

## FCPS Part 1 in Dentistry

### Dental Materials

The limited shelf-life of condensation silicones is usually the result of deterioration of which of the following components ?

- 1: Lithopone
- 2: Tin component
- 3: Diurethyl siloxane
- 4: Platinum salt

Ans: 2

2: The restorative resins currently most popular are the

- 1: unfilled direct filling, light-curing resins
- 2: filled polyurethane resins
- 3: acrylic resins
- 4: microfilled composite resins

Ans: 4

3: The decrease in the marginal leakage of an amalgam restoration is primarily the result of

- 1: using cavity varnish
- 2: water sorption
- 3: expansion of the alloy
- 4: formation of corrosion products

Ans: 4

4: The pH of zinc phosphate cement be-comes neutral in

- 1: 30-60 minutes
- 2: 24-48 hours
- 3: 1 week
- 4: 4-6 hours

Ans:2

5: Which metals expand on from the molten state?

- 1: Platinum and palladium
- 2: Iridium and lead
- 3: Indium and strontium

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- 4: Bismuth and antimony
- 5: None of the above

Ans: 4

6: Sprues can be fabricated from all of the following, except

- 1: wax
- 2: resin
- 3: stainless steel
- 4: plastic
- 5: none of the above

Ans: 5

7: Wrought gold alloys are used in dentistry primarily as

- 1: full crowns
- 2: inlays
- 3: wires
- 4: arch bars
- 5: metal ceramics

Ans: 3

8: A Type IV partial denture gold alloy exceeds a base-metal alloy in numerical value in

- 1: compressive strength
- 2: casting shrinkage
- 3: hardness
- 4: specific gravity
- 5: modulus of elasticity

Ans: 4

9: Heating a gypsum investment to 1000°C will result in the liberation of

- 1: silver sulfide
- 2: carbon monoxide
- 3: hydrogen
- 4: sulfur dioxide

Ans: 4

10: Crystallinity of a polymer will result in an increase in its

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- 1: molding temperature
- 2: solubility
- 3: ductility
- 4: none of the above

Ans: 1

11: coupling agents in composite resins act to

- 1: increase cross-linking
- 2: bind the matrix together
- 3: bind the filler together
- 4: bind the filler to the matrix

Ans: 4

12: The mercury content of the finished amalgam restoration should be approximately

- 1: 40%
- 2: 50%
- 3: 60%
- 4: less than 35%

Ans: 2

13: The lost wax technique was first described in

- 1: 1907 by Taggart
- 2: 1930 by Skinner
- 3: 1898 by Hollenback
- 4: 1765 by Jelenko

Ans: 1

14: Which of the following properties would be of least importance, when selecting an impression material?

- 1: Dimensional stability
- 2: Biocompatibility
- 3: Flow
- 4: Adhesion
- 5: Ease of manipulation

Ans: 4

15: The polymer: monomer ratio for heat-cured acrylic resin

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- 1: is about 1 to 3 by volume
- 2: if too high will result in granularity of the acrylic
- 3: if too high will result in excessive shrinkage
- 4: if too high will have a longer reaction time

Ans: 2

16: Which portion of the set silicate resto-ration disintegrates first in oral fluids?

- 1: Calcium fluoride flux
- 2: Gel matrix
- 3: Silicon dioxide particles
- 4:  $\text{Zn}_3(\text{PO}_4)_2$  buffer
- 5: All portions disintegrate together

Ans: 2

17: Copper and silver in dental amalgam

- 1: increase compressive strength and expansion
- 2: aid in amalgamation and decrease expansion
- 3: reduce hardness and expansion only
- 4: decrease hardness, flow, expansion and compressive strength

Ans: 1

18: When epoxy resins are used for die fabrication, the resultant die will

- 1: be slightly undersize
- 2: not burn out in the furnace
- 3: have poor abrasion resistance
- 4: have low strength
- 5: all of the above

Ans: 1

19: Which of the following cannot result in surface roughness or irregularities of gold castings?

- 1: Under heating the mold
- 2: Heating the alloy to too high a temperature
- 3: Employing too high casting pressures
- 4: Prolonged heating of the mold
- 5: None of the above

Ans: 5

20: Silicate cement powders are made up of oxides or fluorides of all of the following, except

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- 1: aluminium
- 2: tin
- 3: calcium
- 4: sodium
- 5: silicon

Ans: 2