. dentin contains more water *T*
- c. the presence of the smear layer makes it harder for the adhesive to wet the dentin *T*
- ☒ d. two of the above
- e. all of the above

27. The height of contour on the facial surface of posterior teeth is located

- ☒ a. in the gingival one-third of the tooth
- b. in the middle one-third of the tooth
- c. at the junction of the middle one-third and the gingival one-third
- d. at the junction of the middle one-third and the occlusal one-third
- e. It varies depending on the height of the tooth

28. The most deleterious effect of polymerization shrinkage of a resin composite is:

- a. increased wear
- ☒ b. microgap formation
- c. decreased stiffness

29. Which of the following correctly describe the Class III distal of the canine preparation for amalgam ?

- 1. usually lingual approach to preserve esthetics *✓*
- 2. lingual dovetail is not indicated unless it existed previously or is necessary to enhance retention form for the cavity preparation. *✓*
- 3. Enter the tooth with a # 2 round bur held perpendicular to the long axis of the tooth. *Lingual*
- 4. bur is positioned so the entry cut will penetrate into the contact point. *below*
- 5. the lingual outline blends with the incisal and gingival margins creating a preparation with little or no lingual proximal wall. *✓*

a. All of the above are correct

d. 1, 2 and 4

b. 1, 2, 3 and 4

e. 2, 3 and 4

☒ c. 1, 2 and 5

30. When placing pins to enhance retention form of a prepared cavity, which of the following potential pin sites should be avoided?

- a. the mid-buccal area of the mandibular first molar
- b. the mid-mesial area of the maxillary first premolar
- c. the mid mesial area of the maxillary first molar
- d. two of the above
- ☒ e. all of the above

31. In a completed Class III cavity preparation for composite which of the following walls should remain in contact with the adjacent tooth.

- ☒ a. incisal
- b. gingival
- ~~c. facial~~
- d. lingual
- e. all walls should break contact with the adjacent tooth.

32. Which of the following clinical situations involving direct pulp capping would be the most likely to be successful?

- a. A pin-point exposure having sound dentin on the periphery of the exposure, with a mild degree of pulpal inflammation restricted to the exposure site. Poor isolation using cotton roles.
- b. A carious exposure having decayed or infected carious dentin at its periphery, inflammation in the pulpal tissues beyond the exposure site. Isolation using rubber dam.
- ☒ c. A pin-point exposure having sound dentin on the periphery of the exposure, with no pulpal inflammation at the exposure site. Isolation using rubber dam.
- d. An exposure with profuse hemorrhage and great involvement (mechanical) of the pulpal and root tissues.

33. A carbide bur with a numerical code 1156 can be described as a(n)

- a. tapered fissure
- b. straight fissure
- c. crosscut straight fissure
- d. end cutting bur
- ☒ e. round ended straight fissure

34. Which of the following statements regarding quadrant dentistry (is) are true (ST 778)

- 1. it is recommended to restore the most anterior tooth first *Posterior 1st*
- 2. If proximal boxes differ in size, teeth with larger boxes should be restored first. *smaller 1st*
- 3. When restoring a quadrant of Class II amalgam tooth preparations, it is permissible to apply matrix bands on alternate preparations in the quadrant and restore the teeth two at a time.
- ☒ 4. using a finishing strip between newly placed contacting amalgam restorations may lighten or eliminate the proximal contact.

a. all of the above are true

b. 1 and 2

c. 2, 3, 4

☒ d. 3, 4

e. 4

35. The copal resin varnish that is placed in the cavity preparation before the amalgam is placed is condensed provides
- sealing of the margins for the lifetime of the restoration
 - long-term sealing of several years duration
 - ☒ short-term sealing of the margins
 - no sealing of the margins
36. The part of the axial contour that extends from the base of the gingival sulcus past the free margin of the gingiva has been described as the
- height of contour
 - ☒ emergence profile
 - "protective bulge"
 - cervical constriction
37. According to material presented in the Shillingburg text, the acute angle margin should be used on cast metal restorations. The angle should be
- nearly parallel to the long axis of the tooth
 - in the 15 to 30 degree range
 - ☒ in the 30 to 45 degree range
 - in the 45 to 60 degree range
38. When a deep carious lesion occurs and there are no clinical or radiographic indications of irreversible pulp damage, the tooth may be treated by a procedure termed _____. This procedure involves the removal of infected dentin except for the deepest, last small amount, which if removed might expose the pulp.
- direct pulp cap
 - ☒ indirect pulp cap
 - preventive resin restoration
 - sealant
39. The self polymerizing resin used in the preclinical laboratory (Jet) is a
- poly(ethyl methacrylate)
 - ☒ poly(methyl methacrylate)
 - poly (vinylethyl methacrylate)
 - bis-acrylate
40. Disadvantages of using Jet acrylic for direct fabrication of provisionals include
- brittleness ✓
 - high exothermic heat increase ✓
 - poor polishability ✓
 - toxic effect of free monomer ✓
 - high volumetric shrinkage ✓
- ☒ a. 2, 4 and 5 ☒ b. 1, 2 and 5 c. 2, 3, 4 and 5 d. 3, 4 and 5 ☒ e. 1, 2, 4 and 5

According to material presented in lecture and Sturdevant, identify the following statements (questions 41 - 50) as true or false. Darken (a) on your answer sheet if the statement is true. Darken (b) on your answer sheet if the statement is false.

- a. True b. False

- Corrected*
- F ~~41~~ In a Class I amalgam cavity preparation retention form is provided by mesial and distal walls that converge occlusally. *Direct*
- T 42. Mature plaque is primarily anaerobic.
- T 43. When punching holes in the rubber dam, the distance between holes is equal to the distance from the center of one tooth to the center of the adjacent tooth, measured at the level of the gingival tissue.
- F 44. Base materials are needed under composite ~~resin~~ *amalgam* restorations to provide thermal insulation.
- F 45. A tapered fissure bur can be described as a slightly tapered cone with the small end of the cone directed toward the bur shank. *away*
- F 46. The reaction that occurs in a mixture of zinc oxide and eugenol (IRM) is exothermic. *Zinc phosphate*
- F ~~47~~ No correlation exists between resin tag length and enamel/resin bond strength.
- F 48. Inadequate isthmus ~~width~~ *Depth* is the most likely cause for isthmus fracture of Class II amalgam.
- T ~~49~~ The use of composite resin for Class II preparations extending onto the root surface is not generally recommended because it is difficult to place a bevel subgingivally.
- T ~~50~~ Apical to the tangent point of a crown preparation the forces have a component of tension.