

Dental materials

1. Sprues can be fabricated from all of the following, except-----.
 - a. Wax.
 - b. Resins.
 - c. Stainless steel.
 - d. None of the above.

2. During the casting of noble metal alloys, the mold should be held at the burn out temperature for at least-----.
 - a. 15 minutes.
 - b. 60 minutes.
 - c. 3 hours.
 - d. 6 hours.

3. Resins which soften when heated and set on cooling, are termed---.
 - a. Thermo-set resins.
 - b. Irreversible resins.
 - c. Thermoplastic resins.
 - d. Elastomeric resins.

4. A compressive stress is always accompanied by-----.
 - a. An elastic strain.
 - b. A compressive strain.
 - c. A shearing strain.
 - d. A tensile strain.

5. When softening impression compound in a water bath, the mass is kneaded with fingers in order to-----.
 - a. Obtain uniform plasticity throughout the mass.
 - b. Remove incorporated water.
 - c. Release all undesirable stresses.
 - d. Increase flow.

6. Zinc phosphate cement has the following properties except -----.
- Low hardness.
 - High solubility.
 - Fluoride release.
 - None of the above.
7. Strength in gypsum investments is provided by-----.
- Quartz.
 - Dental stone.
 - Silica.
 - Borax.
8. Which of the following is a thermoplastic material-----.
- Impression compound.
 - Acrylic resin.
 - Dental porcelain.
 - Zinc oxide – eugenol paste.
9. The safest method of removal of the compound impression from the stone cast is, to immerse it in-----.
- Warm water.
 - Cold water.
 - Water at mouth temperature.
 - Boiling water.
10. Dental amalgam alloys are predominantly-----.
- Silver and tin.
 - Tin and copper.
 - Copper and zinc.
 - Zinc and tin.
11. An example of a condensation polymerization resin is-----.
- Vulcanite.

- b. Bakelite.
 - c. Cyanoacrylate.
 - d. Vinyl.
12. When casting gold alloys, vacuum investing of the wax pattern, results in-----.
- a. Smoother casting.
 - b. Decreased porosity of the investment.
 - c. Better detail reproduction.
 - d. All of the above.
13. Loss of water by evaporation from the surface of a hydrocolloid gel, is termed-----.
- a. Imbibitions.
 - b. Memory.
 - c. Hysteresis.
 - d. Syneresis.
14. A metal which is liquid at room temperature is-----.
- a. Hydrogen.
 - b. Helium.
 - c. Iridium.
 - d. Mercury.
15. Patients dislike the odor and taste of which impression material---
- a. Polysulfides.
 - b. Polyethers.
 - c. Alginates.
 - d. Addition silicones.
16. Which of the following hardness tests uses a hardened steel ball indenting tool-----.
- a. Rockwell hardness test.
 - b. Vickers hardness test.
 - c. Brinell hardness test.

- d. Knoop hardness test.
17. The sprue former should be attached to the wax pattern-----.
- On a flat surface.
 - In an area where the anatomy is not critical.
 - At the thinnest point.
 - At the point of greatest bulk.
18. An alloy is a solid mixture of-----.
- Two or more metals, one of which is mercury.
 - Three or more metals, one of which is gold.
 - Two or more metals.
 - Two or more metals, one of which is amalgam.
19. When mixing dental stone, if the water-powder ratio is increased, the-----.
- Compressive strength is increased.
 - Surface hardness is increased.
 - Setting time is decreased.
 - Setting expansion is decreased.
20. What is the name given to technique in which acrylic resin is softened by heat and injected into flasks under pressure-----.
- Vacuum molding technique.
 - Compression molding technique.
 - Pressure technique.
 - Injection molding technique.
21. When making an impression, the impression compound should be placed in the patient's mouth at-----.
- 100.4°C.
 - 37°C.
 - 45°C.
 - 60°C.

22. Glass ionomer cement is primarily used for-----.
- Temporary restorations.
 - Restoring eroded areas.
 - Pulp capping.
 - Thermal insulating bases.
23. A composite, restorative material essentially contains-----.
- Inorganic filler, organic filler, coupling agent.
 - Polymerizing resin, catalyst, pigment.
 - Resin matrix, activator, filler.
 - Filler, resin binder, coupling agent.
24. Prior to investing the casting ring is lined with asbestos to-----.
- Prevent sliding of the investment mold.
 - Prevent limitation of mold expansion.
 - Permit easy retrieval of the casting.
 - Prevent cracking of the mold.
25. What should be the optimum thickness of rubber base impression materials in a tray-----.
- At least 10 mm.
 - 6-8 mm.
 - 2-3 mm.
 - Less than 1 mm.
26. When mixing plaster, the higher the W/P ratio, the-----.
- Weaker will be the gypsum product.
 - Longer will be the setting time.
 - Lesser will be the setting expansion.
 - All the above.

27. The stone cast should be constructed within the first 30 minutes of removal of an rubber impression from the mouth. This time interval is not critical for-----.
- Polysulfides.
 - Addition silicones.
 - Condensation silicones.
 - All of the above.
28. The weakest phase of set amalgam is-----.
- Gamma.
 - Gamma-1.
 - Gamma-2.
 - Beta-2.
29. The binder in phosphate investments is-----.
- Cristobalite.
 - Magnesium oxide and monoammonium phosphate.
 - Manganese dioxide and phosphoric acid.
 - α or β hemihydrates.
30. Elastomeric impressions can be safely disinfected by-----.
- Immersion in 2% glutaraldehyde for 10 minutes.
 - Overnight ethylene oxide gas sterilization.
 - Autoclaving.
 - Spraying phenol.
31. Which of the following materials is mixed with a figure- eight motion -----.
- Calcium hydroxide cement.
 - Alginate hydrocolloid.
 - Dental plaster.
 - Zinc phosphate cement.
32. Which of the following impression materials is elastic -----.
- Impression plaster.

- b. Agar hydrocolloid.
- c. Impression wax.
- d. Zinc oxide eugenol.

33. Porcelain denture teeth are used -----.

- a. When high wear resistance is desired.
- b. To oppose gold or natural teeth.
- c. When there is diminished inter occlusal distance.
- d. If the ridges are resorbed.

34. Wax elimination & heating of the gypsum mold can be started after the mold is-----.

- a. Has hardened for at least 12 hours.
- b. Is completely dry.
- c. Has hardened for at least one hour.
- d. Is allowed to harden overnight.

35. The basic composition of dental porcelain is -----.

- a. Borax, feldspar, lime.
- b. Feldspar, quartz, kaolin.
- c. Lime, quartz, feldspar.
- d. Boric acid, kaolin, borax.

36. The area below the stress- strain curve showing the energy required to fracture the material is known as the-----.

- a. Ultimate tensile strength.
- b. Hardness.
- c. Toughness.
- d. Elastic limit.

37. As compared with gold alloys, cobalt chromium alloys -----
-----.

- a. Are less rigid.
- b. Are generally softer.
- c. Melt at a higher temperature.

d. Have a lower tensile strength.

38. In chemically cured resins, the activator is -----.

- a. Hydroquinone.
- b. Sodium sulfate.
- c. Tertiary amine.
- d. Benzoyl peroxide.