

**Vesela Stefanova, Kostadin Georgiev, Nikolay Simeonov,
Valeria Alexandrova, Alexandra Pecheva**

**PRECLINICAL MCQ TESTS
IN
OPERATIVE DENTISTRY**

VESELA STEFANOVA *EDITOR*

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Dear third year students,

You are holding the book “Preclinical MCQ Tests in Operative Dentistry”

It is written especially for you in order to help you for your preclinical exam in Conservative Dentistry. All the questions and answers are based on the given lectures in Operative Dentistry for the fifth semester of your education in the Faculty of Dental Medicine.

My colleagues and me do believe in you and your success!

*Vesela Stefanova, PhD
Associate Professor
Department of Operative Dentistry and Endodontics
Faculty of Dental Medicine
Medical University-Plovdiv*

TEST 1
DENTAL CARIES

1. Operative Dentistry is the art and science of the diagnosis, treatment, and prognosis of defects of teeth that require full coverage restorations for correction.

- a) True
- b) False

2. Which is NOT an indication for operative procedures?

- a) Caries lesion
- b) Mobile teeth
- c) Restoration repair
- d) Malformed teeth

3. In Operative Dentistry you must restore proper tooth:

- a) Form, vitality, functions
- b) Function, esthetics, soft tissues
- c) Esthetics, function and form
- d) Form, mobility, color

4. Enamel is formed by:

- a) Dentinoblast cells
- b) Ameloclast cells
- c) Ameloblast cells
- d) Cementoclast cells

5. Enamel has mesoderm origin:

- a) False
- b) True

6. Enamel covers:

- a) The anatomic crown of the tooth
- b) The root of the tooth
- c) The pulp chamber
- d) The whole tooth

7. What is the origin of dentine?

- a) Ectodermal
- b) Endodermal
- c) Mesodermal
- d) None is correct

8. What is the origin of the pulp?

- a) Ectodermal
- b) Mesodermal
- c) Endodermal
- d) None is correct

9. Structurally enamel is composed of:

- a) Ameloblasts
- b) Endoderm
- c) Prisms
- d) Nerves

10. In general the rods are perpendicular to DEJ.

- a) True
- b) False

11. Odontoblast cells produce:

- a) Enamel

- b) Cementum
- c) They don't produce any tissue
- d) Dentinal matrix

12. Where are the bodies of the odontoblast cells?

- a) In enamel
- b) In dentin
- c) In periodontium
- d) In pulp chamber

13. Where are the processes of the odontoblast cells?

- a) In enamel
- b) In dentin
- c) In periodontium
- d) In pulp

14. Which tooth structure is the softest?

- a) Cementum
- b) Pulp
- c) Enamel
- d) Dentin

15. The color of cementum is:

- a) Grey
- b) White
- c) Brown
- d) Yellow

16. Which statement about cementum is correct?

- a) Acellular layer is on top of cellular layer

b) Cellular layer occurs in the apical half of the root and acellular occurs in the coronal half of the root

c) Acellular layer occurs in the apical half of the root and cellular occurs in the coronal half of the root

d) Cellular layer decreases with time

17. Which statement about cementum is NOT correct?

a) Cellular layer is produced whole life

b) Acellular layer is produced whole life

c) Acellular layer occurs in the coronal half of the root

d) Cellular layer is present with eruption of the tooth

18. Cementum is formed by:

a) Cementoclast cells

b) Odontoclast cells

c) Osteoclast cells

d) None is correct

19. Which statement is wrong about dental caries?

a) It is infectious disease

b) Its progression can be stopped

c) Unerupted teeth can have caries

d) Causes localized dissolution and destruction of calcified tissues

20. Which statement is correct?

a) White spot (initial caries) on enamel surface caused by demineralization is only visible when the surface is wet

b) Sound enamel is NOT translucent

c) Enamel loses its translucency because of the extensive subsurface porosity caused by demineralization

d) Enamel becomes more translucent because of the extensive subsurface porosity caused by demineralization

21. Tooth preparation is the mechanical alteration of a defective, injured, or diseased tooth to receive a restorative material that re-establishes its vitality

a) True

b) False

22. Removal of all defective or friable tooth structures is NOT always necessary:

a) True

b) False

23. Which is NOT a general objective of tooth preparation?

a) To remove all defects and provide necessary protection to the pulp

b) To form the tooth preparation so that under the force of mastication the tooth and the restoration will not fracture and the restoration will not be displaced

c) To leave undermined enamel for better retention

d) To allow for the esthetic and functional placement of a restorative material

24. Class I cavity preparation includes (mark the wrong answer):

a) Pits and fissures of premolars

b) Occlusal two thirds of the facial and medial surface of molars

c) Occlusal two thirds of the facial and lingual surface of premolars

d) Lingual surface of maxillary incisors

25. Which statement is correct about Class II cavity preparation?

a) It must include one proximal surface

b) It must include two proximal surfaces

c) It must include occlusal surface

d) It includes the gingival third of vestibular or lingual surface but without proximal

26. Class III cavity preparation is:

- a) Proximal surfaces of anterior teeth that do NOT involve the incisal angle
- b) Proximal surfaces of anterior teeth that involve the incisal angle
- c) Proximal surfaces of posterior teeth that do not involve the incisal angle
- d) Proximal surfaces of posterior teeth that involve the incisal angle

27. Class IV cavity preparation is:

- a) Proximal surfaces of anterior teeth that do not involve the incisal angle
- b) Proximal surfaces of anterior teeth that involve the incisal angle
- c) Proximal surfaces of posterior teeth that do not involve the incisal angle
- d) Proximal surfaces of posterior teeth that involve the incisal angle

28. Class V cavity preparation is:

- a) Restorations on the gingival third of the proximal surfaces of all teeth
- b) Restorations on the gingival third of the facial or lingual surfaces of all teeth
- c) Restorations on the gingival third of the facial, lingual or proximal surfaces of all teeth
- d) Restorations on the gingival third of the facial or lingual surfaces of posterior teeth only

29. When one tooth preparation is compound?

- a) When only one surface is involved
- b) When two surfaces are involved
- c) When three surfaces or more are involved
- d) All are correct

30. What is a pulpal wall?

- a) An internal wall that is parallel to the long axis of the tooth and occlusal of the pulp.
- b) An external wall that is perpendicular to the long axis of the tooth and occlusal of the pulp.
- c) An internal wall that is perpendicular to the long axis of the tooth and occlusal of the pulp.
- d) None is correct

31. Which statement about tooth preparation stages is wrong?

- a) Pulp protection is always necessary
- b) Retention form is always necessary
- c) Resistance form is always necessary
- d) Resistance form is not always necessary

32. Which statement is NOT true about masticatory forces?

- a) The anterior teeth support gliding contacts
- b) The posterior teeth support gliding contacts
- c) The posterior teeth support the heavy forces applied during chewing and clenching
- d) All are wrong

33. We use burs for:

- a) Burs are used for cutting dentin with slow speed handpiece
- b) Burs are used for cutting enamel with fast speed handpiece
- c) Burs could be metal and diamond
- d) All are correct

34. Which material is used for direct and indirect obturations?

- a) Amalgam
- b) Ceramics
- c) Metal alloys
- d) Composite

35. The acellular layer of cementum usually predominates on the apical half of the root.

- a) True
- b) False

36. Which one is tooth 17 according to Universal Notation Numbering System?

- a) Upper right second molar
- b) Upper left second molar

c) Lower left third molar

37. According to Universal Notation Numbering System, tooth #26 is:

a) Upper left first molar

b) Lower right lateral incisor

c) Upper right first molar

d) Lower left first molar

38. According to FDI Numbering System upper left first premolar is:

a) 12

b) 14

c) 24

39. According to FDI Numbering System upper right second premolar is:

a) 12

b) 15

c) 24

40. According to FDI Numbering System lower left third molar is:

a) 38

b) 14

c) 24

41. Which of the following steps is not a part of the initial tooth preparation?

a) Outline form and initial depth

b) Secondary resistance and retention forms

c) Convenience form

42. Removal of any remaining infected dentin or old restorative material is a step of the final tooth preparation.

a) True

b) False

43. Which of the following steps is a part of the initial tooth preparation?

- a) Removal of any remaining infected dentin
- b) Secondary resistance and retention forms
- c) Pulp protection
- d) Creating convenience form of the cavity

44. Which of the following steps is a part of the final tooth preparation?

- a) Removal of any remaining infected dentin
- b) Primary resistance form
- c) Creating outline form and initial depth of the cavity
- d) Creating convenience form of the cavity

TEST 2

CLASS I AND II TOOTH PREPARATION FOR UNAESTHETIC RESTORATIVE MATERIALS (AMALGAM)

1. Dental amalgam is mixture of:

- a) Gold, tin, copper and mercury
- b) Silver, iron, copper and tin
- c) Silver, tin, copper and mercury
- d) Aluminum, tin, copper and mercury

2. The required tooth preparation form must allow the amalgam to (mark the wrong answer!):

- a) Possess a uniform specified minimum thickness for strength
- b) Allow placement of non-plastic amalgam
- c) Be mechanically retained in the tooth
- d) Produce a 90-degree amalgam angle (butt joint form) at the margin

3. Which is NOT an advantage of the amalgam?

- a) Excellent wear resistance
- b) Low cost
- c) Ease of use
- d) Low compressive strength

4. Disadvantages of the amalgam:

- a) Noninsulating and nonesthetic
- b) Difficult tooth preparation
- c) Less conservative
- d) All are correct

5. The restoration angle at the cavosurface margin for amalgam must be:

- a) Less than 90-degrees
- b) 90-degrees or greater
- c) Exactly 90-degrees
- d) None is correct

6. The initial depth for amalgam restoration must be:

- a) 1-2 mm
- b) 1.5-2 mm
- c) 2-2.5 mm
- d) 0.5-1.5 mm

7. When do we eliminate a weak wall of enamel by joining two outlines that come close together?

- a) When they are 1 mm apart
- b) When they are 0.75 mm apart
- c) When they are 0.5 mm apart
- d) When they are 0.3 mm apart

8. The pulpal floor, depending on the enamel thickness, is usually in dentin.

- a) True
- b) False

9. Which statement is correct?

- a) All caries must be removed from the peripheral DEJ
- b) The caries is not always removed from the peripheral DEJ
- c) Caries from the peripheral DEJ must remain
- d) None is correct

10. Preparation for amalgam includes:

- a) Flat pulpal wall

- b) Convergent walls
- c) Depth at least 1.5 mm
- d) All are correct

11. The parallelism or slight occlusal convergence of two or more opposing, external walls provides:

- a) Prevention from secondary caries
- b) Higher tooth strength
- c) Primary retention form
- d) Allows better contact with opposite teeth

12. Cavo-surface angle should not exceed:

- a) 80 degrees
- b) 90 degrees
- c) 100 degrees
- d) 110 degrees

13. Removal of the remaining infected dentin on the pulpal floor is best accomplished using:

- a) Diamond bur and low speed handpiece
- b) Diamond bur and high speed handpiece
- c) Metal bur and low speed handpiece
- d) Metal bur and high speed handpiece

14. What size metal bur should be used for caries removal on the pulpal floor?

- a) The largest possible
- b) The smallest
- c) Middle size instrument
- d) Size does not matter

15. Beveling for amalgam restoration is:

- a) Always necessary
- b) Contraindicated
- c) Done for better retention
- d) Reducing amalgam retention

16. Class I cavity includes occlusal surface and sometimes one proximal surface of posterior teeth.

- a) True
- b) False

17. Class I cavity includes occlusal and sometimes one mesial or lingual surface.

- a) True
- b) False

18. When the defect extends to one half the distance between the primary groove and a cusp tip we must:

- a) Extend the cavity proximally for better retention
- b) Reduce the cusp and restore it with amalgam
- c) Increase the width without removing cusps
- d) Increase the depth of the cavity

19. If a pulp exposure occurs, the operator must:

- a) Obturate the tooth without base
- b) Obturate the tooth using base
- c) Do not obturate the tooth
- d) Apply pulp cap

20. Primary resistance form was obtained by (mark the wrong answer):

- a) Extending the outline of the tooth preparation to include only undermined tooth structures
- b) Extending the outline of the tooth preparation to include defective tooth structures
- c) Extending the outline of the tooth preparation to include one or more cusps

d) Preparing strong enamel walls and allowing strong cuspal areas to remain

21. Primary retention is obtained by the occlusal convergence of the enamel walls

- a) True
- b) False

22. Primary retention form may result from undercut areas that are occasionally left in dentin after removal of infected dentin.

- a) True
- b) False

23. For Class II cavity we have to establish (ideally) not more than clearance with the adjacent proximal surface facially, lingually, and gingivally (fill the blank space).

- a) 0.7 mm
- b) 0.3 mm
- c) 0.5 mm
- d) At least 1 mm

24. Proximal locks for Class II cavity preparation for amalgam extend to:

- a) Occlusal surface
- b) Gingival surface
- c) Lingual or facial surface
- d) Pulpal wall

25. Most small to moderate defects in posterior teeth should be restored with amalgam rather than composite.

- a) True
- b) False

26. Amalgam restorations require a minimum thickness:

- a) Of 0.5 to 1 mm
- b) Of 2 to 3 mm
- c) Of 0.75 to 2 mm

d) Of 2 to 4 mm

27. Marginal-amalgam angle should not be less than:

a) 60 degrees

b) 70 degrees

c) 80 degrees

28. For the conservative Class I preparation, a facio-lingual width of no more thanmm is considered ideal:

a) 0.5 to 1 mm

b) 1 to 1.5 mm

c) 2 to 3 mm

29. For the conservative Class I preparation a depth of mm is considered ideal:

a) 0.5 to 1 mm

b) 1.75 to 2.5 mm

c) 1.5 to 2 mm

2 to 3 mm

30. When the distance between the primary groove and a cusp tip is one thirds, cusp capping usually is required because of the risk of cusp fracture postoperatively.

a) True

b) False

31. Which one is a type of Class II restoration?

a) Restorations on occlusal surface of premolars and molars.

b) Mesio-occluso-lingual preparation, including distal pit and distal oblique and lingual fissures.

c) Restorations on occlusal two thirds of the facial and lingual surfaces of molars.

32. Facio-lingual dimension of proximal ditch of Class II restoration is greater at gingival than at occlusal level.

a) True

b) False

33. Restorations on lingual surface of maxillary Incisors are:

a) class I

b) class II

c) class V

d) class VI

34. Mark the odd one out:

a) Amalgam restorations require a specific tooth preparation form

b) Amalgam may be used as nonbonded restorations

c) Amalgam may be used as bonded restorations

d) Amalgam may be used as indirect restorative material

35. Amalgam restoration is not indicated in cases of:

a) Class I

b) Class II

c) Class III

d) Class V

36. Mark the wrong statement about amalgam preparation requirements:

a) Should be placed into a tooth preparation that provides less than

90-degree restoration angle at the cavosurface margin

b) Have a minimum thickness of 0.75 to 2 mm for adequate compressive strength

c) The cavity should be with divergency of the walls

d) Should be placed into a prepared undercut form in the tooth to be mechanically retained

37. Two separate cavities should be joined when preparing for amalgam when:

a) Their outlines are less than 0.5mm apart

b) Their outlines are less than 1.5mm apart

c) Should always be joined together

d) Should never be joined together

TEST 3

CLASS I AND II TOOTH PREPARATION FOR CAST METAL RESTORATIONS

1. Which is NOT an indication for indirect cast metal restoration?

- a) Large restorations
- b) Weakened teeth
- c) Better contacts and contours need
- d) High caries rate**

2. Contraindication for indirect cast metal restoration is:

- a) Weakened teeth
- b) High caries rate**
- c) Diastema closure
- d) Teeth at risk of fracture

3. Indications for indirect restorations are:

- a) Endodontically treated teeth, teeth at risk for fracture, removable prosthodontic abutments**
- b) Diastema closure, teeth at risk for fracture, young patients
- c) Esthetics, small restorations, high caries risk
- d) Endodontically treated teeth, teeth at risk for fracture, young patients

4. Advantages of indirect cast metal restorations are:

- a) Strength, biocompatibility, high esthetics, high wear
- b) Low wear, control of contour and contacts, cost,
- c) Cost, splitting forces, Number of appointments and low chair time
- d) Biocompatibility, low wear, strength**

5. Which is NOT a disadvantage of indirect cast metal restorations?

- a) Technique sensitive
- b) Cost
- c) Number of appointments

d) Low wear

6. What is the shape of the burs used for initial preparation?

a) Round

b) Parallel

c) Pear

d) Flame

7. The vertical walls of the preparation for cast metal restorations must be:

a) 90 degrees

b) Parallel

c) Divergent

d) Convergent

8. Retention grooves for cast metal restorations are located:

a) Mesiolingual or distolingual line angle

b) Mesiofacial or distofacial line angle

c) On the pulpal wall

d) Facioaxial or linguoaxial line angle

9. Secondary retentions are made with

a) Diamond burs

b) Metal burs

c) Diamond and metal burs

d) None is correct

10. We bevel with:

a) Diamond burs

b) Metal burs

c) Diamond and metal burs

d) None is correct

11. Beveling occlusally is made at:

a) 60 degrees

b) 75 degrees

c) 30 degrees

d) 45 degrees

12. Beveling gingivally is made at:

a) 60 degrees

b) 75 degrees

c) 30 degrees

d) 45 degrees

13. The cavosurface design of beveling helps for:

a) Better seal and protection of the margins

b) Higher inlay strength

c) Better esthetics

d) Lower wear

14. Which surfaces do you have to bevel?

a) Gingival and occlusal

b) Gingival and the isthmus

c) Mesial and the isthmus

d) Oclusal and palatal

15. Capping the cusp is necessary when:

- a) For each Class II preparation
- b) The preparation outline is extended one third of this distance between occlusal groove and the cusp tip
- c) The preparation outline is extended two thirds of the distance between occlusal groove and the cusp tip**
- d) Only when higher esthetics is needed

16. What is a 'skirt' preparation in Class II for indirect cast metal restorations?

- a) Thin extensions of the medial or distal proximal margins
- b) The extensions of the facial or lingual wall is necessary because of esthetics
- c) Thin extensions of the facial or lingual proximal margins**
- d) Large extensions of the facial or lingual proximal margins

17. What is a 'collar' preparation in Class II for indirect cast metal restorations?

- a) 0.8-mm-deep shoulder around the lingual or facial surface**
- b) 1 mm-deep shoulder around the lingual or facial surface
- c) 0.8-mm-deep shoulder around proximal surface
- d) None is correct

18. The Class II involves the occlusal and proximal surfaces of a posterior tooth and may cap one or more, but not all, of the cusps.

- a) Inlay
- b) Onlay
- c) Overlay

19. The Class II overlay involves:

- a) The proximal surfaces of a posterior tooth and caps all of the cusps.
- b) The proximal surfaces of a posterior tooth, caps all of the cusps and covers three fourth of the tooth crown.
- c) The occlusal and proximal surfaces of a posterior tooth and may cap one or more, but not all, of the cusps.

20. When the proximal surfaces of a posterior tooth and all of the cusps are involved the restoration is:

- a) Overlay
- b) Inlay
- c) Onlay

21. The gingival-to-occlusal divergence of prepared walls for cast metal restorations may range from:

- a) 1 to 3 degrees
- b) 6 to 8 degrees
- c) 5 to 10 degrees
- d) 2 to 5 degrees

22. During the initial preparation long axis of bur should tilt slightly lingually to parallel long axis of tooth crown for:

- a) Maxillary posterior teeth
- b) First mandibular premolars
- c) Molar and second premolar teeth of mandibular dentition
- d) Maxillary incisors

23. The width of the cavosurface bevel on the occlusal margin should be approximatelythe depth of the respective wall.

- a) One third
- b) One half
- c) One fourth

24. The resulting occlusal marginal enamel for cast metal restorations should be:

- a) 120-degree enamel
- b) 140-degree enamel
- c) 160-degree enamel

25. Thin extensions of the facial or lingual proximal margins of the cast metal onlay that extend from the primary flare to a termination just past the transitional line angle of the tooth is termed as:

- a) Collar preparation
- b) Slot preparation
- c) Skirt preparation

26. To reduce the display of metal, facial surfaces ofusually are not prepared for a collar.

- a) Maxillary premolars and first molars
- b) Mandibular premolars
- c) Mandibular molars

27. Which of the list is not an indication for cast- metal restorations:

- a) High Caries Rate
- b) Young Patients
- c) Esthetics

d) Large class V on posterior teeth

28. If the preparation outline is extended two thirds of this distance or more, it is not necessary to:

- a) Do a cusp capping
- b) Remove the occlusal margin from a region subjected to heavy stress and wear
- c) Protect the weak, underlying cuspal structure from fracture caused by masticatory force
- d) Restore the tooth with cast- metal restoration**

TEST 4

CLASS I AND CLASS II TOOTH PREPARATION FOR AESTHETIC MATERIALS (DIRECT AND INDIRECT)

1. Which statement is wrong about composites?

- a) Have high esthetics
- b) Conservative preparation
- c) Are insulative
- d) Does not require base**

2. Which is not an indication for composite restoration?

- a) Very small cavity
- b) Very big cavity
- c) Heavy occlusal contacts**
- d) Needs good isolation

3. Because composite is bonded to the enamel and dentin, tooth preparations for composite can be very conservative.

- a) True**
- b) False

4. Which is NOT a contraindication for composite restorations?

- a) All occlusal contacts are on composite only
- b) Heavy occlusal stress
- c) When root surface is involved
- d) Good esthetics needed**

5. Which is NOT an advantage of composite restorations?

- a) Conservative tooth structure removal
- b) Easy tooth preparation

c) Complex tooth preparation

d) Esthetics

6. A disadvantage of the composite restorations is:

a) Increased micro leakage

b) Decreased retention

c) Technique sensitive

d) Esthetics

7. Which is NOT a part of a direct composite placement protocol?

a) Etching

b) Cementation

c) Priming and adhesive placement

d) Finishing and polishing

8. Convergent preparation is necessary for composite restorations:

a) True

b) False

9. Preparation for composites is as conservative as possible:

a) True

b) False

10. Advantages of the indirect vs. direct composite restorations:

a) Better physical properties

b) Reduced polymerization shrinkage

c) More precise control of contours and contacts

d) All are correct

e) None is correct

11. Disdvantages of the indirect vs. direct composite restorations:

- a) Better physical properties
- b) Reduced polymerization shrinkage
- c) More precise control of contours and contacts
- d) All are correct
- e) None is correct**

12. Which is NOT an advantage of indirect vs. direct composite restorations?

- a) Biocompatibility
- b) Better contours and contacts
- c) Increase polymerization shrinkage**
- d) Higher wear resistance

13. Disadvantages of indirect vs. direct restorations:

- a) Increase cost and time
- b) Technique sensitive
- c) Cost
- d) All are correct**
- e) None are correct

14. Processed composite restorations are indicated when:

- a) For young patients
- b) Maximum wear resistance is desired**
- c) There are no adjacent teeth
- d) None is correct

15. Preparations for indirect tooth-colored inlays and onlays are designed to provide adequate thickness for the restorative material and non-passive insertion pattern with rounded internal angles and well defined margins.

- a) True
- b) False**

16. Using CAD/CAM systems can:

- a) Eliminate the need of expression
- b) Reduce time
- c) Increase expenses

d) All are correct

17. Composite restorations are not indicated in case of:

- a) class III cavity
- b) when esthetics is considered
- c) Small and moderate restorations,

d) have heavy occlusal contacts

18. Composite is indicated in case of:

- a) Heavy occlusal stresses
- b) All the occlusal contacts are on composite only
- c) Restorations that extend onto the root surface

d) Foundation for crown

19. Disadvantage of bonding is:

- a) Retention
- b) Linear coefficient of thermal expansion**
- c) Recurrent caries
- d) Strength of remaining tooth structure

20. Diamond instruments:

- a) Roughens the prepared tooth structure**
- b) Leave clean and polished surface
- c) Should be as thick as possible when preparing for composite restoration
- d) Should be as long as possible for preparation of macro mechanical retentions

21. Tooth preparation for composite should not:

a) Provide flat floors

b) Prepare geometrical forms

c) Be as conservative as possible

d) Clean the whole amount of caries

22. Which of the following is not a material for indirect restorations?

a) Zirconium

b) Ceramics

c) Composite

d) Amalgam

23. Disadvantage of indirect aesthetic restoration is:

a) Polymerization shrinkage

b) Ability to strengthen remaining tooth structure

c) Control of contours and contacts

d) Technique sensitivity

24. During the initial preparation long axis of bur should tilt slightly lingually to parallel long axis of tooth crown for:

a) Maxillary posterior teeth

b) First mandibular premolars

c) Molar and second premolar teeth of mandibular dentition

d) Maxillary incisors

25. The resulting occlusal marginal enamel for cast metal restorations should be:

a) 120-degree enamel

b) 140-degree enamel

c) 160-degree enamel

26. To reduce the display of metal, facial surfaces ofusually are not prepared for a collar.

- a) Maxillary premolars and first molars
- b) Mandibular premolars
- c) Mandibular molars

TEST 5

CLASS III AND CLASS IV TOOTH PREPARATION FOR AESTHETIC MATERIALS

1. Where is the so called 'V-shaped gap' located?

- a) **Between the prepared root surface and the composite**
- b) Between the facial/lingual wall and the composite
- c) Between two adjacent teeth
- d) On the incisal edge

2. 'V-shaped gap' is formed when obturating with what:

- a) Amalgam
- b) Indirect materials
- c) **Composite (direct restoration)**
- d) Ceramics

3. Why is the so called 'V-shaped gap' formed?

- a) Due to bad isolation
- b) Due to high occlusal stress
- c) All are correct
- d) **Due to polymerization shrinkage**

4. When using direct composite for Class III and Class IV restorations:

- a) Additional preparation retention form is usually necessary
- b) Groove retentions are always necessary
- c) **Additional preparation retention form is usually not necessary**
- d) Must always have base before using composite

5. Using metal burs for the tooth preparation leaves the prepared surfaces rougher, increasing the surface area and the micromechanical retention.

a) **False**

b) True

6. Using diamond burs for the tooth preparation leaves the prepared surfaces rougher, increasing the surface area and the macromechanical retention.

a) **False**

b) True

7. Using diamond instruments leaves a thicker smear layer than using metal instruments.

a) False

b) True

8. Additional needed retention form can be achieved simply by (mark the wrong answer):

a) Increasing the surface area with a wider enamel bevel or flare along the margin

b) Creating a groove retention

c) Creating a cove retention

d) Increasing the dentin surface area on the level of the DEJ

9. Which is NOT an indication for facial approach on Class IV preparation?

a) A faulty restoration that originally was placed from the facial approach needs to be replaced

b) When unsupported not friable enamel is present

c) The carious lesion is positioned facially

d) The teeth are irregularly aligned, making lingual access undesirable

10. Which is NOT an advantage for lingual approach on Class IV preparation?

a) The facial enamel is conserved for enhanced esthetics

b) Unsupported, but not friable enamel is present

c) It is easier to get access

d) Discoloration or deterioration of the restoration is less visible

11. Which statement is correct for Class III and Class IV preparation?

a) Lingual access is always necessary

b) Lingual access is preferable

c) Lingual or facial accesses are both indicated

d) None is correct

12. For Class III and IV preparation facial access is preferable when:

a) The tooth is rotated

b) Only the facial surface is affected

c) There is an old obturation on the facial surface

d) All are correct

e) None is correct

13. We may elect to leave the remaining restorative material for Class III and Class IV to serve as a base when:

a) The old material is amalgam

b) The periphery of the remaining restorative material is intact

c) The tooth pulp was symptomatic preoperatively

d) There is radiographic evidence of caries under the old material

14. Beveling on the lingual side for Class III and IV preparation:

a) Is never indicated

b) Is always indicated

c) Depends on where the surface margins are on the lingual side

d) Depends on where the surface margins are on the facial side

15. The design for modified Class III preparation is dictated by the extent of the fault or defects and is prepared from a lingual approach when possible.

a) True

b) False

16. Modified design for Class III preparation is:

- a) It is the most used type for Class III preparation
- b) Is designed to be as conservative as possible
- c) Is dictated by the extent of the fault or defect

d) All are correct

17. Which statement about Class III and IV preparation for direct composite is right?

- a) The walls must be convergent
- b) The walls must be divergent
- c) No effort is made to prepare the walls perpendicular to the enamel surface**
- d) None is correct

18. Some undermined enamel can be left in non-stress areas, but very friable enamel at the margins should be removed.

- a) True**
- b) False

19. If possible, the outline form for Class III preparation for direct composite should:

- a) Include the entire proximal contact area
- b) Extend onto the facial surface
- c) Be extended subgingivally

d) None is correct

20. Which is NOT an indication for veneers?

- a) Malformed facial surfaces
- b) Discoloration
- c) Faulty restorations

d) None is correct

21. What types of veneer exist according the size?

- a) Partial and full**

- b) Partial and crown
- c) Full and direct
- d) Open and closed

22. Preparations on the proximal surfaces of anterior teeth that do not involve the incisal angle are:

- a) Class I
- b) Class II
- c) Class III
- d) Class IV
- e) Class V
- f) Class VI

23. Preparations on the proximal surfaces of anterior teeth that do involve the incisal edge are:

- a) Class I
- b) Class II
- c) Class III
- d) Class IV
- e) Class V
- f) Class VI

24. Which approach is preferable when a proximal surface of an anterior tooth is to be restored, and there is a choice between facial or lingual entry into the tooth?

- a) Facial approach
- b) Lingual approach

25. Indication for a facial approach when preparing Class III cavity is :

- a) The carious lesion is positioned lingual.
- b) The teeth are irregularly aligned, making lingual access undesirable.

- c) An extensive carious lesion extends onto the lingual surface.
- d) A faulty restoration that originally was placed from the lingual approach needs to be replaced.

26. The design of the Class III tooth preparation would be a combination of a modified or a beveled conventional preparation when:

- a) Class III lesion extends onto root surface.
- b) All of a lesion, fault, or defective restoration is located on the root surface of a tooth.
- c) Class III lesions or faults are small and moderate.

27. The modified tooth preparation is indicated for large Class IV restorations.

- a) True
- b) False

28. Window preparation design and incisal capping preparation design are used for:

- a) Partial veneers.
- b) Full veneers.

29. Partial veneers:

- a) Does not extend subgingivally or involve incisal angle.
- b) Extends to gingival crest and terminates at the facioincisal angle.

TEST 6

CLASS V TOOTH PREPARATION

1. Which statement about Class V caries is wrong?

- a) Can be especially technique sensitive because of the location
- b) Patients with gingival recession have a predisposition to cervical caries
- c) Can occur on the gingival third of all surfaces of the tooth**
- d) Usually develops because the affected tooth surface is unclean and the patient has a caries-inducing diet

2. What kind of aesthetic material is best choice for Class V preparation?

- a) Conventional GI, microfill and macrofill composites
- b) Cast metal, amalgam or composite
- c) RMGI or microfill composite**
- d) RMGI or macrofill composite

3. Microfill composites are best suited for Class V obturation because:

- a) Flexibility and increased restoration smoothness**
- b) Increased restoration smoothness and better retention
- c) Better retention and smooth margins
- d) Microfill composites are not best suited for Class V obturation

4. If retention grooves are necessary for Class V, they are prepared with a bur along one third length of the gingivoaxial and incisoaxial (occlusoaxial) line angles.

- a) True
- b) False**

5. If retention grooves are necessary, they are prepared with a bur along the full length of the gingivoaxial and incisoaxial (occlusoaxial) line angles.

- a) True**

b) aFalse

6. Erosion is:

a) In the form of a saucer-shaped notch, occurs primarily as a result of chemical dissolution

b) In the form of a notch, often V-shaped and is a loss or wearing away of tooth structure resulting from mechanical forces

c) In the form of a notch, occurs as a result of chemical dissolution and mechanical forces

d) aOccurs as a result of extreme teeth brushing

7. Abrasion is:

a) In the form of a saucer-shaped notch, occurs primarily as a result of chemical dissolution

b) In the form of a notch, often V-shaped and is a loss or wearing away of tooth structure resulting from mechanical forces

c) In the form of a notch, occurs as a result of chemical dissolution and mechanical forces

d) aOccurs as a result of caries lesion

8. Amalgam is a material of choice for Class V restorations when:

a) Relatively high caries index is obvious when numerous cervical lesions are present

b) Better aesthetics is needed

c) Cavitation is only in enamel

d) Cavitation is wider than 3 mm

9. Which statement is correct for Class V amalgam restoration?

a) Amalgam restoration must be in enamel only

b) Amalgam restoration is considered only when abrasion or erosion is present

c) Amalgam restoration is stronger than other Class V direct obturations

d) Amalgam restoration is usually harder to finish and polish without damaging the adjacent surfaces

10. What kind of secondary retention is made for Class V amalgam restoration?

a) One retention groove along occlusoaxial and one along gingivoaxial line angle

- b) One retention groove along occlusoaxial
- c) One retention groove along mesioaxial and one along gingivoaxial line angle
- d) No secondary retention is needed

11. Conventional Class V tooth preparation is indicated only:

- a) When the defect is in enamel only
- b) For root surface only or for the portion of the lesion or defect extending onto the root surface**
- c) When the defect is wide at least 3mm
- d) For erosion and abrasion

12. Beveled conventional Class V tooth preparation is not indicated:

- a) When replacing an existing, defective restoration that initially used a conventional preparation
- b) For a large new carious lesion
- c) When restoring with amalgam**
- d) None is correct

13. Modified Class V tooth preparation is:

- a) Indicated for big lesions or defects
- b) Always with divergent walls
- c) Indicated for small and moderate lesions or defects**
- d) Indicated for amalgam

14. Modified Class V tooth preparation is

- a) Created in enamel only
- b) Prepared as conservative as possible**
- c) Indicated for big lesions or defects
- d) Indicated when an old obturation is removed

15. For beveled conventional Class V tooth preparation:

- a) **Only the enamel cavosurface margins are beveled**
- b) Enamel and dentin cavosurface margins are beveled
- c) Only the enamel cavosurface margins gingivally are beveled
- d) None is correct

16. Conventional composite Class V tooth preparation is:

- a) With 90-degree cavosurface angle
- b) Sometimes have groove retention form
- c) Uniform depth of the axial line angles
- d) **All are correct**

17. Beveled conventional Class V tooth preparation is:

- a) Indicated when replacing an existing, defective restoration that initially used a conventional preparation
- b) Indicated for a large new carious lesion
- c) Not indicated when restoring with amalgam
- d) **All are correct**

18. Which statement is NOT correct for Class V amalgam restoration?

- a) Amalgam restoration cannot be in enamel only
- b) Amalgam restoration is stronger than other Class V direct obturations
- c) **Amalgam restoration is usually easier to finish and polish without damaging the adjacent surfaces**
- d) None is correct

19. Restorations on the gingival third of the facial or lingual surfaces of all teeth are:

- a) Class I
- b) Class II
- c) Class III
- d) Class IV

e) Class V

20. Class V restorations are best suited for composite or other tooth-colored material usage when the tooth preparations:

- a) Have all enamel margins.
- b) Extends onto root surface.

21. A 90-degree cavosurface angle, uniform depth of the axial line angles, and groove retention form are features of:

- a) Modified Class V tooth preparation.
- b) Beveled conventional Class V tooth preparation.
- c) Conventional Class V tooth preparation.

22. The enamel marginal areas of Class V are prepared using a conventional preparation design.

- a) True
- b) False

23. At the initial stage of conventional Class V tooth preparation, the axial depth should be:

- a) 0.75 mm
- b) 1 mm
- c) 1.5 mm
- d) 2 mm

24. During the conventional Class V tooth preparation retention grooves are prepared in depth of.....inside the DEJ:

- a) 0.25 mm
- b) 0.75 mm
- c) 0.5 mm
- d) 1.25 mm

25. During the conventional Class V tooth preparation retention grooves are prepared along the full length of the..... line angles.

- a) Gingivoaxial and incisioaxial (occlusoaxial)
- b) Mesioaxial and distoaxial
- c) Mesio-gingivo-axial and disto-gingivo-axial

26. Class V tooth preparation has axial depth into dentin only:

- a) 0.2 mm
- b) 0.5 mm
- c) 0.75 mm

27. A saucer-shaped notch, occurs primarily as a result of chemical dissolution is define as:

- a) Abrasion
- b) Erosion
- c) Caries

28. In class V cavity preparation a minimal depth of.....inside the DEJ permits placement of necessary retention grooves without undermining the enamel.

- a) 0.2 mm
- b) 0.5 mm
- c) 0.75 mm

29. Microfill composites RMGIs are aesthetic materials of choice for restoring:

- a) Class I
- b) Class II
- c) Class III
- d) Class IV
- e) Class V

TEST 7

THE SECOND BASIC PRINCIPLE IN OPERATIVE TREATMENT OF TOOTH CARIES-MEDICATIO CAVI DENTIS

1. The second basic principle in Operative Treatment of tooth caries is:

- a) Praeparatio cavi dentis
- b) Medicatio cavi dentis
- c) Obturatio cavi dentis
- d) None of the above

2. The usual procedure in cleaning is to free the preparation of visible debris with:

- a) Water from the dental unit syringe, H₂O₂ 3%, alcohol 70°
- b) Sodium hypochlorite 3%, H₂O₂ 3%, alcohol 70°
- c) Warm water from the syringe, chlorhexidine, alcohol 70°
- d) None of the above

3. In some instances after preparing the cavity, debris clings to the walls and angles despite rinsing, and it may be necessary to loosen this material with an explorer or small cotton pellet.

- a) True
- b) False

4. It is important not to dehydrate the tooth by overuse of air or by the application of alcohol when medicating:

- a) True
- b) False

5. Which is NOT a basic consideration in preparation disinfection of the cavity?

- a) Is the agent used effectively?
- b) Is it capable of maintaining a disinfected field?
- c) Is it harmful to the pulp?
- d) Is the cavity wide enough?

6. In deep preparations the cavity irrigation is done with:

- a) H₂O₂ 3%
- b) Alcohol 70°
- c) Sterile distilled water or saline
- d) H₂O₂ 3% and alcohol 70°

7. The term “liner” when used for composite restorations may refer to:

- a) Cements commonly used in thicker dimensions beneath permanent restorations
- b) A thin material placed under a composite to serve as a stress-breaker
- c) A thick material (usually a RMGI) placed under a Class I composite to serve as a stress-breaker
- d) Cements commonly used in thick dimensions for short term medication

8. Bases are considered those cements commonly used:

- a) In thicker dimensions beneath permanent restorations to provide for mechanical, chemical, and thermal protection of the pulp
- b) For composite restorations may refer to a thin material (usually a RMGI) on the gingival wall of Class II preparations
- c) In thicker dimensions on top of a thin layers of composite to provide for mechanical, chemical, and thermal protection of the pulp

9. Which are only base materials?

- a) Zinc phosphate, zinc oxide–eugenol and H₂O₂ 3%
- b) Calcium hydroxide, polycarboxylate and glass-ionomer cement
- c) Glass-ionomer cement, zinc phosphate cement
- d) Glass-ionomer, hypochlorite and zinc oxide–eugenol

10. Liners do NOT provide:

- a) A barrier that protects the dentin from noxious agents from the restorative material
- b) Initial electrical insulation
- c) Some thermal protection

d) Sterilization

11. Medicatio cavi dentis provides:

- a) A barrier that protects the dentin from noxious agents from the restorative material
- b) Initial electrical insulation
- c) Some thermal protection
- d) None is correct

12. The reason for using traditional liners or bases is to protect the pulp or to aid pulpal recovery or both.

- a) True
- b) False

13. What is true about infected dentin?

- a) Has bacteria present, the collagen is irreversibly denatured, it is not remineralizable and must be removed
- b) Has bacteria present, the collagen is irreversibly denatured, it is not remineralizable and should be preserved
- c) Has bacteria present, the collagen is not denatured, it is not remineralizable and should be preserved
- d) Has no bacteria, the collagen is reversibly denatured, it is remineralizable and should be preserved

14. What is true about affected dentin?

- a) Has bacteria present, the collagen is irreversibly denatured, it is not remineralizable and must be removed
- b) Has bacteria present, the collagen is irreversibly denatured, it is remineralizable and should be preserved
- c) Has no bacteria, the collagen is not denatured, it is not remineralizable and should be preserved
- d) Has no bacteria, the collagen is reversibly denatured, it is remineralizable and should be preserved

15. Acute caries is:

- a) Dark-colored lesion, hard on probing and very infectious
- b) Usually in the form of many soft, light-colored lesions in a mouth and is infectious, lighter coloration
- c) With slow progression or it may be arrested after several active phases
- d) Usually in enamel only

16. Chronic caries is:

- a) Dark-colored lesion, soft on probing and not infectious
- b) With slow progression or it may be arrested after several active phases
- c) Usually in the form of many soft, light-colored lesions in a mouth and is infectious, lighter coloration
- d) Usually in enamel only

17. Caries incipient is:

- a) Lesion of demineralized enamel has not extended to the DEJ, and the enamel surface is fairly hard and still intact (smooth to the touch)
- b) Lesion of demineralized enamel has not extended to the DEJ, and the enamel surface is fairly hard and but not intact
- c) Cavitated caries, the enamel surface is broken (not intact), and usually the lesion has advanced into dentin
- d) Usually not able to be remineralized, and treatment by tooth preparation and restoration is usually indicated

18. Cavitated caries is:

- a) Lesion of demineralized enamel has not extended to the DEJ, and the enamel surface is fairly hard and still intact (smooth to the touch)
- b) Cavitated lesion, the enamel surface is broken (not intact), and usually the lesion has advanced into dentin
- c) Usually able to be remineralized, and treatment by tooth preparation and restoration is usually indicated
- d) The lesion can be remineralized if immediate corrective measures alter the oral environment, including plaque removal and control.

98. Residual caries is:

- a) Caries that remains in a completed tooth preparation, whether by operator intention or by accident
- b) Lesion of demineralized enamel that has not extended to the DEJ, and the enamel surface is fairly hard and still intact
- c) Usually more rapid than other forms of caries and should be detected and treated early
- d) Usually remineralization is not possible, and treatment by tooth preparation and restoration is usually not indicated

20. Which statement about root-surface caries is correct?

- a) Caries that remains in a completed tooth preparation, whether by operator intention or by accident
- b) Lesion of demineralized enamel that has not extended to the DEJ, and the enamel surface is fairly hard and still intact
- c) Usually more rapid than other locations of caries and should be detected and treated early
- d) Usually remineralization is not possible, and treatment by tooth preparation and restoration is usually not indicated

21. Secondary caries:

- a) Occurs at the junction of a restoration and the tooth and may progress under the restoration
- b) Remains in a completed tooth preparation, whether by operator intention or by accident
- c) Lesion of demineralized enamel that has not extended to the DEJ, and the enamel surface is fairly hard and still intact
- d) Is usually more rapid than other forms of caries and should be detected and treated early

22. Tooth preparations that require specific wall forms, depths, and marginal forms owing to the properties of the restorative material, may be considered:

- a) Modified preparations
- b) Conventional preparations
- c) Conservative preparations

23. Tooth preparations that have less need for specific depths and wall and marginal forms may be considered:

- a) Modified preparations
- b) Conventional preparations
- c) Conservative preparations

24. According to location caries can be described as:

- a) Cavitated caries
- b) Caries of smooth-surface origin
- c) Chronic or arrested caries.

25. According to extent caries can be described as:

- a) Caries of pit-and-fissure origin
- b) Acute (rampant) caries
- c) Incipient caries

26. According to rate caries can be described as:

- a) Chronic or arrested caries
- b) Nonreversible caries
- c) Root-surface caries

27. Which location of the caries can be pictured as two cones, base to base, with the apex of the enamel cone at the point of origin and the apex of the dentin cone directed toward the pulp?

- a) Caries of enamel smooth-surface origin
- b) Root-surface caries
- c) Caries of pit-and-fissure origin

28. The caries forms a small area of penetration in the enamel at the bottom of a pit or fissure and spread laterally to a great extent when the DEJ is reached.

- a) True
- b) False

29. The outer layer of the carious dentin consists of:

- a) Infected dentin
- b) Affected dentin

30. In tooth preparation, it is desirable that only be removed.

- a) Infected dentin
- b) Affected dentin

31.can be remineralized in a vital tooth after the completion of restorative treatment.

- a) Infected dentin
- b) Affected dentin

32. A thin material placed to reduce gap formation, microleakage, recurrent caries or to serve as a stress-breaker is termed as:

- a) Liner
- b) Base

33. Cements commonly used in thicker dimensions beneath permanent restorations to provide for mechanical, chemical, and thermal protection of the pulp are termed as:

- a) Liners
- b) Bases

34. How much is the desirable dimension of bulk between the pulp and a metallic restorative material?

- a) 0.5-mm
- b) 1-mm

c) 1.5-mm

d) 2-mm

35. A liner of calcium hydroxide is indicated only when pulpal exposure or the excavation is judged to be within 0.5 mm of the pulp for:

a) Amalgam restorations

b) Cast metal restorations

c) Composite restorations

36. Theoffer greater pulpal protection from mechanical, thermal, and chemical irritants.

a) Base materials

b) Liners materials

37. The use of traditional liners, bases, and varnishes is limited only to clinical situations in which:

a) The thickness of the remaining dentin is less than 2 mm

b) Pulpal exposure has occurred

c) The thickness of the remaining dentin is more than 2 mm

38. Hydrogen peroxide 3%, ethyl alcohol 70°are used for:

a) Short term medication

b) Long term medication

39. In deep preparations, where microscopic pulp exposures are not always visible to the naked eye, the cavity irrigation is done with:

a) Hydrogen peroxide 3%

b) Ethyl alcohol 70°

c) Saline, warmed at 37°

d) Silver nitrate

TEST 8

THE THIRD BASIC PRINCIPLE IN OPERATIVE TREATMENT OF DENTAL CARIES-OBTURATIO CAVI DENTIS

1. The third basic principle in Operative Treatment of tooth caries is:

- a) Praeparatio cavi dentis
- b) Medicatio cavi dentis
- c) Obturatio cavi dentis
- d) None of the above

2. The categories of materials are.

- a) Metals, ceramics, polymers, and composites
- b) Glass, ceramics, polymers, and composites
- c) Glass, ceramics, metals, and composites
- d) Metals, ceramics, composites and Biodentine

3. Metals and metal alloys generally are prone to chemical and electrochemical corrosion

- a) True
- b) False

4. Chemical corrosion is:

- a) Direct chemical reaction on the surfaces of metallic objects of metal atoms with oxygen or other chemicals
- b) Differing composition, structure, or local environment, while connected by a circuit and an electrolyte, produce metallic ions at the anode and an electron flow toward the cathode, resulting in anodic and cathodic reactions
- c) Result of severe abrasion

5. Electrochemical corrosion is:

- a) Direct chemical reaction on the surfaces of metallic objects of metal atoms with oxygen or other ch -two metallic electrodes of

b) Differing composition, structure, or local environment, while connected by a circuit and an electrolyte, produce metallic ions at the anode and an electron flow toward the cathode, resulting in anodic and cathodic reactions

c) Caused mainly by mild acids

d) Result of severe abrasion

6. Polymers are:

a) Long molecules composed principally of nonmetallic elements (e.g., C, O, N, H) that are chemically bonded by covalent bonds

b) Metals based on an element that diffusely shares valence electrons among all of the atoms in the solid, instead of forming local ionic or covalent bonds

c) Chemically intimate mixtures of metallic and nonmetallic elements, which allow ionic (K_2O) or covalent (SiO_2) bonding, or both, to occur

d) Physical mixtures (or blends) of metals, ceramics, or polymers

7. Metals are:

a) Long molecules composed principally of nonmetallic elements (e.g., C, O, N, H) that are chemically bonded by covalent bonds

b) Based on an element that diffusely shares valence electrons among all of the atoms in the solid, instead of forming local ionic or covalent bonds

c) Chemically intimate mixtures of metallic and nonmetallic elements, which allow ionic (K_2O) or covalent (SiO_2) bonding, or both, to occur

d) Physical mixtures (or blends) of metals, ceramics, or polymers

8. Composites are:

a) Long molecules composed principally of nonmetallic elements (e.g., C, O, N, H) that are chemically bonded by covalent bonds

b) Based on an element that diffusely shares valence electrons among all of the atoms in the solid, instead of forming local ionic or covalent bonds

c) Chemically intimate mixtures of metallic and nonmetallic elements, which allow ionic (K_2O) or covalent (SiO_2) bonding, or both, to occur

d) Physical mixtures (or blends) of metals, ceramics, or polymers

9. Ceramics are:

- a) Long molecules composed principally of nonmetallic elements (e.g., C, O, N, H) that are chemically bonded by covalent bonds
- b) Based on an element that diffusely shares valence electrons among all of the atoms in the solid, instead of forming local ionic or covalent bonds
- c) Chemically intimate mixtures of metallic and nonmetallic elements, which allow ionic (K_2O) or covalent (SiO_2) bonding, or both, to occur
- d) Physical mixtures (or blends) of metals, ceramics, or polymers

10. Dental composites are mixture for dental restorations involves ceramic particles mixed with a polymer matrix.

- a) True
- b) False

11. Dental composites are mixture for dental restorations involves metal particles mixed with a polymer matrix.

- a) True
- b) False

12. During cooling, the amalgam contracts faster than tooth structure and recede from the preparation wall, allowing the ingress of oral fluids

- a) True
- b) False

13. Which statement about dental materials is correct?

- a) Metal, ceramics, composites replace the missing enamel.
- b) Metal, ceramics, composites replace the missing dentin
- c) Bases replace the missing enamel
- d) Bases, metal, ceramics and composites replace missing enamel

14. Which material has the potential to inhibit polymerization of layers of bonding agent or composite in contact with it?

- a) Calcium hydroxide

- b) RMGI
- c) Eugenol
- d) Amalgam

15. Materials with a high elastic modulus transfer stresses:

- a) Without much strain
- b) With much strain
- c) Same as materials with low elastic modulus
- d) None is correct

16. Which kind of restoration material has better insulating properties?

- a) Metallic
- b) Nonmetallic
- c) They all have the same insulating properties
- d) None is correct

17. A restorative material generally should be:

- a) With low density
- b) Extremely stiff
- c) With high elastic deformation modulus
- d) All are correct

18. Composite materials have:

- a) Low thermal conductivity
- b) High thermal conductivity
- c) High electrical conductivity
- d) None is correct

19. Amalgam and cast metal restorations have:

- a) Low thermal conductivity

- b) High thermal conductivity
- c) Low electrical conductivity
- d) None is correct

20. Traditional calcium hydroxide liners are suspected to continue to dissolve and may lose 10% to 30% of their volume over 10 or more years.

- a) True
- b) False

21. What thickness of calcium hydroxide liner is sufficient to treat a near pulp exposure and provide adequate resistance for amalgam condensation forces?

- a) 0.1-0.5 mm
- b) 0.5-1 mm
- c) 2-3 mm
- d) 1-2 mm

22. The most common type of dental ceramic is?

- a) No crystalline
- b) Vitreous
- c) Semi crystalline

23. The stages of chain reaction polymerization are:

- a) Activation, initiation, propagation, termination
- b) Nucleation, growth, size distribution
- c) Initiation, crystallization, termination
- d) Activation, initiation, crystallization, growth

24. The continuous (matrix) phase in dental composites is :

- a) Ceramic particles
- b) Polymer
- c) Metal alloy

25. Which class restorative materials need liners and bases to provide thermal insulation of the pulp?

- a) Composites
- b) Ceramics
- c) Metals
- d) Polymers

26. One of the consequences of thermal expansion and contraction differences between a restorative material and adjacent tooth structure is:

- a) Gap formation
- b) Voids in the restoration
- c) Percolation

27. An advantage of the composite materials is:

- a) Their low thermal conductivity
- b) Polymerization shrinkage
- c) Chemical bond to the tooth structures

28. Composites do not need liners and bases to provide thermal insulation.

- a) True
- b) False

29. Most metallic materials have relatively low densities.

- a) True
- b) False

30. Biomechanics is the study of:

- a) Biologic properties of the biomaterials
- b) Degradation of the biomaterials under physical factors
- c) Loads (or stresses) and deformations (or strains) occurring in biologic systems

31. The standard biomechanical unit involves:

- a) The restorative material and the tooth structure
- b) The restorative material, the tooth structure, and interface (interfacial zone) between the restoration and tooth
- c) The tooth structure, and the interface (interfacial zone) between the restoration and tooth

32. For a nonmetallic restoration, a thickness of mm of dentin or liner is sufficient for thermal and mechanical protection.

- a) 0.5 to 1 mm
- b) 1.5 to 2 mm
- c) More than 2.5 mm

33. Materials with a high elastic modulus transfer stresses with much higher strain.

- a) True
- b) False

34. Dental amalgam is a restorative material with:

- a) High elastic modulus
- b) Low elastic modulus

35. Choose the wrong answer: Indirect restorative biomaterials are:

- a) Metals
- b) Ceramics
- c) Amalgam
- d) Composites

36. Which organic acid is used as a liquid in the composition of the conventional glass-ionomer cement:

- a) Polyacrylic acid
- b) Polyalkenoate acid
- c) Malic acid

37. Sealers are relatively brittle and thin and may provide only chemical protection for days to weeks.

- a) True
- b) False

38. Solution liners (varnishes) maintain their integrity much better than sealers.

- a) True
- b) False

TEST 9

DENTAL AMALGAM

1. Dental amalgam is a metal-like restorative material composed of a mixture of:

- a) Silver/tin/copper alloy and mercury
- b) Silver/tin/mercury alloy and copper
- c) Mercury/tin/copper alloy and silver
- d) Palladium/tin/gold alloy and zinc

2. Which is NOT a type of amalgam?

- a) Low-copper
- b) High-copper
- c) None is correct
- d) Low mercury

3. The advantage of the added copper in high copper amalgams is:

- a) The amalgam hardens faster
- b) It prohibits the formation of the more corrosive phase (gamma-two)
- c) Increases gamma-two phase reaction
- d) None is correct

4. The compressive strength of high-copper amalgam compared to tooth structure is:

- a) Lower
- b) Higher
- c) Similar
- d) None is correct

5. The tensile strength of high-copper amalgam compared to tooth structure is:

- a) Lower
- b) Higher

- c) Similar
- d) None is correct

6. The amalgam is a bad thermal conductor.

- a) True
- b) False

7. Creep and flow:

- a) Relate to the deformation of a material when not placed properly
- b) Relate to the deformation of a material under load over time
- c) Relate to the deformation of a material under load over time
- d) Are related only for non-mercury amalgam

8. An amalgam restoration should not be placed in close proximity to the pulpal tissues of the tooth without the use of a liner or base (or both) between the pulp and the amalgam

- a) True
- b) False

9. Amalgam functions as an indirect restorative material.

- a) True
- b) False

10. The wear resistance of amalgam compared to composite restorations is:

- a) Lower
- b) Greater
- c) Similar
- d) None is correct

11. Amalgam is more appropriate material of choice when a restoration restores all of the occlusal contact for a tooth.

- a) True
- b) False

12. The isolation of the operating area when using nonbonding amalgam is less critical than for a composite restoration.

- a) True
- b) False

13. Many failures of amalgam restorations may be related to inappropriate tooth preparations

- a) True
- b) False

14. The insertion and finishing procedures for amalgam are:

- a) Much easier than for composite
- b) Harder than for composite
- c) Same as composite
- d) None is correct

15. For which Class cavity preparation amalgam is NOT indicated:

- a) Class I
- b) Class II
- c) Class IV
- d) Class V

16. Which statement is correct?

- a) Use of amalgam results in conservation of tooth structure
- b) Composite is easier to finish and polish
- c) None is correct
- d) Use of composite results in conservation of tooth structure

17. Which are only disadvantages of amalgam?

- a) Nonesthetic, weakens tooth structures, high compressive strength
- b) Initial marginal leakage, lower wear resistance than composite, cripples

- c) Noninsulating, nonesthetic, weakens tooth structures
- d) All are correct

18. Condensation of dental amalgam means:

- a) Carving the amalgam mixture
- b) Combining amalgam alloy particles with mercury
- c) Bad mixture of dental amalgam
- d) Compressing the amalgam mixture

19. By eliminating the mercury-rich matrix as much as possible, the amount of reaction product matrix that forms is limited, improving the overall properties of the set amalgam.

- a) True
- b) False

20. Gamma-two (γ_2) phase is:

- a) Ag-Hg
- b) Ag-Sn
- c) Sn-Hg
- d) None is correct

21. Which type of amalgam is a subject to corrosion?

- a) Low-Copper Amalgam
- b) High-copper Amalgam

22. Deleterious corrosion effects on the amalgam restorations due to:

- a) A silver-mercury phase (gamma-one)
- b) A tin-mercury phase (gamma-two)

23. The increase content of prohibits the formation of the more corrosive phase (gamma-two) within the amalgam mass.

- a) Zinc
- b) Tin
- c) Copper

24. Which type of amalgam according to the shape of the particles require more condensation pressure?

- a) Spherical Amalgam
- b) Admixed Amalgam

25. Which type of amalgam according to the shape of the particles is well suited for complex amalgam restorations?

- a) Spherical Amalgam
- b) Admixed Amalgam

26. Which one of the following properties make amalgam restorations subject to fracture?

- a) High linear coefficient of thermal expansion
- b) High compressive strength
- c) Low tensile strength

27. Usually, high-copper amalgam fracture is:

- a) A bulk fracture
- b) A marginal fracture

28. Amalgam restorations are indicated in:

- a) More prominent esthetic areas of the mouth
- b) Small defects in posterior teeth
- c) Moderate to large Class I and II restorations that involve heavy occlusion and cannot be isolated well

29. Amalgam restorations are contraindicated:

- a) In clinical situations that have heavy occlusal functioning
- b) When a restoration restores all of the occlusal contact for a tooth
- c) In clinical situations that the cavity cannot be isolated well
- d) In more prominent esthetic areas of the mouth

30. Which one of the following is an advantage of amalgam?

- a) High compressive strength
- b) More difficult tooth preparation
- c) Nonesthetic
- d) Noninsulating

31. 65% Ag, 30% Sn, 5% Cu, and less than 1% Zn is the basic composition of:

- a) High-copper amalgam alloy
- b) Conventional amalgam alloy

32. In high-copper amalgams Sn-Hg reactions are suppressed by the preferential formation ofinstead.

- a) Cu-Sn phases
- b) Ag-Hg phases
- c) Ag-Sn phases

33. Corrosion, which occurs on the occlusal surface, producing a black Ag-S tarnish film and does not compromise any properties of the amalgam except for esthetics is called.

- a) Chemical corrosion
- b) Electrochemical corrosion

34. Which type of corrosion is associated with the presence of macroscopically different electrode sites.

- a) Galvanic corrosion

b) Chemical corrosion

35. Sn-O-Cl helps seal the space against microleakage.

a) True

b) False

36. A secondary expansion which can occur throughout the clinical life of an amalgam restoration is termed:

a) Leakage

b) Creep

c) Corrosion

TEST 10

FABRICATION OF AMALGAM RESTORATIONS

1. Usually a smaller condenser is used while filling the preparation with amalgam and a larger one for overpacking.

- a) True
- b) False

2. The thin portion of amalgam extending beyond the margin is referred to as:

- a) Cripple
- b) Extrusion
- c) Flash
- d) Tarnish

3. To ensure that the occlusion is correct, the dentist:

- a) Places a piece of articulating paper over the restoration and instructs the patient to close very tight
- b) Places a piece of articulating paper over the restoration and instructs the patient to close very lightly
- c) Places the tip of the probe over the restoration and instruct the patient to bite very lightly
- d) All are correct

4. When placing amalgam restoration, patient should be cautioned to protect the restoration from any heavy biting pressure:

- a) For several hours
- b) For several minutes
- c) Until next day
- d) The patient can bite and eat right after leaving the dental office

5. Additional finishing and polishing procedures for amalgam restorations are:

- a) Not attempted within 24 hours of insertion
- b) Not attempted within 1 week of insertion

- c) Done right after insertion
- d) Done 20 minutes after insertion

6. An amalgam restoration is less prone to tarnish and corrosion if:

- a) A smooth, homogeneous surface is achieved
- b) Not polished
- c) A rough, homogeneous surface is achieved
- d) None is correct

7. High copper amalgams are less susceptible to tarnish and marginal breakdown.

- a) True
- b) False

8. After polishing of the amalgam is completed, the tip of an explorer from the tooth surface to the restoration surface (and vice versa):

- a) Should pass without jumping or catching
- b) Should pass with jumping and catching
- c) Should get stuck on the margin
- d) All are correct

9. A rigid matrix is helpful to prevent “landsliding” during condensation and to ensure marginal adaptation and strength of the restoration.

- a) True
- b) False

10. The primary function of the matrix is:

- a) To provide better view for the dentist
- b) To polish the amalgam
- c) To restore anatomic contours and contact areas
- d) To increase compressive strength of amalgam

11. Qualities of a good matrix include:

- a) Easy to polish, prevention of gingival excess, restoration of correct proximal contact relation
- b) High compressive strength, good wear resistance
- c) Rigidity, prevention of gingival excess, restoration of correct proximal contact relation
- d) None is correct

12. To ensure proper adaptation of the matrix band to gingival margin:

- a) We use explorer tip (with pressure)
- b) Only visual inspection is enough
- c) Using matrix band always provides proper adaptation and no inspection is necessary
- d) None is correct

13. The triangular wedge firmly supports the matrix band against the gingival margin in conservative Class II preparations (arrowhead).

- a) True
- b) False

14. Proximal surface contour should be with:

- a) Normal slight convexity between the occlusal and middle thirds of the proximal surface when viewed from the lingual (or facial) aspects
- b) Normal slight concavity between the occlusal and middle thirds of the proximal surface when viewed from the lingual (or facial) aspects
- c) Completely flat walls
- d) All are correct

15. Proximal surface contour of the obturation should:

- a) Provide the correct form of the central fissure
- b) Have completely flat walls
- c) Provide the correct form to the proximofacial line angle region
- d) None is correct

16. The matrix should be tight against the facial and lingual margins on the proximal surface so that the amalgam can be well condensed at the preparation margins.

a) True

b) False

17. To transfer amalgam to the tooth preparation, we use:

a) Spatula

b) Condenser

c) Carrier

d) Metal bur

18. Amalgam should be inserted:

a) Incrementally and condensed with overlapping strokes

b) Incrementally and condensed after the whole preparation is filled with amalgam

c) At once and then condense

d) None is correct

19. When polishing the amalgam with rubber points it is important to be at:

a) High speed only

b) Low speed only

c) Low then high speed

d) High then low speed

20. Caries is considered extensive if the distance between infected dentin and the pulp is judged to be less than:

a) 0.1 mm

b) 0.5 mm

c) 1 mm

d) 2 mm

21. Material of choice for restorations that extend onto the root surface is:

a) Resin composite

b) Amalgam

- c) Ceramics
- d) Zn-phosphate cement

22. Cavities in highly aesthetic areas with moderate to large dimensions should be restored with amalgam.

- a) True
- b) False

23. Cavities with moderate to large dimensions, that cannot be well isolated could be restored with amalgam.

- a) True
- b) False

24. The main role of the amalgam carrier is to:

- a) Transfer the amalgam to the tooth preparation
- b) Remove shavings from the carving procedure from the mouth
- c) Carve the occlusal anatomy of the tooth
- d) Mark the occlusal contacts

25. Which of the following quotations about restoration of occlusal tooth preparations with amalgam is not true:

- a) Amalgam should be inserted incrementally and condensed with overlapping strokes
- b) Amalgam should be inserted in one big portion and condensed into the pulpal line angles
- c) Tooth preparation should be overpacked to ensure well-condensed marginal amalgam that is not mercury rich
- d) A flat-faced, circular or elliptic condenser should be used to condense the amalgam over the pulpal floor of the preparation.

26. Deep occlusal grooves are highly recommended for better wear-resistance of the amalgam restorations.

- a) True
- b) False

27. Which of the following quotations about the amalgam condensation is true:

- a) The initial condenser should be small enough to condense into the line angles, but large enough not to “poke holes” in the amalgam mass.
- b) Usually a larger condenser is used while filling the preparation and a smaller one for overpacking. Each condensed increment should fill only one third to one half the preparation width
- c) The condensing strokes should not overlap

28. Which of the following quotations about the amalgam condensation is not true:

- a) The condensation pressure required depends on the amalgam used and the diameter of the

condenser nib. Condensers with larger diameter nibs require greater condensation pressure.

b) The preparation should be overpacked 1 mm or more using heavy pressure; this ensures that the cavosurface margins are completely covered with well-condensed amalgam.

c) Final condensation over cavosurface margins should be done parallel to the external enamel surface adjacent to the margins.

29. An amalgam restoration that is more than minimally overcarved (i.e., a submarginal defect >0.2 mm) should be replaced.

a) True

b) False

30. Articulating paper marks very heavy contacts as dark areas.

a) True

b) False

31. Choose the correct answer regarding the occlusal evaluation in amalgam restorations:

a) To ensure that the occlusion is correct, the dentist places a piece of articulating paper over the restoration and instructs the patient to close very lightly.

b) Initially, the amalgam should be carved out of occlusion because of the danger of fracturing the restoration

c) While carving, centric holding contacts should be avoided

32. Polishing of low-copper amalgams is less important than it is for high-copper amalgams because low copper amalgams are less susceptible to tarnish and marginal breakdown.

a) True

b) False

33. An amalgam restoration is more prone to tarnish and corrosion if a smooth, homogeneous surface is achieved.

a) True

b) False

34. Choose the wrong quotation regarding finishing and polishing of the amalgam restorations:

a) Finishing and polishing reduces the initial roughness of a carved restoration.

b) These procedures must not leave the restoration undercontoured and must alter the centric-holding contacts.

c) The final anatomy of the polished restoration should be patterned after normal occlusal contours.

35. What is the appearance of excessive temperature increase when polishing amalgam restorations?

a) The surface becomes rougher

- b) The surface becomes darker
- c) The surface becomes cloudy

TEST 11

INDIRECT CAST METAL, CERAMIC AND COMPOSITE TOOTH RESTORATIONS

1. The cast metal restoration is versatile and is especially applicable to:

- a) Class II
- b) Class III
- c) Class IV
- d) Class V

2. The cast metal inlay is an alternative to amalgam or composite when:

- a) Superior control of contours and contacts are desired
- b) Less corrosion is necessary
- c) Higher aesthetics are required
- d) All are correct

3. The onlay can be designed to distribute occlusal loads over the tooth in a manner that decreases the chance of tooth fracture in the future.

- a) True
- b) False

4. The temporary restoration should satisfy the following requirements:

- a) It should be nonirritating and protect the prepared tooth from injury
- b) It should be able to stay in the cavity for years
- c) All are correct
- d) It should be placed a little bit higher, because of the masticatory forces

5. Which statement about temporary restoration is NOT correct?

- a) It should protect and maintain the health of the periodontium

b) It should have adequate strength and retention to withstand the forces to which it will be subjected

c) It should be able to stay in the cavity for years

d) It should maintain the position of the prepared, adjacent, and opposing teeth

6. Temporary restorations can be fabricated:

a) Intraorally directly on the prepared teeth (direct technique) or outside of the mouth using a postoperative cast of the prepared teeth (indirect technique)

b) Outside of the mouth using a postoperative cast of the prepared teeth (indirect technique)

c) Intraorally directly on the prepared teeth (direct technique)

d) None is correct

7. Which statement is correct for the final impression?

a) It must have adequate strength to resist breaking or tearing on removal from the mouth

b) It must have adequate dimensional accuracy, stability, and reproduction of detail

c) It must be free of toxic or irritating components

d) All are correct

8. Which statement is correct for the final impression?

a) It must register some of this undercut surface to delineate the margin sharply and to signify the desirable contour of the restoration in regions near the margin

b) All are correct

c) It must be able to be disinfected without distortion

d) It must have handling and setting characteristics that meet clinical requirements

9. When margins are subgingival:

a) It is necessary to use retraction cord to displace the free gingiva temporarily away from the tooth

b) It is necessary to control the flow of any gingival hemorrhage or any sulcular fluids

c) It should widen the gingival sulcus to provide access for the impression material to reach the subgingival margins in adequate bulk to resist tearing during impression withdrawal

d) All are correct

10. The objective of hemorrhage and moisture control is met by the use of retraction cord impregnated with:

a) Appropriate styptics (e.g., aluminum chloride) or vasoconstrictors (e.g., epinephrine)

b) Hydrogen peroxide 3%

c) Alcohol 70°

d) Eugenol

11. Usually for etching internal surfaces of the restoration of ceramic inlays/onlays is used:

a) Phosphoric acid

b) Citric acid

c) Hydrofluoric acid

d) Mild acids

12. Occlusal evaluation and adjustment of ceramic or composite inlay are:

a) Delayed until after cementation

b) Delayed until next day

c) Done before cementation

d) Not necessary, because inlays are done in laboratory and very precisely

13. Which statement about ceramic inlays/onlays is NOT correct?

a) The physical and mechanical properties of ceramics come closer to matching those of enamel than do composites

b) They have low wear resistance

c) They have a coefficient of thermal expansion similar to that of tooth structure

d) They are very esthetic

14. Final curing of an indirect composite restoration is accomplished by inserting the inlay into an oven like device that exposes the composite to additional light and heat and, in some cases, pressure

a) True

b) False

15. The indirect composite inlay:

a) Is trimmed, finished, and polished in the laboratory

b) Is trimmed, finished, and polished only by the dentist

c) Does not need trimming, finishing and polishing because of the difference of the laboratory composite

d) None is correct

16. Processed composite restorations are indicated when:

a) Maximum wear resistance is desired from a composite restoration

b) Achievement of proper contours and contacts would be difficult otherwise

c) A ceramic restoration is not indicated because of concerns about wear of the opposing dentition

d) All are correct

17. Ceramic inlays are polished the same way as composite inlays.

a) True

b) False

18. Laboratory-processed composite inlays/onlays offer less resistance to debonding than ceramic restorations.

a) True

b) False

19. Which is a disadvantage of aesthetic indirect restorations?

a) None is correct

b) Low potential for repair

c) Increased auxiliary support

d) Reduced polymerization shrinkage

20. For most laboratory-processed composite inlays/onlays, the resin matrix has polymerized to such an extent that few bonding sites are available for the composite cement to chemically bond to the internal surfaces of the restoration.

- a) True
- b) False

21. The major advantages of casting alloys are:

- a) High compressive and tensile strengths
- b) More difficult tooth preparation
- c) Ease of use
- d) Esthetic

22. Which one of the following alloys are unreactive in the oral environment?

- a) High-gold alloys
- b) Low-gold alloys
- c) Palladium-silver alloys
- d) Base metal alloys

23. When cast metal restorations have been used to restore adjacent or opposing teeth, the continued use of the same material may be considered to eliminate:

- a) Postrestorative allergy
- b) Irritation of soft tissues
- c) Electrical and corrosive activit

24. If there are defects on the facial and lingual surfaces in addition to the occlusal and proximal surfaces are indicated.

- a) Full crown restorations
- b) Cast metal restorations

25. When temporaries are fabricated outside of the mouth using a postoperative cast of the prepared teeth the technique is called direct.

a) True

b) False

26. When making temporaries that might become “locked on” is more appropriate to use:

a) Direct technique

b) Indirect technique

27. The most common impression materials used for the indirect casting technique are:

a) Polyvinyl siloxanes

b) Polyether

c) Alginate

28. Laboratory processed composite restorations wear:

a) More than ceramics

b) Less than ceramics

29. Direct composites restorations wear:

a) More than laboratory processed composite restorations

b) Less than laboratory processed composite restorations

30. Indirect composite restorations havepostoperative sensitivity than direct composites.

a) Less

b) More

31. Reduced polymerization shrinkage refers to:

a) Direct composites restorations

b) Indirect composites restorations

32. Which one of the following materials can cause excessive wear of opposing enamel or restorations?

a) Ceramic

b) Composite

c) Amalgam

d) Metal

33. The pulpal biocompatibility of the indirect techniques is related more to:

a) The adhesive composite cements

b) The ceramic materials

c) The laboratory composites

34. Indirect ceramic restorations inlays/onlays, are difficult to repair in the event of a partial fracture.

a) True

b) False

35. Which one of the following technics for indirect restorations ensures nearly ideal industrial conditions?

a) Laboratory-processed restorations

b) CAD/CAM restorations

36. Occlusal evaluation and adjustment of ceramic or composite inlay are:

a) Made before cementation

b) Delayed until after cementation

37. Which one of the following acid usually is used to etch the internal surfaces of the restoration?

a) Hydrofluoric acid

b) Phosphoric acid

c) Polyacrylic acid

TEST 12

FABRICATION OF AESTHETIC RESTORATIONS - PART I - DENTAL RESIN COMPOSITES

1. Composites typically involve:

- a) A dispersed phase of filler particles distributed within a continuous phase (matrix phase)
- b) A dispersed phase of amalgam particles distributed within a continuous phase (matrix phase)
- c) A continuous phase (matrix phase) of filler particles distributed within a dispersed phase
- d) A continuous phase (matrix phase) of silicon particles distributed within a dispersed phase

2. A dental composite traditionally is a mixture of:

- a) Monomer glass particles within silicate particles that are polymerized during the application
- b) Silicate glass particles within an acrylic monomer that is polymerized during the application
- c) Silicon monomer and silicate glass particles that are polymerized during the application
- d) None is correct

3. The silicate particles provide mechanical reinforcement of the mixture (reinforcing fillers) and produce light transmission and light scattering that adds enamel-like translucency to the material.

- a) True
- b) False

4. The acrylic monomers make the initial mixture fluid and moldable for placement into a tooth preparation.

- a) True
- b) False

5. The matrix flows to adapt to tooth preparation walls and penetrate into micromechanical spaces on etched enamel or dentin surfaces.

- a) True
- b) False

6. Bonding systems are primarily unfilled acrylic monomer mixtures, similar to the filler particles of the composite, that are preplaced onto etched tooth surfaces to form a 10-to 15- μm film.

- a) True
- b) False

7. Which is a difunctional composite monomer?

- a) BIS-GMA
- b) UDMA
- c) TEGDMA
- d) All are correct

8. The fluidity of the composites:

- a) Is affected by the fluidity of the monomer and the amount of filler incorporated
- b) Is NOT affected by the fluidity of the monomer and the amount of filler incorporated
- c) Is affected by the fluidity of the filler
- d) None is correct

9. As the filler surface area increases, the fluidity decreases.

- a) True
- b) False

10. What size are the particles in macro-filler composites?

- a) Above 10 μm
- b) 1-10 μm
- c) 0.1-1 μm
- d) 0.01-0.1 μm

11. What size are the particles in micro-filler composites?

- a) Above 10 μm
- b) 1-10 μm

- c) 0.1-1 μm
- d) 0.01-0.1 μm

12. What size are the particles in nano-filler composites?

- a) 0.001-0.01 μm
- b) 1-10 μm
- c) 0.1-1 μm
- d) 0.01-0.1 μm

13. Depending of the filler particles composites can be classified as:

- a) Homogeneous
- b) Heterogeneous
- c) Hybrid
- d) All are correct

14. Polymerization method of composites can be:

- a) Light-cured
- b) Electrically-cured
- c) Light and self-cured
- d) All are correct

15. The initiator of self-cured composite is:

- a) Camphoroquinone
- b) Phosphoquinone
- c) Hydrogen peroxide
- d) None is correct

16. Which component of the composites significantly enhances the physical properties of the composite (compared with previous tooth-colored materials) by increasing the strength of the restorative material and reducing the LCTE?

- a) The matrix phase

- b) The monomer
- c) The inorganic filler phase
- d) None is correct

17. Which component of the composite wears at a faster rate?

- a) All the components wear the same way
- b) All are correct
- c) The filler particles
- d) The resin matrix

18. Which statement is correct about the composites?

- a) Most composites contain radiopaque fillers
- b) Most composites contain radiopaque monomers
- c) A macrofill composite material has greater flexibility
- d) Composite materials show high clinically relevant solubility

19. Effects of polymerization shrinkage of the light-cured composite can be partially compensated by:

- a) An incremental insertion (and curing) technique
- b) Higher distance between the light source and the composite
- c) Etching the outer surface of the composite before light-curing
- d) All are correct

20. In an effort to reduce polymerization shrinkage stresses of light-cured composites we:

- a) Use light curing units, with the intent of offering a slow or “Soft start” polymerization
- b) Add adhesive on the composite after each portion of composite
- c) Do an incremental insertion technique and light-curing the entire composite filling at once
- d) All are correct

21. The composite material should be inserted into the tooth preparation in what thicknesses?

- a) 1.5-2.5 mm
- b) 2-3 mm
- c) 1-2 mm

22. Polymeric dental restorative material reinforced with silica particles is the definition of:

- a) Resin composites
- b) Glass-ionomer cements
- c) Dental adhesive systems

23. Bonding systems are filled with silica particles acrylic monomer mixtures.

- a) True
- b) False

24. The bonding system copolymerizes with the composite restorative material that fills the tooth preparation.

- a) True
- b) False

25. BIS-GMA and UDMA are difunctional monomers used as matrices for the resin composite materials. Because of their they are diluted with another difunctional monomer – TEGDMA.

- a) High viscosity
- b) Low viscosity
- c) Instability

26. TEGDMA is a difunctional monomer with used for dilution of the BIS-GMA resin.

- a) High viscosity
- b) Low viscosity
- c) Bisphenol-A backbone

27. Interfacial bonding between the phases of the resin composites is provided by:

- a) Adhesive systems
- b) Bonding agents
- c) Silane coupling agents

28. As the filler surface area increases, the fluidity of the resin composites:

- a) Decreases
- b) Increases
- c) The fluidity of the resin composites is not affected by the filler surface area

29. Choose the wrong quotation about the conventional composites:

- a) Conventional composites generally contain approximately 45% to 60% inorganic filler by weight.
- b) The average particle size of conventional composites in the 1980s was approximately 8 mm.
- c) Because of the relatively large size and extreme hardness of the filler particles, conventional composites typically exhibit a rough surface texture.

30. Typically, microfill composites have an inorganic filler content of approximately:

- a) 85% to 90% by weight
- b) 65% to 80% by weight
- c) 35% to 60% by weight

31. Choose the right answer regarding the properties of the microfill composite materials:

- a) These materials contain considerably more filler than the conventional or hybrid composites
- b) Some of their physical and mechanical characteristics are superior to the conventional or hybrid composites
- c) Microfill composites are clinically very wear resistant.

32. Because of their modulus of elasticity the microfill composite restorations may flex during tooth flexure, better protecting the bonding interface.

- a) Low
- b) High

33. An appropriate choice for restoring Class V cervical lesions or defects in which cervical flexure is significant are the:

- a) Macrofill composites
- b) Microfill composites
- c) Packable composites

34. Typically, the hybrid composites have an inorganic filler content of approximately:

- a) 75% to 85% by weight
- b) 45% to 65% by weight
- c) 35% to 60% by weight

35. Typically, the filler of the hybrid composites is a mixture of microfiller and small filler particles.

- a) True
- b) False

36. Flowable composites have:

- a) Lower filler content
- b) Higher filler content
- c) Superior physical properties

37. Flowable composites exhibit much higher polymerization shrinkage and should always be placed in thin layers.

- a) True
- b) False

38. Materials with higher filler contents exhibit:

- a) Lower water absorption values
- b) Higher water absorption values
- c) The filler contents do not affect the water absorption values

39. Choose the wrong quotation regarding the C-factor:

- a) The C-factor is the ratio of bonded surfaces to the unbonded, or free, surfaces in a tooth preparation.
- b) The higher the C-factor, the greater is the potential for bond disruption from polymerization effects.
- c) The lower the C-factor, the greater is the potential for bond disruption from polymerization effects.

40. The C-factor of a Class IV restoration would be:

- a) 4
- b) 0.25
- c) 5

41. The C-factor of a Class I restoration would be:

- a) 0.25
- b) 5
- c) 3

TEST 13

DENTAL ADHESIVES-APPLICATION PURPOSES AND CLASSIFICATION

1. Mechanical adhesion is:

- a) Interlocking of the adhesive with irregularities in the surface of the substrate, or adherend
- b) Hydrogen bonds, dipole interaction, or van der Waals forces
- c) Interlocking between mobile molecules, such as the adhesion of two polymers through diffusion of polymer chain ends across an interface
- d) An electrical double layer at the interface of a metal with a polymer that is part of the total bonding mechanism

2. Adsorption adhesion is:

- a) Interlocking of the adhesive with irregularities in the surface of the substrate, or adherend
- b) Hydrogen bonds, dipole interaction, or van der Waals forces
- c) Interlocking between mobile molecules, such as the adhesion of two polymers through diffusion of polymer chain ends across an interface
- d) An electrical double layer at the interface of a metal with a polymer that is part of the total bonding mechanism

3. Diffusion adhesion is:

- a) Interlocking of the adhesive with irregularities in the surface of the substrate, or adherend
- b) Hydrogen bonds, dipole interaction, or van der Waals forces
- c) Interlocking between mobile molecules, such as the adhesion of two polymers through diffusion of polymer chain ends across an interface
- d) An electrical double layer at the interface of a metal with a polymer that is part of the total bonding mechanism

4. Electrostatic adhesion is:

- a) Interlocking of the adhesive with irregularities in the surface of the substrate, or adherend
- b) Hydrogen bonds, dipole interaction, or van der Waals forces

c) Interlocking between mobile molecules, such as the adhesion of two polymers through diffusion of polymer chain ends across an interface

d) An electrical double layer at the interface of a metal with a polymer that is part of the total bonding mechanism

5. Physical bonding:

a) Involves van der Waals or other electrostatic interactions and are relatively weak

b) Involves bonds between atoms formed across the interface from the adhesive to the adherend

c) Is the result of an interface that involves undercuts and other irregularities that produce interlocking of the materials

d) None is correct

6. Chemical bonding:

a) Involves van der Waals or other electrostatic interactions and are relatively weak

b) Involves bonds between atoms formed across the interface from the adhesive to the adherend

c) Is the result of an interface that involves undercuts and other irregularities that produce interlocking of the materials

d) None is correct

7. Mechanical bonding:

a) Involves van der Waals or other electrostatic interactions and are relatively weak

b) Involves bonds between atoms formed across the interface from the adhesive to the adherend

c) Is the result of an interface that involves undercuts and other irregularities that produce interlocking of the materials

d) None is correct

8. The common method for producing surface roughness for better mechanical bonding is:

a) Grinding

b) Acid etching

c) Grinding and acid etching

d) Isolating

9. Grinding the tooth surface:

- a) Produces gross mechanical roughness, but leaves a smear layer
- b) Produces gross mechanical roughness and removes the smear layer
- c) Produces microscopic relief with undercuts on the surface
- d) All are correct

10. Etching the tooth surface:

- a) Produces gross mechanical roughness, but leaves a smear layer
- b) Produces gross mechanical roughness and removes the smear layer
- c) Produces microscopic relief with undercuts on the surface
- d) All are correct

11. Requirement for adhesion is that:

- a) The surfaces being joined to be clean
- b) The surfaces being joined to be wet
- c) To leave the smear layer and not change it
- d) All are correct

12. Dentin is:

- a) Hydrophilic
- b) Hydrophobic
- c) One part is hydrophilic and another is hydrophobic
- d) None is correct

13. Macrotags are:

- a) Resin tags that form between enamel rod peripheries
- b) Tags across the end of each enamel rod where individual hydroxyapatite crystals have been dissolved
- c) Resin tags that form between dentine tubules peripheries

d) Tags across the end of each dentine

14. Microtags are:

a) Resin tags that form between enamel rod peripheries

b) Tags across the end of each enamel rod where individual hydroxyapatite crystals have been dissolved

c) Resin tags that form between dentine tubules peripheries

d) Tags across the end of each dentine

15. What bond strength seems to be acceptable clinically?

a) 5 MPa

b) 10 MPa

c) 20 MPa

d) 15 MPa

16. Which sequence for applying adhesive system's components of three step adhesive system is correct?

a) Etch, bond, primer

b) Bond, etch, primer

c) Primer, etch, bond

d) Etch, primer, bond

17. Sclerotic dentin compared to "normal" dentin:

a) Is much more resistant to acid etching

b) Is much less resistant to acid etching

c) Has the same resistant to acid etching

d) None is correct

18. According to types of adhesive system there are:

a) One step (All-in-One) adhesive systems

b) Two steps adhesive systems

- c) Three steps adhesive systems
- d) All are correct

19. Most used etchant is:

- a) Linoleic acid
- b) Malonic acid
- c) Phosphoric acid
- d) Ethanol

20. Clinical longevity of dentin bonding systems may not be as long as that of enamel bonding systems.

- a) True
- b) False

TEST 14

FABRICATION OF AESTHETIC RESTORATIONS-PART II

1. Glass-ionomers bond to tooth structures:

- a) Chemically
- b) Micromechanically
- c) Chemically and micromechanically
- d) All are correct

2. Compared to composite materials glass-ionomers have:

- a) Superior chemical and mechanical properties
- b) Same chemical and mechanical properties
- c) Modest chemical and mechanical properties
- d) None is correct

3. Glass-ionomers have the ability to release:

- a) Phosphate ions

- b) Calcium ions
- c) All are correct
- d) Fluoride ions

4. What is the correct order of evolution of glass-ionomer materials (first to last):

- a) Conventional, resin-modified, compomers
- b) Resin-modified, compomers, conventional
- c) Compomers, resin-modified, conventional
- d) Conventional, compomers, resin-modified

5. Conventional glass-ionomers are light-cured.

- a) True
- b) False

6. Resin-modified glass-ionomers are self-cured only.

- c) True
- d) False

7. Which glass-ionomers have best mechanical properties?

- a) Conventional
- b) Resin-modified
- c) Compomers
- d) Both compomers and conventional

8. Glass-ionomers produce better restorations than composites.

- a) True
- b) False

9. When bonding composite to gingival areas with little or no enamel, a glass-ionomer liner extended just short of the margins has been suggested as a way to reduce caries risks if microleakage occurs.

- a) True

b) False

10. Which process is called “re-charging” of the glass-ionomers?

a) Whenever glass-ionomers are exposed to unusually high external levels of fluoride ions from other sources and fluoride diffuses into the glass-ionomers

b) Whenever glass-ionomers are not exposed to fluoride ions for very long period of time, they produce fluoride ions on their own

c) Whenever a small portion of the glass-ionomer is removed and replaced with new portion once a year

d) All are correct

11. Resin-modified glass-ionomers are easier to use and possess better strength, wear resistance, and esthetics than conventional glass-ionomers.

a) False

b) True

12. Compomers probably are best described as:

a) Composites to which some glass-ionomer components have been added

b) Glass-ionomers to which resin has been added

c) Glass-ionomers to which small ceramic particles have been added

d) Composites to which small ceramic particles have been added

13. Resin-modified glass-ionomers probably are best described as:

a) Composites to which some glass-ionomer components have been added

b) Glass-ionomers to which resin has been added

c) Glass-ionomers to which small ceramic particles have been added

d) Composites to which small ceramic particles have been added

14. All glass-ionomer systems require etching.

a) True

b) False

15. Conventional versions of glass-ionomers ideally require a polymerization period of 24 hours before final contouring and finishing.

- a) True
- b) False

16. Glass-ionomers increase fluoride release over time.

- a) True
- b) False

17. Glass-ionomers are fundamentally:

- a) Hydrophobic
- b) First hydrophobic and after setting hydrophilic
- c) All are correct
- d) Hydrophilic

18. Compomers compared to conventional glass-ionomers have:

- a) Less fluoride release
- b) Higher fluoride release
- c) Same fluoride release
- d) No fluoride release at all

19. Glass-ionomer restorations seem well suited for situations involving:

- a) Patients with low caries risk
- b) Patients with high aesthetic demands
- c) Patients with high caries risk
- d) All are correct

20. At the time of initial mixing of conventional glass-ionomers, there is potential to cause sensitivity and produce pulpal irritation.

- a) True
- b) False

MCQ ANSWERS

TEST 1: 1.B 2.B 3.C 4.C 5.A 6.A 7.C 8.B 9.C 10.A 11.D 12.D 13.B 14.B 15.D 16.B 17.B 18.D 19.C 20.C 21.B 22.B 23.C 24.B 25.A 26.A 27.B 28.B 29.B 30.C 31.A 32.C 33.D 34.D 35.B 36.C 37.B 38.C 39.B 40.A 41.B 42.A 43.D 44.A

TEST 2: 1.C 2.B 3.D 4.D 5.B 6.B 7.C 8.A 9.A 10.D 11.C 12.C 13.C 14.A 15.B 16.B 17.B 18.B 19.D 20.C 21.A 22.B 23.C 24.A 25.B 26.C 27.C 28.B 29.C 30.B 31.B 32.A 33.A 34.D 35.C 36.A 37.A

TEST 3: 1.D 2.B 3.A 4.D 5.D 6.B 7.C 8.D 9.B 10.A 11.D 12.C 13.A 14.A 15.C 16.C 17.A 18.A 19.B 20.C 21.D 22.C 23.C 24.B 25.C 26.A 27.D 28.D

TEST 4: 1.D 2.C 3.A 4.D 5.C 6.C 7.B 8.B 9.A 10.D 11.E 12.C 13.D 14.B 15.B 16.D 17.D 18.D 19.B 20.A 21.B 22.D 23.D 24.C 25.B 26.A

TEST 5: 1.A 2.C 3.D 4.C 5.A 6.A 7.B 8.D 9.B 10.C 11.B 12.D 13.B 14.C 15.A 16.D 17.C 18.A 19.D 20.D 21.A 22.C 23.D 24.B 25.B 26.A 27.B 28.B 29.A

TEST 6: 1.C 2.C 3.A 4.B 5.A 6.A 7.B 8.A 9.C 10.A 11.B 12.C 13.C 14.B 15.A 16.D 17.D 18.C 19.E 20.A 21.C 22.B 23.A 24.A 25.A 26.A 27.B 28.A 29.E

TEST 7: 1.B 2.A 3.A 4.A 5.D 6.C 7.B 8.A 9.C 10.D 11.D 12.A 13.A 14.D 15.B 16.B 17.A 18.B 19.A 20.C 21.A 22.B 23.A 24.B 25.C 26.A 27.C 28.A 29.A 30.A 31.B 32.A 33.B 34.D 35.C 36.A 37.A 38.A 39.C

TEST 8: 1.C 2.A 3.A 4.A 5.B 6.A 7.B 8.D 9.C 10.A 11.B 12.A 13.A 14.C 15.A 16.B 17.B 18.A 19.B 20.A 21.B 22.C 23.A 24.B 25.C 26.C 27.A 28.A 29.B 30.C 31.B 32.A 33.B 34.B 35.C 36.A 37.B 38.B

TEST 9: 1.A 2.D 3.B 4.C 5.A 6.B 7.C 8.A 9.B 10.B 11.A 12.A 13.A 14.A 15.C 16.D 17.C 18.D 19.A 20.C 21.A 22.B 23.C 24.B 25.A 26.C 27.A 28.C 29.D 30.A 31.B 32.A 33.A 34.A 35.B 36.B

TEST 10: 1.A 2.C 3.B 4.A 5.A 6.A 7.A 8.A 9.A 10.C 11.C 12.A 13.B 14.A 15.C 16.A 17.C 18.A 19.B 20.C 21.B 22.B 23.A 24.A 25.B 26.B 27.A 28.C 29.A 30.B 31.A 32.B 33.B 34.B 35.C

TEST 11: 1.A 2.A 3.A 4.A 5.C 6.A 7.D 8.B 9.D 10.A 11.C 12.A 13.B 14.A 15.A 16.D 17.B 18.A 19.B 20.A 21.A 22.A 23.C 24.A 25.B 26.B 27.A 28.A 29.A 30.A 31.B 32.A 33.A 34.A 35.B 36.B 37.A

TEST 12: 1.A 2.B 3.A 4.A 5.A 6.B 7.D 8.A 9.A 10.A 11.D 12.A 13.D 14.C 15.A 16.C 17.D 18.A 19.A 20.A 21.C 22.A 23.B 24.A 25.A 26.B 27.C 28.A 29.A 30.C 31.C 32.A 33.B 34.C 35.A 36.A 37.A 38.A 39.C 40.B 41.B

TEST 13: 1.A 2.B 3.C 4.D 5.A 6.B 7.C 8.C 9.A 10.C 11.A 12.A 13.A 14.B 15.C 16.D 17.A
18.D 19.C 20.A

TEST 14: 1.A 2.C 3.D 4.A 5.B 6.B 7.C 8.B 9.A 10.A 11.B 12.A 13.B 14.B 15.A 16.B 17.D 18.A
19.C 20.A