Name Corrected Seat number ________

Restorative Dentistry III
Quiz 2A 10/02/01
Answer 11 questions in ***ink***.

Number of correct answers 6

Graded by: Z

---

1. Why should a rubber impression be washed under cold running water before it is poured?

X to decrease amount of distortion

to clean saliva off

2. What is the desired uniform thickness of porcelain for a metal-ceramic restoration?

1 mm

3. What is the minimum distance the metal-porcelain junction should be placed from occlusal contacts at the position of maximum intercuspation?

X 1/2 - 1/2 the way down the cusp

1 mm

4. What causes devitrification of porcelain? not firing long enough

X firing too many times

5. Name an ion (element) that promotes the formation of glass when it is incorporated into silicate systems?

K^+

6. Give one advantage of the all-porcelain margin over a metal collar margin on a metal-ceramic crown.

better esthetics

7. What is the *primary* purpose of the degassing firing cycle prior to porcelain application?

form gas layer on surface

X ~~rid gases [illegible]~~ metal to allow better porcelain bonding

8. According to Shillingburg, what is the minimum time a poured cast should be allowed to set before separating it from a rubber impression?

45 min - 1 hr

Give two advantages of a metal-ceramic crown compare with an all-ceramic crown.

9. better strength

10. less damaging to [illegible] teeth

11. What alloying element has the potential to cause "greening" of porcelain in some metal-ceramic alloys?

X iron

silver

KEY

st tive Dentistry III
iiz 2A 10/03/02

. What is the primary bonding mechanism responsible for adhesion of of porcelain to a metal substructure?

Chemical

2. How many firings of opaque porcelain are needed before applying body porcelain?

Two

3. What is the minimum width of the metal collar on the lingual surface of a M-C crown with an all-porcelain occlusal?

3 mm

Name two elements that form oxides on the surface of M-C alloys and promote chemical bonding?

4.

Fe, Sn, In, Ga

5.

6. Give one reason why porcelain should not be extended over onto the metal collar of a M-C crown?

Creates: overcontoured gingival margin — detrimental to the periodontium; fracture prone porcelain; an undetected open margin; etc.

7. What is the desired uniform thickness of porcelain for a M-C restoration?

1.0 mm

8. What is the minimum distance occlusal contacts should be from the metal-porcelain junction?

Accept 1.0 mm or 1.5 mm

9. As porcelain is heated, adjacent powder particles bond together by a process called **sintering**.

10. What is the name of the crystalline phase found in feldspathic porcelain that has a coefficient expansion higher than that of the glassy matrix?

Leucite

Corrected

Name: [redacted] Seat no.: [redacted]

Restorative Dentistry III
Quiz 2B 10/2/03
Answer 11 questions in *ink*.

Number of correct answers 6

Graded by: _____

---

1. Why should the angle of metal at the metal-porcelain interface be 90-135 degrees?
To allow for proper seating and fusing of metal to porcelain
X due to proper thickness of materials (need for maximum interaction of materials for chemical bonding)

2. What is the minimum distance the metal-porcelain junction should be placed from occlusal contacts at the position of maximum intercuspation?
1.0 mm

3. In what time period do 60% of subgingival facial crown margins become visible after cementation?
2 years after cementation

4. What is the optimum uniform thickness of porcelain for metal-ceramic restorations?
1.0 mm

5. Name one alloying element found in some noble metal alloys that enhances bonding to porcelain.
Gallium

6. What is the desired thickness of a pindex cast from its base to the preparation finish line (free gingival margin)?
15 mm

7. Why must the base of a pindex cast be perfectly flat?
-alkel pins
X to allow for uniform depth of drilling when placing pin holes and to avoid fracture while drilling.

8. According to Shillingburg, what is the minimum time a poured cast should be allowed to set before separating it from a rubber impression?
1 hour
X 30 minutes

9. What is the primary bonding mechanism of porcelain to metal?
Chemical

10. What is the main layer of porcelain above the opaque layer called?
body
X base layer

11. What is the minimum thickness of porcelain compatible with good esthetics?
0.7
X 1.0 mm

CARROT
CORROSION
FINENESS
GRAIN

PLATINUM/COPPER/SILVER

ADA CLASSIFICATION II, III, IV

Name [redacted] Seat no. B-7

Restorative Dentistry III Number of correct answers 12
Quiz 2A 10/7/04
Print Answer to 12 questions in ***ink***. Graded by: _____

---

1. What can cause a clean separation of fired porcelain from the metal coping?

   To large of an Oxide Layer on Metal Coping and Very Large differences in the CTE's of the Porcelain and the Metal Coping

2. Which layer of porcelain provides most of the color?

   Dentin/Body Layer

3. State one advantage of the Accu-Trac compared with the Pindex die system.

   Do Not have to mount Die Cast on Buff Stone Base or use Vaseline, both of which can account for innaccuracies.

Name two fabrication techniques for producing all-ceramic crowns. [Accutrac best for Single Unit Crowns]

4. Heat-pressed

5. Computer Assisted/Machined

6. Ideally, how should the coefficient of thermal expansion of porcelain compare with that of the metal coping?

   CTE of porcelain should be just a little less than the CTE of the metal so that the porcelain is slightly compressed.

Give two functions of the opaque layer of porcelain.

7. Bonding to the Metal

8. Hide the Metal

9. What is the minimum thickness of porcelain needed for acceptable esthetics?

   minimum
   0.7mm [1.0mm is ideal]

10. How can tooth #8 be altered to make it appear narrower without changing its width?

    Moving the transitional line angles in- closer together (1) (1)

11. Name the strongest computer assisted machinable material for making all-ceramic crowns.

    Zirconium

12. What is the minimum distance the metal-porcelain junction should be placed from occlusal contacts at the position of maximum intercuspation?

    1.0mm