

FCPS Part 1 Dentistry

201: Type II noble metal alloys are appropriate for casting ?

- 1: pontics, full crowns. thick 3/4 crowns, inlays subject to moderate stresses
2. full crowns, ponlics, inlays, partial frame-works
3. small inlays, long span budes, saddle bars
4. short span bridges. 3/4 crowns. thin cast backing abutments

Ans: 1

202: A method of imparting hardening heat treatment to dental gold alloys, is to?

- 1: Heat the alloy to 450°C and gradually cool to 225°C in half an hour
2. heat the alloy to 700°C and quench in cold water
3. heat the alloy to 500-C and bench cool for 2 days
4. heat the alloy to 200°C, hold for 20 minutes and then further heat to 600°C and quench in cold water

Ans: 1

203: Strength of an amalgam restoration will be more if?

- 1: a slight excess of mercury is left in the restoration
2. lower condensation pressures are applied
- 3: porosity is less
4. trituration time is increased
5. none of the above

Ans: 3

204: A wrought metal?

- 1: is resistant to corrosion or attack by acids
- 2: formed by working on a cast metal
3. formed by pouring molten metal into a mold
- 4 cannot be heat treated
5. none of the above

Ans: 2

205: The most effective method of preventing distortion of the wax pattern is?

- 1: by holding the WAX under equal pressure, from all Sides while it solidifies
- 2: to invest the pattern as soon as possible
3. to dip the die repeatedly in molten wax
4. By adding molten wax In small increments

Ans: 2

FCPS Part 1 Dentistry

206: The ability of an alloy to withstand mechanical stresses without permanent deformation, is reflected by it?

- 1: resilience
- 2: yield strength
- 3: hardness
4. fatigue resistance

Ans: 2

207: What should be the optimum thickness of rubber base impression materials in a tray ?

- 1: At least 10mm
- 2: 6-8mm
- 3: 2-3mm
4. Less than 1mm

Ans: 3

208: The liquid for heat-cured acrylic resins contains all of the following, except ?

- 1: hydroquinone
2. methyl methacrylate
3. glycol dimethacrylate
- 4: dimethyl-p-toluidine
5. dibutyl phthalate

Ans: 4

209: In which stage is the heat-curing resin material packed into the mold?

- 1: Adhesive stage
2. Rubbery stage
3. Tacky stage
- 4: Stringy stage
5. Doughy stage

Ans: 5

210: Which of the following is the first sign of preset hydration in a gypsum product?

- 1: Prolonged setting time
2. Decreased strength
3. Increased thermal expansion
4. Increased hygroscopic expansion
- 5: accelerated setting

FCPS Part 1 Dentistry

Ans: 5

211: The setting of dental plaster can be accelerated by?

- 1: mixing with boiling water
2. increasing the water to powder ratio
3. the addition of borax
- 4: rapid vigorous mixing
5. all of the above

Ans: 4

212: Sublimation is the conversion of ?

- 1: solid directly to gas
2. gas to liquid and then to solid
3. gas directly to liquid
4. solid to liquid and then to gas

Ans: 1

213: When testing the biocompatibility of dental materials for evaluation of pulp reactions, the material which is used as negative control is?

- 1: gold filling
- 2: calcium hydroxide cement
3. zinc oxide eugenol cement
4. amalgam filling
5. silicate cement

Ans: 3

214: The modulus of elasticity or Young's modulus of a materials is indicative of its?

- 1: rigidity
2. resilience
3. impact force
4. breaking strength
5. Malleability

Ans: 1

215: When mixing plaster, the higher the W/P ratio the

- 1: weaker will be the gypsum product
2. longer will be the setting time
3. lesser will be the setting expansion

FCPS Part 1 Dentistry

- 4: all of the above
- 5: none of the above

Ans: 4

216: A silver electroplating heat solution, will contain all of the following, except?

- 1: silver cyanide
- 2. potassium carbonate
- 3. distilled water
- 4. potassium cyanide
- 5. sulfuric acid

Ans: 5

217: In a casting, subsurface porosity can be diminished by controlling the?

- 1: mold temperature
- 2. sprue length
- 3. melt temperature
- 4. rate at which the molten metal enters the mold
- 5. none of the above

Ans: 4

218: The working time of polycarboxylete cement can be prolonged by all of the following, except ?

- 1: using a cool glass slab
- 2. cooling the polyacrylic acid liquid in a refrigerator
- 3. cooling the powder in a refrigerate,
- 4. none of the above

Ans: 2

219: Which of the following it not an ingredient of gypsum bonded investments?

- 1: Alpha hemihydrate
- 2. Cristobalite
- 3. Carbon
- 4. Boric acid
- 5. None of the above

Ans: 5

220: The polymerization of heat- curing resin Is Initiated by the formation of?

FCPS Part 1 Dentistry

- 1: hydrogen bonds
2. free radicals
3. Valance electrons
- 4, active atoms

Ans: 2

221: Equilibrium phase diagrams are useful in determining the?

- 1: solubility of the alloy components at a particular temperature
2. chemical composition of the alloy at a particular temperature
3. melting point and boiling point of an alloy
4. stability of the alloy at a particular temperature

Ans: 2

222: A gold alloy, designated as 750 fine, indicates that?

- 1: 7.5% of the alloy is pure gold
- 2: the alloy is 20 karat
- 3: three-fourth of the alloy is pure gold
- 4: the grain size of the alloy is 75 microns
- 5: the alloy has been distilled 750 times

Ans: 3

223: A potentially toxic element in base metal alloys is?

- 1: molybdenum
2. beryllium
3. boron
4. Magnesium

Ans: 2

224: Thermal shrinkage of heat curing resins is, that shrinkage which occurs?

- 1: during the polymerization of the resin
2. on cooling, from glass transition temperature to room temperature
3. on cooling, from boiling point to mouth temperature
4. on cooling, from curing temperature to glass transition temperature

Ans: 2

225: A method of expressing the degree of polymerization of polymers is by?

FCPS Part 1 Dentistry

- 1: average atomic weight
2. valence electrons
- 3, stoichiometric ratio
- 4, number average molecular weight

Ans: 4

226: For which of the following cements is polyacrylic acid the parent compound?

- 1: calcium hydro-oxide cements
2. Copper phosphate cements
3. Glass ionomer cements
4. Polycarboxylate cements
5. Silicophosphate cements

Ans: 3

227: All of the following are problems associated with electric annealing of gold pellets, except?

- 1: the various pellets cannot stick together
2. it is difficult to anneal the appropriate amount of gold required
3. air currents may affect the uniformity of heating
4. there is a greater chance of contamination if the gold is not used immediately

Ans: 1

228: The typical recommended W/P ratio for Type IV stone is?

- 1: 0.30 to 0.35
2. 0.20 to 0.25
3. 0.45 to 0.55
4. 0.10 to 0.15

Ans: 2

229: Impression plaster?

- 1: will produce less mucosal displacement than alginate
2. should not be used with an anti-expansion solution
3. should be poured immediately on removal from the mouth without any further treatment
4. is always white in colour

Ans: 1

230: The percentage of filler (by weight) in conventional composite resins is usually?

- 1: less than 35%,
- 2: 10 - 15%

FCPS Part 1 Dentistry

- 3: more than 60%
- 4. more than 30%

Ans: 3

231: Incorporation of synthetic resins and ortho ethoxy benzoic acid into conventional zinc oxide-eugenol cements will?

- 1: decrease solubility
- 2. increase adhesive capability
- 3. decrease strength
- 4. decrease film thickness

Ans: 1

232: Which of the following terms is different from the others?

- 1: Yield strength
- 2. Proportional limit
- 3. Elastic limit
- 4. Young's modulus
- 5. None of the above

Ans: 4

233: The high copper dispersion type amalgam alloys are characterized by all of the following, except?

- 1: less marginal breakdown
- 2. low creep
- 3. little or no gamma-2 phase present in set amalgam
- 4. little or no gamma phase in set amalgam
- 5. none of the above

Ans: 4

234: The liquid for zinc phosphate cements contains all of the following, except?

- 1: sulfuric acid
- 2. water
- 3. aluminium phosphate
- 4. phosphoric acid

Ans: 1

235: The stone cast should be constructed within the first 30 minutes of removal of an elastomeric impression from the mouth. This time interval is not critical for?

FCPS Part 1 Dentistry

- 1: polysulfides
2. addition silicones
3. condensation silicones
4. all of the above
5. none of the above

Ans:2

236: Hydroquinone, added to the resin monomer, acts as?

- 1: an inhibitor
2. an accelerator
3. a polymerization agent
4. a cross-linking agent
5. a catalyst

Ans: 1

237: The filler concentration (by weight) in micro-filled composites is?

- 1: 10-15%
- 2: 35-50%
- 3: more than 75%
- 4: 80-95%

Ans: 2

238: Direct filling powdered gold is normally supplied in which form?

- 1: Powder enclosed in a capsule of inert material
2. Pellet containing compressed powder
3. Loose powder form
4. Powder wrapped in a gold foil

Ans: 4

239: The normal hygroscopic setting expansion of gypsum bonded investment is?

- 1: 0.4 - 0.8%
- 2: 0.01 - 0.06%
- 3: 1.2 - 2.2%
- 4: 2 - 3%

Ans: 3

240: The solidification shrinkage of gold alloys is in the range of?

FCPS Part 1 Dentistry

- 1: 0.02% to 0.2%
- 2: 0.5% to 1.0%
- 3: 1.25% to 1.45%
- 4: 2 to 2.6%
- 5: 5.0% to 7.5%

Ans: 3

241: Which of the following is a disadvantage with polyether impression materials?

- 1: Poor elasticity
- 2: Difficulty in mixing
- 3: Poor flow
- 4: Dimensional instability in the presence of moisture

Ans: 4

242: The strain that occurs when a material is stressed to its proportional limit is termed?

- 1: resilience
- 2: maximum flexibility
- 3: tensile stress
- 4: Stress

Ans: 2

243: All of the following are requisites of a dental solder, except?

- 1: resistance to tarnish and corrosion
- 2: restricted flow
- 3: strength equal to that of the work
- 4: all of the above
- 5: none of the above

Ans: 2

244: When it is necessary to clean or soak a dental stone cast for a prolonged time, which type of water should be used?

- 1: Tap water
- 2: Clear slurry water
- 3: Distilled water
- 4: Mineral water
- 5: Soap water

Ans: 2

FCPS Part 1 Dentistry

245: Thermal diffusion through a material depends on its thermal conductivity and?

- 1: latent heat of fusion
- 2: melting point
3. thickness
4. coefficient of thermal expansion
5. invariant transformation point

Ans: 3

246: Hydrocolloid impression materials are?

- 1: liquids suspended in liquids
2. solids suspended in liquids
3. solids suspended in solids
4. metallic dispersions
5. none of the above

Ans: 2

247: The various shades of dental porcelain are obtained by the addition of metal oxides. Which of the following metallic oxides is incorrectly matched with the shade it gives?

- 1: Nickel oxide - brown
2. Cobalt oxide - lavender
3. Titanium oxide - yellowish brown
4. Iron oxide - brown
5. Copper oxide – green

Ans: 2

248: The best gas for melting an alloy is?

- 1: natural gas
2. hydrogen
3. acetylene
4. helium
5. Propane

Ans: 5

249: Which of the alloying elements decreases the hardness of steel?

- 1: Nickel
2. Cobalt

FCPS Part 1 Dentistry

3. Manganese
4. Carbon

Ans: 2

250: Silver added to a solder, does not perform which role?

- 1: Narrows the melting range
2. Increases flow of the solder
3. Acts as a deoxidizer
4. Increases adherence of solder to metal
5. None of the above

Ans: 3

251: Which of the following is not a type of copolymer?

- 1: Block
2. Chain transfer
3. Graft
4. Random
5. All of the above are copolymer types

Ans: 2

252. Fluxes for soldering base metal alloys contain all of the following, except

- 1: sodium pyroborate
- 2: mica
- 3: boric acid
- 4: silica

Ans: 2

253: The average processing shrinkage of a self-curing resin denture is?

- 1: 4.5%
- 2: 0.01%
- 3: 0.006%
4. 0.25%

Ans: 4

254. The principal difference between heat-cured denture base resins and cold-cured resins is the?

- 1: absence of initiator in cold-cured resins
2. presence of amine activator in cold-cured resins

FCPS Part 1 Dentistry

3. absence of dibutyl phthalate plasticizer in cold-cured resins
4. absence of initiator in heat-cured resins
5. basic structure of the resins

Ans: 2

255. Which of the following non-aqueous elastomeric Impression materials has the least shelf-life?

- 1: Condensation
2. Polysulfides
3. Polyethers
4. Addition silicones

Ans: 1

256. Vitallium is an alloy of?

- 1: chromium and cobalt
- 2, nickel and chromium
3. iron, nickel and chromium
4. nickel and titanium

Ans: 1

257. When curing visible light curing resins, the light must be held?

- 1: close to but not touching the restoration
- 2: 1 cm away from the restoration
3. as far away as possible from the restoration
- 4: touching the restoration

Ans: 1

258. Direct tilling gold contains?

- 1: more than 90% pure gold
2. 70.85 % gold
3. 99.99% pure gold
4. more than 65% gold

Ans: 3

259. Tarnishing of amalgam restorations is due to the formation of?

- 1: silver sulfide
2. tin oxide

FCPS Part 1 Dentistry

3. silver halide
4. copper sulfide

Ans: 1

260. Which of the following terms can aptly describe alginate impression materials?

- 1: Thermoplastic
2. Elastomeric
3. Thermoset
4. Irreversible elastic
5. Reversible plastic

Ans: 4

261: Human teeth possess which of the following hue portions of the color spectrum?

- 1: Yellow and yellow-red
2. Red and yellow-red
3. Green and yellow-green
4. Yellow-red and yellow-green
5. Red, green, and blue

Ans: 1

262. The oxidizing agent used in the polymerization of polysulfide impression materials is?

- 1: lead peroxide
2. tin octate
3. lead octate
4. stannous octate
5. copper phosphate

Ans: 1

263. Growth of secondary dentin is best stimulated by?

- 1: composite resin cements
2. zinc phosphate cements
3. zinc oxide-eugenol cements
4. calcium hydroxide cements
5. Carboxylate cements

Ans: 4

264. Which of the following atomic bonds are characterized by physical forces?

FCPS Part 1 Dentistry

- 1: Ionic bonds
2. Van der Waals bonds
3. Metallic bonds
4. Primary bonds
5. Covalent bonds

Ans: 2

265. A reusable impression material is?

- 1: impression plaster
2. non-aqueous elastomers
3. zinc oxide eugenol
- 4, alginate hydrocolloid
5. impression wax

Ans: 5

266. During the calcining of gypsum?

- 1: it is subjected to temperatures of 110 to 120°F
2. part of water of crystallization is driven off
3. silica is added
4. it is boiled in distilled water
- 5 all of the above

Ans: 2

267. Amongst the non-aqueous elastomeric impression materials curing time is longest for the?

- 1: polyethers
2. condensation silicones
3. polysulfides
4. addition silicones

Ans: 2

268. Gypsum bonded investments contain?

- 1: alpha- hemihydrate
2. beta- hemihydrate
3. dihydrate
4. none of the above

Ans: 1

269. The boiling point of pure methyl meth-acrylate is?

FCPS Part 1 Dentistry

- 1: 104°C
- 2: 96.2°C
- 3: 100.8°C
- 4: 111.3°C

Ans: 3

270. Compared to the unfilled restorative resins cured by the benzoyl peroxide-tertiary amine system, those cured by the sulfinic acid system?

- 1: are more sensitive to inhibition by phenolic compounds
2. deteriorate more rapidly on storage
3. are less affected by water or moisture during polymerization
4. all of the above
5. none of the above

Ans:2

271: What is the primary objective of trituration?

- 1: Pushing the mercury in to the alloy particles mechanically
2. Breaking the alloy particles into smaller fragments
3. Removal of impurities from the surface of the mercury particles
4. Removal of the oxide film of the alloy particles

Ans: 4

272. The binder in porcelain is?

- 1: soda form of feldspar
2. kaolin
3. quartz
4. lime

Ans: 2

273. Which of the following is an advantage of the fluid resin technique of processing dentures?

- 1: Improved bonding of resin to teeth
2. Teeth do not shift
3. Better tissue fit
4. Avoidance of air inclusion porosities

Ans: 3

274. The most commonly used initiator in denture base resins is?

FCPS Part 1 Dentistry

- 1: benzene
2. hydroquinone
3. benzoyl peroxide
4. methyl peroxide
5. Heat

Ans: 3

275. The best method of regulating the setting time of gypsum products is by varying the?

- 1: concentration of modifying chemicals
2. temperature of mixing water
3. W/P ratio
4. time of spatulation
5. speed of spatulation

Ans: 1

276. The mercury used for dental amalgam alloys should?

- 1: not contain more than 1.5% arsenic
2. contain less than 0.2 % non-volatile residue
3. be triple distilled
4. contain less than 1.5% volatile residue

Ans: 2

277. Which of the following may be used as a filler in composite resins ?

- 1: Crystalline quartz
- 2: Lanthanum glass
3. Beta-eucryptite
4. Lithium glass ceramics
5. All of the above

Ans: 5

278. All of the following are grain refiners of noble metal casting alloys, except?

- 1: rhenium
2. ruthenium
3. iridium
4. all of the above
5. none of the above

Ans: 5

FCPS Part 1 Dentistry

279. The commonly used composite restorative materials have a matrix based upon?

- 1: vinyl resins
2. epoxy resins
3. alkyl resins
4. ester resins

Ans: 2

280. Which substance is usually adsorbed onto the surface of gold foil by manufacturers, to act as a protective film?

- 1: Chromium oxide
2. Ammonia
3. Oxygen
4. Sulfur dioxide

Ans: 2

281: Bonding agents improve the bond strength of composite resins to the tooth structure by?

- 1: chemical adhesion to enamel
2. forming complex chelates with the inorganic portion of tooth structure
3. decreasing the surface tension of composite resin
4. improved wetting and penetration into the enamel irregularities
5. all of the above

Ans: 4

282. The principal factor in minimizing the firing shrinkage of porcelain is the?

- 1: amount of hydrated aluminium silicate present
2. fusion temperature
3. uniformity of particle size
4. thoroughness of condensation
5. ratio of silica and alumina

Ans: 4

283. Liquids which become more rigid as the rate of deformation increases are termed

- 1: thixotropic
2. newtonian
3. pseudoplastic
4. plastic
5. Dilatants

FCPS Part 1 Dentistry

Ans: 5

284. The setting time of zinc oxide - eugenol paste will be decreased by?

- 1: cooling the glass slab employed for mixing
2. using a very short mixing time
3. adding a small amount of petrolatum to the mix
4. increasing the ratio of base paste to the catalyst paste
5. none of the above

Ans: 5

285. Cohesion of direct filling gold at room temperature is an example of the principle of?

- 1: homogenization
2. wedging
3. atomic attraction
4. brazing
5. annealing

Ans: 3

286. The primary role of modifiers in dental plasters is to?

- 1: increase strength
2. reduce porosity
3. regulate the setting time
4. control the hygroscopic expansion
5. increase hardness

Ans: 3

287. After plaster is mixed, which of the following is the first to occur?

- 1: Gillmore needle - final setting time
2. Loss of gloss
3. Vicat needle - setting time
4. Gillmore needle - initial setting time

Ans: 2

288. The thickness of the gel between the tray and the tissues for hydrocolloid impressions should always be at least?

- 1: 3 mm
- 2: 1.5 mm

FCPS Part 1 Dentistry

3: 6 mm

4: 1 mm

Ans: 1

289. Commercially pure titanium is the dental implant material of choice as it?

1: has very low density

2. oxidizes upon contact with air or normal tissue fluids

3. has a modulus of elasticity 5 to 10 times higher than that of bone

4. induces bone formation

Ans: 2

290: Compared to heat-curing resins, chemically activated resins have increased?

1: strength

2. color stability

3. residual monomer content

4. working time

5. none of the above

Ans: 3

291. Which of the following acids is commonly used for etching enamel surfaces?

1: Citric acid

2. Hydrochloric acid

3. Phosphoric acid

4. Picric acid

Ans: 3

292. The liquid for glass ionomer cements is similar to that of?

1: zinc phosphate cements

2. resin cements

3. polycarboxylate cements

4. silicate cements

Ans: 3

293. The pH of poly-carboxylate cement liquid containing poly-acrylic acid, is approximately

1: 6.2

2: 3.6

FCPS Part 1 Dentistry

3: 9.4

4: 1.7

Ans: 4

295. A measure of the ductility of a material is its?

- 1: hardness number
2. percent elongation
3. tensile strength
4. flexibility
5. yield strength

Ans: 2

296. Water at 20°C is more suitable for cooling the agar hydrocolloid impression than is ice water because the sol is a good thermal conductor and rapid cooling may cause a concentration of stresses where gelation takes place last.

- 1: Both the statement and reason are true
2. The statement is true but the reason is false
3. The statement is false but the reason is true
4. Both the statement and reason are false

Ans:2

294. The dentist can decrease the setting expansion of plaster by?

- 1: increasing the W/P ratio
2. selecting a plaster with a finer particle size
3. reducing the accelerator concentration
- 4, increasing the mixing time
5. adding powdered gypsum to the mix

Ans:1

297. At a temperature of 650°C, when the gypsum investment mold is adequately heated, the colour of the sprue when viewed in a shadow, is?

- 1: dull red
2. cherry red
3. bright orange
4. light orange

Ans: 2

298. Oil of clove contains?

FCPS Part 1 Dentistry

- 1: 100 % eugenol
2. 70-85 % eugenol
3. 50-60 % eugenol
4. 15-25% eugenol

Ans: 2

299. Silver in the dental amalgam alloys?

- 1: decreases ductility
2. decreases the setting time
3. minimizes the formation of oxides
4. increases plasticity

Ans: 2

300: The Vickers hardness number of a tempered steel bur is 800, whereas that of a tungsten carbide bur is?

- 1: less than 1000
- 2: 5000-6000
- 3: 900-1100
- 4: 1500-1600

Ans: 4