

Dental Material MCQs

358. The primary oxygen scavenger In noble metal casting alloys is?

- 1: iron
- 2: zinc
- 3: copper
- 4: silver
- 5. rhenium

Ans: 2

359. Sulfates added to agar hydrocolloids, serve as?

- 1: plasticizers
- 2. shrinkage controllers
- 3. plaster hardeners
- 4. stress reducers
- 5. Strengtheners

Ans: 3

360. The color stability of self-curing resins is inferior to that of heat-curing resins because of the?

- 1: less time required for curing
- 2: breakdown of benzoyl peroxide
- 3. evaporation of monomer
- 4. oxidation of tertiary amine
- 5. all of the above

Ans: 4

361. An excellent polishing agent for noble metal alloys is?

- 1: corundum
- 2. aluminium oxide
- 3. rouge
- 4. Silica

Ans: 3

362. A greater amount of cross-linking agent is used in resin teeth, in order to?

- 1: reduce their tendency to crazing
- 2. facilitate their bonding to the denture base
- 3. increase their flexibility
- 4: all of the above
- 5. none of the above

Ans: 1

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363. All of the following are characteristics of eutectic alloys, except?

- 1: The temperature at which eutectic occurs is lower than the fusion temperature of either constituents
- 2: they are generally brittle
- 3: alloy solidifies at a constant temperature
- 4: components exhibit complete solid solution but limited liquid solubility
- 5: none of the above

Ans: 4

364. Type IV gold casting alloys are used fabricating?

- 1: short span bridges
- 2: removable partial denture
- 3: inlays
- 4: 3/4 crowns

Ans: 2

365. Gypsum in investment acts as?

- 1: filler
- 2: binder
- 3: refractory
- 4: Reactor

Ans: 2

366. The BIS-GMA resin system is based upon?

- 1: bisulfate and glycol methacrylate
- 2: boron isomeric sulfur and glycid methacrylate
- 3: bisphenol A and glycidyl methacrylate
- 4: bisostearate and gamma methacrylate

Ans: 3

367. All of the following are disadvantages of the fluid resin technique of processing dentures, except

- 1: intraocclusion in the denture
- 2: incomplete flow of the material over the necks of teeth
- 3: poor bonding of teeth to resin
- 4: complicated deflasking procedures
- 5: none of the above

Ans: 4

368. Metal spatulas are not used for mixing two paste system composite resins, as?

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- 1: the mix may discolor
2. the metal may corrode because of the acids in the resin
3. heat from the metal may be transferred to the mix
4. none of the above, metal spatulas can be used

Ans: 1

369. Direct filling gold foil is heated in a flame, prior to filling in the cavity, to?

- 1: sterilize the gold
2. strain harden the noble metal
3. remove surface impurities
4. promote grain growth
5. all of the above

Ans: 3

370. A homogenized amalgam filling material as compared to an un-homogenized amalgam filling material?

- 1: has greater flow
2. is more technique sensitive
- 3: has no advantage over an un-homogenized one
4. requires less mercury for trituration

Ans: 4

371. Alginate impression materials?

- 1: are muco-compressive in comparison to zinc oxide-eugenol
2. are more dimensionally accurate than reversible hydrocolloids
3. are hydrophilic
4. should not be removed from the mouth till at least 15 minutes after gelation

Ans: 3

372. Recommended W/P ratio is lowest for?

- 1: Type I plaster
2. Type II plaster
3. Type III stone
4. Type IV stone
5. Type V stone

Ans: 5

373. Acrylic resin restorations are compatible with all of the following, except?

- 1: Alcohol
2. zinc phosphate cement
3. copal varnish

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- 4. eugenol
- 5. calcium hydroxide

Ans: 4

374. In dental porcelain, metallic oxides provide?

- 1: color and increase strength
- 2. color but decrease strength
- 3. a refractory skeleton and give color
- 4. refractory skeleton and increase strength

Ans: 1

375. The characteristic that refers to the strength or degree of saturation for a particular hue, is termed?

- 1: value
- 2. chroma
- 3. shade
- 4. Color

Ans: 2

376. The most desirable property of zinc oxide-eugenol paste is that?

- 1: it is pleasing for the patient
- 2. separation of the stone cast from the impression is very easy
- 3. it has high degree of strength
- 4. clean up is very easy
- 5. there is no significant dimensional change subsequent to hardening

Ans: 5

377. A major disadvantage of inlay casting wax is its?

- 1: low thermal conductivity
- 2. flow
- 3. high thermal expansion
- 4. Hardness

Ans: 3

378. Which of the following materials is mixed with a vigorous figure-eight motion?

- 1: Calcium hydroxide cement
- 2. Alginate hydrocolloid
- 3. Dental plaster
- 4. Zinc phosphate cement
- 5. Phosphate bonded investment

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Ans: 2

379. Synthetic resins are used as restorative materials, principally because of their superior?

- 1: dimensional stability
2. bonding characteristics
3. esthetics
- 4: strength
5. fracture resistance

Ans: 3

380. Fracture of a metal having a granular appearance with little reduction in area at the site of fracture, is termed

- 1: tensile fracture
2. Inter-granular fracture
3. ductile fracture
4. brittle fracture

Ans: 4

381. Oxides of all of the following elements in noble metal alloys help in bonding to porcelain, except?

- 1: nickel
2. iron
3. tin
4. iridium

Ans: 1

382. The binder in phosphate investments is?

- 1: cristobalite
2. magnesium oxide and mono-ammonium phosphate
3. manganese dioxide and phosphoric acid
4. alpha or beta hemihydrate

Ans: 2

383. An agar hydrocolloid impression should be stored?

- 1: In a 2% potassium sulfate solution
2. at room temperature and normal atmospheric pressure
3. in 100% relative humidity
4. in any antiseptic solution
5. in a bowl of clean water

Ans: 3

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384. Warpage of the maxillary denture, as the stresses are relieved, is most likely to result in an inaccurate fit in the region of the?

- 1: buccal flange
2. alveolar ridge
3. palate
4. labial flange

Ans: 3

385: The composition of the bonding agent, employed for composite resins is?

- 1: basically that of the filler of its companion composite resin
2. styrene rubber and a coupling agent
3. basically that of the matrix of its companion composite resin
4. Poly-vinyl siloxane and a thinner

Ans: 3

386. The desired polymer structure of denture base resins is?

- 1: face centered cubic
2. fluid
3. body centered cubic
4. Non-crystalline
5. Crystalline

Ans: 4

387. The wax with the lowest melting point is

- 1: carnauba wax
2. bees wax
3. paraffin wax
4. synthetic wax

Ans: 3

388. The dimensional change of an amalgam restoration is influenced by all of the following, except?

- 1: particle size
2. amount of copper
3. trituration and condensation
4. amount of mercury present
5. moisture contamination

Ans: 2

389. When flasking and packing acrylic resin dentures a separating medium is used. It performs all of the following functions. except to?

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- 1: prevent the monomer from soaking into the investing plaster
2. reduce the thickness of the resin flash
3. prevent the water of the investing plaster from affecting the polymerization
4. prevent the plaster of one half of the flask from adhering to the plaster of the other half
5. none of the above

Ans: 2

390. The initiator used in visible light cured resins is?

- 1: benzoyl peroxide
2. benzoin methyl ether
3. aromatic ketones
4. biacetyl
5. tertiary amines

Ans: 1

391. When inlay wax is softened in a water bath, which of the following is the least harmful of the consequences?

1. Distortion of the pattern upon thermal changes
2. Smearing of the wax surface upon polishing
3. Leaching out of plasticizers
4. Spattering of the wax upon flaming

Ans: 3

392. The working time of a heat-curing resin mix, is the time?

- 1: from the start of mixing till the polymerization begins
2. from stringy state till the material reaches tacky stage
3. from mixing till the mass sets
4. till the material remains in doughy stage

Ans: 4

393. All of the following processes can be performed at room temperature, except?

- 1: work hardening
2. forging
3. cold working
4. strain hardening

Ans: 2

394. The rate of abrasion can be increased by increasing the?

- 1: size of the abrasive particles
2. speed of the bur or wheel
3. pressure of the work

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

Ans: 4

395. When a gelatin sol changes to gel form, the dispersed phase agglomerates to form chains or fibrils, termed?

- 1: stellites
- 2. micelles
- 3. syngenites
- 4. hysteresis
- 5. Brushites

Ans: 2

396. Crazing of dentures occurs as a result of?

- 1: leaching out of the plasticizer
- 2. relaxation of surface stresses
- 3. high polymer-monomer ratio
- 4. dipping the denture in water
- 5. stresses incorporated above the glass transition temperature of resin

Ans: 2

397. Rare earth magnets used in over-denture retention, are made from?

- 1: palladium-iridium-iron alloys
- 2. silicon-germanium alloys
- 3. cobalt-samarium alloys
- 4. ruthenium-molybdenum-zirconium alloys

Ans: 3

398. Elastomeric impressions can be safely disinfected by?

- 1: immersion in 2% glutaraldehyde for 10 minutes
- 2. overnight ethylene oxide gas sterilization
- 3. autoclaving
- 4. spraying phenol

Ans: 1

399. The polymerization reaction of methyl methacrylate is inhibited in the presence of ?

- 1: impurities
- 2. oxygen
- 3. hydroquinone
- 4. all of the above
- 5. none of the above

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Ans: 4

400. Increasing the polymer/monomer ratio will reduce?

- 1: formaldehyde release from self-curing resins
2. reaction time of heat-curing resins
3. shrinkage of heat-curing resins
4. all of the above
5. none of the above

Ans: 4

401. For visible light cured resins, the light has a wavelength of?

- 1: 700 nm
2. 400 nm
3. 200 nm
4. 850 nm

Ans: 2

402. Water contamination of amalgam restoration during trituration or condensation, resulting in pain, occurs mostly with?

- 1: zinc containing alloys
2. high copper alloys
3. Non-copper alloys
4. zinc free alloys

Ans: 1

403. Usually gold casting alloys are solutions heat treated, by heating at?

- 1: 700 °C for 2 min and then quenching in water
2. 400°C for 30 min and then slow cooling to room temperature
3. 700°C for 10 min and then quenching
4. 400°C for 15 min and then quenching it in water

Ans: 3

404. The strength of alginate gel is increase?

- 1: if too much water is used in mixing
2. because of insufficient spatulation
3. due to prolonged spatulation
4. if too little water is used in mixing
5. none of the above

Ans: 5

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405. Which of the following is true regarding the measurement of working time and setting time of elastomeric impression materials?

- 1: Setting time is measured at room temperature and working time at mouth temperature
2. Working time is measured at room temperature and setting time at mouth temperature
3. Both working and setting times are measured at mouth temperature
4. Both working and setting times are measured at room temperature

Ans: 2

406. The greatest risk of toxic reactions from the mercury used in amalgam restorations, is for?

- 1: patients getting their teeth restored
2. dentists and their auxiliaries
3. laboratory technicians
4. patients and their attendants in the waiting area

Ans: 2

407. Denture base resins used in injection molding technique are?

- 1: polystyrenes
2. polycarbonates
3. vinyl resins
4. acrylic resins

Ans: 1

408. Which of the following is an advantage which the silicone impression materials have over mercaptans?

- 1: Longer working time
2. Better odor
3. Easier to pour in stone
4. Decreased elasticity

Ans: 2

409. Porcelain denture teeth

- 1: should be used where inter-alveolar clearance is small
2. are very easy to grind and polish
3. have a higher coefficient of thermal expansion than resin teeth
4. have a lower abrasion resistance than dentin
5. are more resistant to abrasion than gold

Ans: 5

410. The temperature at which a solid changes to liquid is known as its?

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- 1: vapour temperature
2. heat temperature
3. fusion temperature
4. temperature of specificity

Ans: 3

411. All of the following criteria may be used in the classification of dental porcelains, except?

- 1: fusion temperature
2. firing atmosphere
3. color
4. use
5. none of the above

Ans: 3

412. All of the following organizations are responsible for the establishment of specifications for dental materials, except?

- 1: IDMA
2. FDI
3. ANSI
4. ISO
5. none of the above

Ans: 1

413. When the bottle containing liquid for zinc phosphate cement is left open for a long time, water absorption by the liquid is evidenced by?

- 1: crystal formation on the walls of the bottle
2. increased viscosity of the liquid
3. general cloudiness of the liquid
4. all of the above
5. none of the above

Ans: 5

414. When mixing addition silicone impression materials, how should the base paste and catalyst paste be proportioned?

- 1: Equal lengths of the two pastes are taken
2. Equal volume of the two pastes is mixed
3. Equal weights of the two pastes are taken
4. The ratio of the two pastes is not critical if spatulation is proper

Ans: 1

415. The percentage of hydroquinone added to pure methyl methacrylate in dental is less than

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- 1: 0.01%
- 2: 0.006%
- 3: 0.8%
- 4: 2.3%

416. If of a similar composition, which would be stronger, cast gold or wrought gold wire?

- 1: Wrought wire would be stronger because of the cold working effect
- 2. Cast gold would be stronger because of heat treatment
- 3. Cast gold would be weaker as it cannot be cold worked
- 4. Both would be of similar strength

Ans: 1

417. Nickel in high percentages, in noble metal dental casting alloys?

- 1: increases ductility
- 2. decreases tarnish resistance
- 3. decreases strength
- 4. all of the above

Ans: 2

418: The expansion of phosphate bonded investments can be increased by ?

- 1: using distilled water for mixing
- 2. increasing the mixing time
- 3. using colloidal silica for mixing
- 4. using phosphoric acid for mixing

Ans: 3

419. An alloy contains 18 parts gold and 6 parts other metals. The alloy is?

- 1: 200 fine
- 2. 180 fine
- 3. 1000 fine
- 4. 600 fine
- 5. 750 fine

Ans: 5

420. What is the temperature to which gypsum investment mold is heated in the low heat technique of casting?

- 1: 650°C
- 2. 350°C
- 3. 500°C
- 4. 900°C

Ans: 3

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421. Which of the following Impression material is of the elastic type?

- 1: impression plaster
2. Agar hydrocolloid
3. Impression wax
4. Zinc oxide – eugenol

Ans: 2

422. Which type of stainless steel is most susceptible to corrosion?

- 1: Ferrite
2. Martensite
- 3: 18-8 steel
4. Austenite

Ans: 2

423. Each crystal of a polycrystalline metal is termed?

- 1: dendrite
2. grain
3. bush
4. seed

Ans: 2

424. The best method of reducing the final mercury content of an amalgam restoration is?

- 1: to reduce the original mercury/alloy ratio
2. by squeezing out excess mercury from the mixed amalgam using a squeeze cloth
3. by burnishing the final restoration, thus bringing the excess mercury to the top
4. by using a chamois leather to squeeze Out excess mercury from the mix

Ans: 1