1: 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 becomes 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: Zn3(PO4)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

21. Sodium N-lauroyl sarcosinate is used in dentifrice pastes as a
1. detergent
2. humectant
3. therapeutic agent
4. Binder
Ans: 1

22: During the casting of noble metal alloys, the mold should be held at the burn out temperature for at least
1. 15 minutes
2. 60 minutes
3. 3 hours
4. 6 hours
Ans: 2

23: In general the hygroscopic expansion of gypsum investments will be higher if they contain
1. coarser silica particles and alpha hemihydrate
2. finer silica particles and alpha hemihydrate
3. coarser silica particles and beta hemihydrates
4. liner silica particles and beta hemihydrate
Ans: 4

24: The cement capable of forming a chemical bond with tooth structure is
1. reinforced zinc oxide eugenol cement.
2. silicophosphate cement
3. polycarboxylate cement
4. composite resin cement
Ans: 3

25: Quartz in dental porcelain acts as a
1. binder
2. frit
3. opacifier
4. Strengthener
Ans: 4

26: The principal strengthening phase of Cerestore, an injection molded ceramic material, are
1. aluminium oxide and silicon oxide
2. magnesium silicate and beta-aluminium
3. alpha-alumina and magnesium aluminate Spinel
4. none of the above
Ans: 3

27: Which of the following resins may be classified as thermosetting?
1. Polystyrenes
2. Vinyl resins
3. Epoxy resins
4. Impression compound
5. None of the above
Ans: 3

28: A dental appliance containing metals or soft lining materials, should not be cleaned with denture cleansers containing
29: A dental restoration may be tarnished because of
1. deposition of calculus
2. surface discoloration
3. formation of oxides or sulfides
4. deposition of pigment producing bacteria
5. all of the above
Ans: 5

30: An agar hydrocolloid impression should never be removed from the mouth by a teasing or weaving method because this can result in distortion of the impression.
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: 1

31: The curing rate of most of the elastomeric impression materials can be accelerated by
1: mixing on a chilled, dry glass slab
2. the addition of thinners
3. the addition of a drop of water during mixing
4. mixing at a low room temperature
5. none of the above
Ans: 3

32: The principal hardener in noble metal casting alloys is
1. brass
2. iron
3. silver
4. copper
5. Platinum
Ans: 4

33: The color of which of the following metals is not white or one of the shades of white?
1. Nickel
2. Tin
3. Aluminium
4. Zinc
5. None of the above
Ans: 5

34: Which of the following may result in the expansion of an amalgam restoration made with zinc free alloys?
1. Moisture contamination during conden-sation
2. High alloy/mercury ratio
3. Marginal leakage
4. Insufficient trituration
5. All of the above
Ans: 4

35: Resins which soften when heated and set on cooling, are termed
1: thermoset resins
2. irreversible resins
3 thermoplastic resins
4. etastoMeric resins
5. thermostetting resins
Ans: 3

36: A compressive stress is always accompanied by
1. an elastic strain
2. a compressive strain
3: a shearing strain
4: a tensile strain
Ans: 2

37. Which of the following is true about chemical adhesion of restorative materials?
1. Chemical adhesion to tooth structure is never possible
2. Acid etching of enamel produces chemical adhesion
3. Resins exhibit chemical adhesive properties to hard tooth structure
4. Materials containing fluoride will show chemical adhesion to enamel
5. Polycarboxylate cements demonstrate chemical adhesion
Ans: 5

38. When softening impression compound in a water bath, the mass is kneaded with fingers in order to
1. Obtain uniform plasticity throughout the mass
2. Remove incorporated water
3. Release all undesirable stresses
4. Increase flow
5. Prevent the plasticizer from leaching out
Ans: 1

39: Self-cured and heat-cured acrylic res-ins are most similar in respect of which of the following properties?
1: Color stability
2. Curing shrinkage
3. Transverse strength
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Reference: Vijay Pratab Singh Mcqs in Dentistry
4. Internal porosity
5. Hardness
Ans: 5

40: During the setting of gypsum, the mass thickens and then hardens into needle like clusters called
1. spicules
2. crystallites
3. spherulites
4. Satellites
Ans: 3

41: Which of the following colloidal solutions can be termed aerosol?
1. Liquid in solid
2. Gas in liquid
3. Liquid in air
4. Solid in liquid
5. None of the above
Ans: 3

42: Which of the following is required for the crosslinking of condensation silcone elastomers?
1: Platinum oxide
2. Tin octoate
3. Copper dioxide
4. Calcium sulfate
5. Lead
Ans: 2

43: Fins or spines may be produced on a casting because of
1. cracks in the investment
2. too rapid heating of the mold
3. steam production which causes the walls of the mold to flake off
4. all of the above
Ans: 4

44: Zinc phosphate cement powder contains all of the following, except
1. zinc oxide
2. magnesium oxide
3. bismuth oxide
4. aluminium phosphate
5. none of the above
Ans: 4

45: Dental porcelains are manufactured by a process, termed
1. frilling
2. fusing
3. vulcanizing
4. Sintering
Ans: 1

101: Which of the following is true regarding the use of flux for melting noble metal alloys?
1: It is added when the alloy has completely melted
2. It is used only with old metal
3. It is used only with new metal
4. It is added before melting the alloy
Ans:1

102: The water content of most liquids, for zinc phosphate cements, is?
1: 15 ± 3%
2: 33 ± 5%
3. 50 ± 5%
4. 66 ± 10%
Ans: 2

103: Addition of manganese oxide would give which shade to porcelain?
1: Blue
2. Grayish white
3. Lavender
4. Green
Ans: 3

104: The material of choice for root form dental implants is
1. cobalt-chromium-molybdenum alloys
2. stainless steel
3. ceramics
4. titanium
5. tantalum-zirconium-carbon alloys
Ans: 4

105: The final product formed by the polymerization of a phenol formaldehyde rosin. 'Bakelite', is termed
1. mers
2. essole
3. densite
4. resole
5. resite
Ans: 5

106: Commercial denture cleansers which liberate nascent oxygen, clean dentures by
1. dissolving organic debris
2. bactericidal action
3. chelating action
4. Mechanical action
Ans: 4

107: The principal corrosion product of dental gold alloys that contain silver, is?
1. silver chloride
2. silver sulfide
3. hydrogen sulfide
4. silver dioxide
Ans: 2

108: In noble metal casting alloys, platinum may be substituted by the
1. palladium
2. carbon
3. gallium
4. nickel
5. Iron
Ans: 1

109: Alginate Impression materials dextrorotate rapidly at elevated temperatures, probably due to depolymerization of the alginate constituent?
1. Both the statement and reason are correct
2. The statement is correct but reason is not correct
3. The statement is not correct but the reason is correct
4. Both the statement and reason are incorrect
Ans: 2

110: Patients dislike the odor and taste of which Impression material?
1. Polysulfides
2. Polyethers  
3. Alginates  
4. Addition silicones  
5. None of the above  
Ans: 1

111: Which of the following materials would have the least change in dimension because of changes in mouth temperature?  
1: Acrylic resin  
2. Gold inlay  
3. Composite resin  
4. Amalgam  
5: Silicate cement  
Ans: 5

112: If porcelain is to be fused to metal, which of the following properties of porcelain and metal should be similar?  
1: Color  
2: coefficient of thermal expansion  
3. Modulus of rupture  
4. Young's modulus  
5. Compressive strength  
Ans: 2

113: The strongest phase in dental amalgam is?  
1: gamma  
2: beta 1  
3: gamma 1  
4: alpha 2  
5: gamma 2  
Ans: 1

114: The primary corrosion products of amalgam are?  
1: silver chloride or fluoride  
2: copper sulfates  
3: oxides and chlorides of tin  
4. zinc and silver dioxide  
Ans: 3

115: Zinc oxide eugenol pastes should not be used as?  
1: a surgical dressing  
2. a permanent filling material  
3. a bite registration paste  
4. a temporary relining material for dentures  
5. an impression material  
Ans: 2

116: Creep is associated with?  
1: flow of molten alloy along the sprue  
2. contact angle measurement  
3. slump occurring in porcelain glasses  
4: marginal breakdown of amalgam
5. expansion of the investment mold
Ans: 4

117: Which of the following hardness tests uses a hardened steel ball indenting tool?
1: Rockwell hardness test
2. Vickers hardness test
3: Brinell hardness test
4. Knoop hardness test
5. Bierbaum hardness test
Ans: 3

118: The green strength of a gypsum product refers to its?
1: wet strength
2. actual strength
3. dry strength
4. apparent strength
Ans: 1

119: Which of the following would retard the setting reaction of zinc oxide - eugenol?
1: Rosin
2. High humidity
3. Glacial acetic acid
4. Primary alcohols
5: None of the above
Ans: 5

120: The cross linking reaction of poly-sulfide elastomers can be made more effective by the addition of
a small amount of
1: tin
2. lead
3: sulfur
4. fluoride
5. Platinum
Ans: 3

121: The sprue former should be attached to the wax pattern?
1: on a flat surface
2. in an area where the anatomy is not critical
3. at the thinnest point
4. on any proximal surface
5: at the point of greatest bulk
Ans: 5

122: The film thickness for a luting cement should not be greater than?
1: 100 micrometer
2: 1.5 um
3: 25 um
4: 500 um
Ans: 3

123: In PFM (porcelain fused to metal) restorations, the porcelain bonds to metal by?
1: mechanical bonding
2. chemical bonding
3. compressive bonding
4: all of the above
Ans: 4

124: What should be the relation of the modulus of elasticity of a cement base and that of the restorative material?
1: There is no relation at all
2. The restorative material must have a higher modulus
3. The cement base must have a higher modulus
4.The modulus must be equal
Ans: 4

125: The property of flow is most important in?
1: waxes
2. zinc oxide - eugenol cements
3. investments
4. gold alloys
Ans: 1

126: When liquefying agar hydrocolloid gel, it should not be boiled for more than 10 minutes, as this may result in?
1: decrease in strength
2. incorporation of undesirable stresses
3. leaching out of the plasticizer
4. all of the above
5: none of the above
Ans: 5

127: An elastomeric impression will be more accurate if it is?
1: removed as soon as it sets
2. removed after 8-10 minutes
3: allowed to remain in the mouth for a longer time
4. time in mouth is not critical for accuracy
Ans: 3

128: An alloy is a solid mixture of?
1: two or more metals, one at which it mercury
2. three or more metals, one of which is gold
3: two or more metals
4. two or more metals, one of which is amalgam
Ans: 3

129: Methyl methacrylate based denture base resins contain all of the following. Except?
1: glycol dimethacrylate
2. dibutyl phthalate
3. benzoyl peroxide
4. pure methyl methacrylate
5: sodium silicate
Ans: 5

130: When mixing dental stone, if the water-powder ratio is increased, the?
1: compressive strength is increased
2. surface hardness is increased
3. setting time is decreased
4, setting expansion is decreased
Ans:4

131: What is the name given to the technique in which acrylic resin is softened by heat and introduced into flasks under pressure?
1: Fluid resin technique
2. Vacuum molding technique
3. Compression molding technique
4. Pressure technique
5: Injection molding technique
Ans: 5

132: Following casting, the gypsum mold is quenched in water when the button emits a
1: dull red glow
2. cherry red glow
3. light orange glow
4. dull grey glow
Ans:1

133: Which ingredient is added to Inlay wax to improve its smoothness during molding ?
1: Paraffin wax
2. Gum dammar
3. Candelilla wax
4. Carnauba wax
5. Ceresin
Ans: 2

134: When making an impression, the impression compound should be placed in the patient's mouth at
1: 75°C
2. 100.4°C
3. 37°C
4: 45°C
5: 60°C
Ans: 4

135: Sometimes a die larger than the prepared tooth is desired, to aid in compensating for the .
1: casting shrinkage of the alloy
2. dimensional change of the impression
3. warpage of the wax pattern
4. expansion of the mold
Ans:1

136: The phosphate investment clinging to base metal castings is cleaned by?
1: dipping in cold hydrofluoric acid
2. grinding with a bur or stone
3. heating in hydrochloric or sulfuric acid
4: sand blasting
Ans:4

137: The high initial solubility of silicate cements is attributed to the?
1:acid-base nature of the setting reaction
2: rather long time required for the setting reaction to go to completion -
3. low coefficient of thermal expansion of the cement

4. high water content of the cement liquid
   Ans: 2

138: During the trial packing of resin into a mold, the excess which flows into the land surrounding the mold space. is termed?
   1: sprinkle
   2. sheet
   3. rosin
   4. trim
   5: flash
   Ans:5

139: An alloy in which the atoms of two metals intermingle randomly in a common space lattice, and the metals are soluble in each other in the solid state, is termed?
   1: intermetallic compound
   2. eutectic alloy
   3: solid solution
   4. peritectic alloy
   Ans:3

140: The primary reason why conventional porcelain alone is not used as a crown and bridge restorative material, is its?
   1: microleakage
   2,. lack of strength
   3. complicated fabrication technique
   4. extreme hardness
   5. lack of ductility
   Ans: 2

141: Sand is used for the polishing of?
   1: noble metal alloys
   2. amalgam restorations
   3. resin dentures
   4: base metal alloys
   Ans:4

142: Strain hardening of a metal would result in an increase in its?
   1: elastic modulus
   2: ductility
   3. resistance to corrosion
   4: strength
   Ans: 4

143: Fillers are added in composite resins to?
   1: inhibit deformation of the matrix
   2. reduce the coefficient of thermal expansion of the resin matrix
   3: both of the above
   4. none of the above
   Ans:3

144: The creep rate of an amalgam restoration decreases when the?
   1: mix is overtriturated
2. time lag between trituration and condensation is more
3. mercury content of the mix is increased
4. mix is slightly undertriturated
5. condensation pressure is increased
Ans: 5

145: Which of the following statements is not true regarding addition polymerization reaction?
1: There is no change in the composition
2: Byproducts are formed
3. The reaction is exothermic
4. The reaction can be activated by UV light
5. None of the above
Ans: 2

146: Which of the following resins are bio-degradable?
1: Cyanoacrylates
2. Polyurethanes
3. Polycarbonates
4. Polystyrenes
5. Epoxy resins
Ans: 1

147: Microfilled composites contain filler particles with diameters in the range of?
1: 4 - 20 um
2: 0.04 - 0.06 um
3: 20 - 80 um
4: 0.8 - 6 um
Ans: 2

148: Poly (methyl methacrylate) resin despite having a high volumetric curing shrinkage, can be used to produce clinically satisfactory dentures because?
1: shrinkage will be distributed uniformly over all surfaces of the denture
2. when packed under pressure the shrinkage will be reduced to acceptable levels
3. the separating media used, reduces the shrinkage
4. the heat employed in polymerization reduce the shrinkage
Ans: 1

149: When restoring a cavity with direct filling gold, transverse strength and density would be greater, when?
1: combination of mat gold and electrolytic gold are used
2. powdered gold is used alone
3. gold foil is used alone
4: combination of mat gold and gold toil are used
Ans: 4

150: When curing dentures, the surface or subsurface porosities occurring with the fluid resin technique, are commonly due to?
1: lack of adequate pressure during polymerization
2: failure to expel air inclusions incorporated during pouring of the resin
3. lack of homogeneity in the dough or gel
4. a definite lack of dough or gel in the mold at the time of final closure
Ans: 2

151: Of the following, the most ductile metal is?
1. silver
2. palladium
3. platinum
4. Gold
Ans: 4

152: A desirable characteristic of Type II (Type B) inlay waxes used in the direct technique is that, they should?
1. have a color which matches that of the tooth
2. have a flow of less than 1% at 37°C
3. have a flow of at least 50% at 45°C
4. have a high coefficient of thermal expansion
Ans: 2

153: Which of the following methods of manufacturing results in the hardest type of dental stone?
1. Calcining gypsum in open vats
2. Calcining gypsum in a 30% solution of calcium chloride
3. Direct mining from the earth
4. Calcining gypsum in a pressure pot under 20 lbs/inch^2 pressure
Ans: 2

154: The strength of zinc oxide - eugenol cements can be substantially increased by?
1. increasing the spatulation lime
2. the addition of orthoethoxy benzoic acid
3. using a lower powder/liquid ratio
4. addition of a drop of water to the mix
Ans: 2

155: Color matching should be done under two or more different light sources because of the phenomenon of?
1. radiance
2. Fluorescence
3. metamerism
4. eye fatigue
5. Munsell effect
Ans: 3

156: How many calories of heat are required to vaporize 1 gm of water at 100°C?
1. 1080
2. 270
3. 860
4. 540
Ans: 4

157: Zinc oxide-eugenol paste is better than wax for making interocclusal records primarily because it
1. can be easily removed from undercuts
2. is more stable dimensionally
3. records surface detail better
4. offers no resistance to closing of the mandible
5. requires lesser time to set
Ans: 4

158: Which of the following materials provides body and strength to reversible hydrocolloids?
1: Borax
2. Agar agar
3. Water
4. Lead dioxide
Ans: 1

159: A buffering agent present in the liquid for silicate cements is?
1: aluminium phosphate
2. silicon dioxide
3. aluminium trioxide
4. silicon trioxide
5. calcium fluorophosphates
Ans: 1

160: What is the maximum permissible flow of impression compound (Type 1) at mouth temperature?
1: 1%
2. 3%
3: 16%
4. 18%
5. 40%
Ans: 3

161: The casting ring with the mold is placed in the furnace with the sprue hole
1: down
2. at an angle of 45°
3. up
4. Sideways
Ans: 1

162: The gelation temperature of colloid Impression material agar hydrocolloid should be
1 far below the oral temperature
2: 37.45°C
3: 10°C higher than mouth temperature
4. 45-60°C
5. above plaster setting temperature
Ans: 2

163: When mixing self-curing resins, decreasing the temperature of the mixing jar, would?
1: prolong the initiation period and dough forming time
2. prolong the initiation period and shorten the dough forming time
3; shorten the initiation period and prolong the dough forming time
4. shorten the initiation period and dough forming time
Ans: 1

164: In the polymerization of two monomers. if identical monomer units occur in relatively long
sequences along the main polymer chain, the type of copolymer formed, is termed?
1: selective
2: block
3. random
4. bridge
5. Graft
Ans: 2

165: When processing a mandibular denture from heat-curing resin by compression molding, 
porosities
due to the boiling of monomer are most likely to occur in the?
1: buccal flange area
2. region around the necks of teeth
3. anterior region of the lingual flange
4: posterior lingual flange area
5. region of labial, flange
Ans: 4

166: Any of the following may occur with agar based impression material excep?
1: imbibition
2: recrystallization
3. Hysteresis
4: syneresis
5. none of the above
Ans:2

167: All of the following are inorganic phases used in composite resins, except?
1: quartz
2. borosilicate
3. lithium aluminium silicate`
4: BIS-GMA resin
5. none of the above
Ans: 4

168: Which of the following least influences the setting time of zinc oxide-eugenol impression paste?
1: Rosin content
2. Presence of moisture
3. Change in ratio of the two pastes
4. Mixing time
5. Amount of calcium chloride
Ans:1

169: Silicate cement restorations should never be used?
1: adjacent to caries susceptible areas
2. in esthetically critical areas
3: in mouth breathers
4. in persons with bruxismal tendencies
Ans: 3

170: A dental amalgam restoration (lathe cut alloy) will have higher strength if?
1: The mix is slightly overtriturated
2: higher condensation pressure is used
3. the mix is undertriturated
4. the mix has a high mercury to alloy ratio
Ans: 2

171: The best method of avoiding air bubbles in a gypsum mold is to?
1: use vacuum investing technique
2. use a mechanical mixer
3. vibrate the mix before and after mixing
4. vibrate the invested wax pattern on a vibrator
Ans:1

172: Impression compound should flow easily to?
1: duplicate undercuts
2. ensure uniform cooling
3. ensure that deformation is completely elastic
4. avoid incorporation of stresses
5: record surface detail accurately
Ans: 5

173: All of the following abrasives may be used in dentifrices, except?
1: calcium carbonate
2: sodium lauroyl sulfate
3. tricalcium phosphate
4. magnesium oxide
5. calcium pyrophosphate
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Reference: MCQs of Dental Materials by Vijay Pratab Singh
Ans: 2

174: A compound used as an activator in UV light cured resins is?
1: camphoroquinone
2: alkyl benzoin ether
3. heat
4. diketone
5. tertiary amine
Ans: 2

175: The primary advantage of microwave polymerization of resins over conventional hot water polymerization is that, microwave curing?
1: decreases porosity
2: is cleaner and faster
3. produces vastly superior strength and fracture resistance of resins
4. produces superior fit
Ans: 2

176: Pyroplastic flow of porcelain is decreased by the addition of?
1: soda form of feldspar
2. boric acid
3: potash form of feldspar
4: quartz
Ans: 3

177: Glass ionomer cements are primarily used for?
1: temporary restorations
2: restoring eroded areas
3. pulp capping
4. thermal insulating bases
Ans: 2

178: The chief ingredient of an irreversible hydrocolloid impression material is?
1: sodium alginate
2. potassium oxalate 3: borax
4: calcium sulfate
5. zinc oxide
Ans: 1
179: Methyl methacrylate resins are used for all of the following, except?
1: for the manufacture of teeth
2: as impression materials
3: for constructing impression trays
4: as filling materials
5: none of the above
Ans: 2

180: Gold casting alloys can be age hardened by heating at?
1: 500°C for 10 min followed by slow cooling to room temperature
2: 300°C for 1 hour followed by slow cooling to room temperature
3: 750-900°C for 5-10 min and then quenching in water
4: 200-450°C for 15-30 min and then quenching in water
Ans: 4

181: When die spacers are used, the gypsum die is coated with resin?
1: only on the enamel surfaces
2: to within 0.5 mm of the margin
3: Upto 1.0mm cervical to the gingival finish line
4: onto the exposed portion of the tooth on the die
Ans:2

182: Which of the following components of alginate impression material may be a possible health hazard?
1: Alginic acid
2: Triethanol amine
3: Silica
4: Anise
5: None of the above
Ans: 3

183: Butyl rubber dissolved in chloroform is used as a tray adhesive, when making an impression with
1: agar hydrocolloids
2: addition silicones
3: polysulfides
4: condensation silicones
5: Alginate
Ans: 3

184: Pyroplastic flow of dental porcelain?
1: will be high if the soda/potash ratio is less
2: is determined by the soda form of feldspar
3: is determined by the potash form of feldspar
4: is determined by the quartz form
5: should be high
Ans: 3

185: When cristobalite is heated to 300°C, it?
1: exhibits slight shrinkage
2: changes from beta to alpha form
3: decreases in density
4: inverts from a high form to a low form
Ans: 3
186: The sol to gel transformation in the case of reversible hydrocolloids, is a function of?
1: time
2. water content
3. potassium sulfate concentration
4. silica content
5. temperature
Ans: 5

187: A high mercury to alloy ratio in dental amalgam will result in?
1: more of the gamma phase being available
2: more matrix material being formed
3. high strength
4. low expansion
5. high corrosion resistance
Ans: 2

188: Which of the following characteristics of a dental resin does not play a major role in determining its physical properties?
1: Degree of polymerization
2. Chain structure
3. Degree of crosslinking
4: Solubility
5. Molecular weight distribution
Ans: 4

189: A composite, restorative material essentially contains?
1: inorganic filler, organic filler, coupling agent
2. polymerizing resin, catalyst, pigment
3. resin matrix, activator, filler
4: filler, resin binder, coupling agent
Ans: 4

190: An example of a eutectic alloy system is, silver and?
1: copper
2. tin
3. platinum
4. Gold
Ans: 1

191: Biological tests in which the material is evaluated in experimental animals under conditions that simulate the clinical use of the material, are termed?
1: Level I tests
2. Level II tests
3. Level III tests
4. Level IV tests
Ans: 2

192: The first manifestation that plaster has deteriorated from storage in a humid environment is?
1: decrease in hardness
2. a decrease in the setting time
3. a change in color
4. an increase in porosity
Ans: 2
193: The mixing of which of the following non-aqueous elastomeric impression materials is different from that of others?
1. Addition silicones
2. Condensation silicones
3. Polysulfides
4. Putty silicones
5. None of the above
Ans: 4

194: Polycarboxylate cement powder contains all of the following, except?
1. stannic oxide and stannous fluoride
2. magnesium oxide
3. potash alum
4. polyacrylic acid
5. zinc oxide
Ans: 3

195: The principal requisite for a die stone is?
1. high setting expansion
2. low porosity
3. high flow
4. great strength and hardness
5. controlled setting time
Ans: 4

196: Resins find use in dentistry as?
1. denture base materials
2. maxillofacial prosthetic materials
3. denture relining materials
4. All of the above
5. none of the above
Ans: 4

197: When restoring the posterior teeth in a child patient with amalgam, if it is difficult to keep the region dry, it is preferable to?
1. use zinc free alloys
2. fill the cavity in small increments
3. use automatic condensers
4. all of the above
Ans: 1

198: The ability of a direct filled gold restoration to withstand the stresses present can be best explained by which physical characteristic of gold?
1. Dendritic microstructure
2. Transverse strength of about 39,000 psi
3. Apparent density of about 15 gm/cm3
4. Knoop hardness number of 60 to 75
Ans: 2

199: Prior to investing the casting ring is lined with asbestos to?
1. prevent sliding of the investment mold
2. prevent confinement of mold expansion
3. permit easy retrieval of the casting
4. prevent cracking of the mold
5. reduce the amount of investment required for investing
Ans: 2

200: Which of the following forms of iron are soft and ductile?
1: Cementite and martensite
2. Martensite and ferrite
3. Ferrite and austenite
4. Austenite and cementite
Ans: 3

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 budses, 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 he 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
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
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 expension
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 polycarboxylate 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 is 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?
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?
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 phosphrate 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 la usually?

1: less than 35%,
2: 10 - 15%
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?
1: polysulides
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 normal 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?
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
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
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
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. Polysullides
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

Ans: 3
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?
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 derived 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?
<table>
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<tr>
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| 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 phinolic 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 into 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? |
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
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
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
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
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 powered 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?
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  

301: Acid etching procedures with a resin system do not help in?  
1: preventing thermal exchange  
5. retaining the resin  
6. providing a clean tooth surface for the resin  
4: reducing microleakage  
Ans: 1  

302. The greatest potential for marginal leakage related to temperature change occurs in?  
1: zinc phosphate cement  
5. amalgam alloy  
6. direct Ilding gold  
7. composite resin  
5, unfilled resin  
Ans: 5  

303. Porosities that may occur during the processing of a denture will result in?  
1: difficulty in proper cleaning of the denture  
6. increased warpage of the denture
7. the denture being unsightly
8. weakening of the denture
9. all of the above

Ans: 5

304. When pure metals solidify, super cooling is not necessary for?

3: homogenous nucleation
4: heterogenous nucleation
3. polygamous nucleation
4. monogamous nucleation

Ans: 2

305. A plasticizer used in methyl methacrylate resins Is?

1: ethyl silicate
3: butyl acrylate
4: alkyl sulfonate
5: ethylene methaciylate

Ans: 3

306. The function of monomer added to the heat-curing resin polymer, is primarily to?
1: produce a plastic mass that can be packed into the mold
5. start the polymerization reaction
6. reduce the porosity and increase the strength of the appliance
7. provide adhesion of the resin base to the teeth

Ans: 1

307. Compared to the interior of the grain, the grain boundaries of metals?

1: have greater impurities
4: have a more crystalline structure
5: are not as easily attacked by Chemicals
6: have lower energy

Ans: 1

308. The resistance of inlay wax to cracking and flaking is due to the addition of?

1: dammar resin
4: carnauba wax
5: ceresin
6: ivory wax

Ans: 1

309. A silicon carbide abrasive designated 180 indicates, that the?

1: particle size of silicon carbide is 180 microns
4. abrasive can pass through a sieve With 180 meshes to the inch
5. abrasive is to be used on a work with a VHN of not less than 180
6. VHN of the abrasive is 180

Ans: 2

310. Storage of alginates at higher temperatures results in the alginate constituent being?

1: coagulated
6. precipitated
7. depolymerized
8. flocculated
9. any of the above

Ans: 3

311. Which of the following will not result in processing stresses in a heat cured compression molded denture base?

1: Water sorption
4. Friction between mold walls
5. Differences in thickness of various areas of the denture
6. Localised polymerization shrinkage
7. None of the Above
Ans: 5

312. Pit and fissure sealants are based on BIS-GMA resins or?
1: polycarbonate resins
5. polyurethane resins
6. polyvinyl resins
4: polysulphide resins
Ans: 2

313. Dental burs usually have?
4. negative rake angles
5. 45° rake angles
6. 90° rake angles
7. positive rake angles
Ans: 1

314. The exchange of a hydrogen atom from one growing chain to another, in an addition polymerization, will result in chain?
1: termination
5. induction
6. transfer
7. propagation
8. cross-linking
Ans: 1

315. Which component of the denture base resin is usually implicated in the dermatitis reactions occurring in dentists or laboratory technicians handling them?
1: Pigment
3: Hydroquinone
4: Polymer
5: Benzoyl peroxide
6: Monomer
Ans: 5

316. An amalgam is an alloy?
1: of two or more metals
2. one of whose constituents is silver
6. of silver and tin
7. one of whose constituents is mercury

Ans: 4

317. The lower limit of the melting range of noble metal casting alloys is important for estimating the?

1: casting temperature
4. soldering temperature
5. firing temperature
6. welding temperature
7. none of the above

Ans: 2

318. Agar hydrocolloid gel should be liquefied by heating at?

6: 40-45°C
7: 100°C
8: 80-85°C
9: 65°C

Ans:

319. An effective retarder for the lead dioxide cured polysulfide impression materials is?

1: glycoxylic or osmic acid
6. edetic or valproic acid
7. picric or carminic acid
8. oleic or stearic acid

Ans: 4

320. The crystallization of pure molten metals begins when the temperature is?

4. at the freezing point
5. slightly below the fusion temperature
3. slightly above the solidification temperature
4. at the melting point

Ans: 2

321. The greatest stress to which a structure can be subjected and return to its original dimensions when the forces are released is the?

1: modulus of elasticity
2. elastic limit
3. stress
4. tensile strength
5. Malleability
322. When curing a denture base, if insufficient pressure is used while packing, porosity will be seen?

1: at the denture periphery
2. in the frenum areas
3. in the thickest portion of the denture
4. uniformly distributed throughout the denture base
5. at the junction of the teeth and acrylic base

Ans: 4

323. The weakest phase of set amalgam is?

1: gamma
2. gamma-1
3. gamma-2
4. beta-2

Ans: 3

324. Methyl methacrylate?

1: does not react with fully polymerized acrylic resin
2: is a poor organic solvent
3: has a boiling point below that of water
4: is an opaque, dirty, white colored liquid
5: none of the above

Ans: 5

325. The attraction between atoms or molecules because of van der Waals forces is due to?

1: magnetic oscillations
2. a static electron field
3. a fluctuating dipole
4. the sharing of a valence electron
5. electron rotation

Ans: 3

326. Which of the following is formed when gypsum is calcined at temperatures 500°C?

1: Orthorhombic anhydrite
2. Calcium sulfate dihydrate
3. Calcium sulfate hemihydrate
4: Hexagonal anhydrite

Ans: 1
327. The filler used in impression compound is?

1: bees wax  
2. zinc phosphate  
3. French chalk  
4. guttapercha  
5. zinc phosphate powder

Ans: 3

328. Which of the following impressions can be most safely transported to the dental laboratory?

1: Polysulrides  
2. Alginites  
3. Addition silicones  
4. Agar hydroColloids  
5. Condensation silicones

Ans: 3

329. The flux used when casting gold alloys?

1: helps to prevent oxidation of the alloy  
2. contains borax and boric acid  
3. increases fluidity of the metal  
4. all of the above  
5. none of the above

Ans: 4

330. The severest pulp response is produced when which of the following cements Is applied to freshly cut dentin?

1: Zinc phosphate cement  
5. Zinc oxide - eugenol cement  
6. Resin cement  
7. Glass ionomer cement

Ans: 3

331. Porcelains are made opaque by the addition of oxides of?

1: iron and aluminium  
5. boron and magnesium  
6. nickel and iridium  
7. titanium and tin

Ans: 4

332. A 'cermet' is a combination of?
1: feldspar and quartz
5. silver amalgam powder and glass ionomer powder
6. conventional and aluminous ceramic powders
7. the powders of polycarboxylate and composite resin cements

Ans: 2

333. Regarding gold alloys, the properties of the solder joint are essentially the same as the parts joined, except?

1: elongation
3: yield strength
4: ultimate tensile strength
5: resistance to corrosion
6: none of the above

Ans: 4

334. Loss of corrosion resistance of austenitic stainless steel by removal of chromium from the gamma solid solution, is termed?

1: characterization
5. sensitization
6. dechromization
7. Destabilization

Ans: 2

335. Relative to enamel, cementum abrades?

6. 35 times more rapidly
7. 10 times less rapidly
3. 50 times more rapidly
4. Equally

Ans: 1

336. Which of the following is true for cast gold alloys?

1: Decreasing the gold content will increase the mechanical properties, except elongation, which decreases
6. Decreasing the gold content will decrease the mechanical properties, except elongation, which increases
7. Increasing the gold content will increase the mechanical properties, except elongation, which decreases
8. Increasing the gold content will decrease the mechanical properties, including elongation
9. There is no correlation between the gold content of gold alloys and their mechanical properties

Ans: 1

337. A stone die can be made more abrasion resistant by?

1: treating the surface of set gypsum with a resin
2. using aqueous colloidal silica when mixing the stone
5. mixing the stone with a resin solution
6. all of the above

Ans: 4

338. A gold casting is recovered from the gypsum mold by?

1: sand blasting
6. using high speed burs to cut through the investment
7. quenching the ring with the mold in water
8. tapping the mold with a mallet and breaking it

Ans: 3

339. The angle between the back of the tooth of the dental bur and the work, is termed?

1: radial angle
6. clearance angle
7. tooth angle
8. flank angle

Ans: 2

340. The characteristic translucency of the incisal portion of natural teeth, is achieved in porcelain restorations by the addition of?

1: body porcelain
5: enamel porcelain
6: aluminous porcelain
7: opaque porcelain

Ans: 2

341. Which of the following factors does not affect the design of dental restorations?

1: Location of carious lesions
5. Results of two dimensional photoelasticity
6. Number of surfaces involved
7. Amount of forces on the restoration

Ans: 2

342. All of the following are true for condensation resins, except?

1: reaction is slow
5: small molecules are eliminated during polymerization
6: functional units may be joined by ester or sulfide linkages
7: never become truly giant sized
8: none of the above
Ans: 5

343. A material which cannot act as a plaster separating agent is?

1: cotton fibers
6: soap solution
7: potassium alginate solution
8: tin foil
9: liquid paraffin

Ans: 1

344. Which of the following is false? An Alginate impression

1: may exhibit a fluid exudate on the surface as a result of imbibition
5. will shrink as a result of syneresis
6. should be at least 3mm thick
7. will take up water and expand if kept wet
8. none of the above

Ans: 1

345. Increased bond strength between resin teeth and resin denture bases, may be obtained by?

1: using teeth having lesser cross-linking in the ridge lap area
5. grinding and roughening the ridge lap area of teeth
6. applying monomer to the necks of teeth for a few minutes before packing resin
7. all of the above

Ans: 4

346. Polystyrene resins are injected into the mold?

1: after softening under heat
6. following liquefaction with organic solvents
7. in the doughy stage
8. when the powder-liquid mix is fluid

Ans: 1

347. A solid solution of two metals is more likely to be formed if the?

1: metals have different valences and sizes
6. lattice structure of the two metals is different
7. two metals have a high degree of chemical affinity
8. metallic atoms differ less than 15% in size
9. all of the above

Ans: 4
348. The most powerful grain refiner in noble metal dental casting alloys is?

1: palladium  
3: nickel   
4: iridium  
5: gallium  
6: Indium  

Ans: 3

349. The thermal shrinkage of phosphate bonded investments, occurring in the range of 200-400°C, is accompanied by the evolution of?

1: ammonia  
6: sulfur dioxide  
7: hydrogen  
8: Carbon  

Ans: 1

350. Which of the following elements is present in the highest percentage in amalgam alloy?

1: Silver  
5: Tin  
6: Lead  
7: Copper  
8: Zinc  

Ans: 1

351. Lattice imperfections of metal structures, in which a lattice position is left vacant, are termed?

1: interstitial point defects  
2: vacancies  
3: edge dislocations  
4: line defects  
5: nonequilibrium defects  

Ans: 2

352. Gold alloys used for the fabrication of saddle bars and clasps, are?

1: Type I  
2: Type II  
3: Type III  
4: Type IV  

Ans: 4

253: On heating to 600°C, which of the following forms of silica would exhibit maximum expansion?
1: Fused quartz
2. Tridymilo
3. Cristobalite
4. Quartz

Ans: 3

354. The plasticizer commonly used in non-aqueous elastomeric impression materials is?
1: dibutyl phthalate
2. colloidal silica
3. alkyl silicate
4. silane oligomer

Ans: 1

355. Denture cleansers which clean by liberating oxygen, contain?
1: sodium chloride
2. sodium peroxide
3. soda ash
4. sodium sulfite
5. sodium perborate

Ans: 5

356. The average particle size of modern dental amalgam alloys is?
1: 0.05 - 0.9 micrometer
2: 1- 5 micrometer
3: 100 - 140 micrometer
4. 25-35 micrometer

Ans: 4

357. Concentrations higher than 50% of phosphoric acid are not used for acid etching, as this would?
1: form a protective layer on enamel which protects the tooth from further dissolution
2. lead to massive decalcification of enamel rods
3. damage the pulp
4. make the etching process too fast to comfort

Ans: 1
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

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. Typo 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: bisisosulfate and glycol methacrylate
2. boron isomeris sulfur and glyic methacrylate
3. bisphenol A and glycidyl methacrylate
4. spiralostorate and gamma methyacrylate
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?
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
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 hydrocalloid
3. Dental plaster
4. Zinc phosphate cement
5. Phosphate bonded investment
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

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?
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
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
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 trituratation 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

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?
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
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

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

425. Which of the following factors favor crystallinity of resins?
1: Random arrangement of side groups
2. Long, branched polymers
3. Addition of plasticizers
4: All of the above
5. None of the above
Ans: 5

426. The coupling agents employed in composite resins are basically?
1: glycol compounds
2. vinyl derivatives
3. silane compounds
4. butyl rubber derivatives
Ans: 3

427. Cross-linking of condensation silicones occurs through a reaction with?
1: potassium titanium fluoride
2. benzoyl peroxide
3. Methanol amine
4. tetraethyl orthosilicate
5. T-butyl hydroperoxide  
Ans: 4

428. Stiffness and strength of the agar gel will be less  
1. when the brush heap density is more 
2. if the temperature is decreased 
3. if more fillers are added 
4. if the concentration of the dispersed phase in the sol is more 
5. none of the above  
Ans: 5

429. The Knoop hardness number of heat-curing poly (methyl methacrylate) resins, though slightly more than self-curing resins, is in the range of?  
1: 50-60 
2. 84-90 
3. 10-12 
4. 19-21  
Ans: 4

430: Metals have the property of malleability and being made lustrous, because of their?  
1: ease of giving up the valence electrons  
2. good thermal conductivity  
3: high melting point  
4: high electrical conductivity  
Ans: 1

431. Where does the maximum polymerization shrinkage occur, when a Class V cavity is filled with direct finishing resins held in position with the aid of a matrix strip?  
1: On the surface 
2. Along the pulpal wall 
3. Along the cervical wall 
4. Along the occlusal wall 
5. Uniformly throughout  
Ans: 2

432. Porcelain denture teeth are used ? 
1: when high wear resistance is desired 
2. to oppose gold or natural teeth 
3. when there is diminished inter-occlusal distance 
4. It the ridges are resorbed 
5. all of the above  
Ans: 1

433. Strain hardening of a metal decreases its?  
1: surface hardness 
2. strength 
3. resistance to corrosion 
4. proportional limit  
Ans: 3

434. All of the following metals have a whitening effect on gold alloys, except? 
1: silver
2. platinum
3. palladium
4. all of the above
5. none of the above
Ans: 5

435: Hygroscopic expansion of gypsum banded investments is?
1: because of the confinement of the growing crystals by surface tension of the excess water
2. a continuation at the ordinary setting expansion
3. lesser when the amount of quartz is increased
4. a chemical phenomenon
5. all of the above
Ans: 2

436. The purpose of expansion of the gypsum investment mold is to compensate for the?
1: distortion of the wax pattern
2. casting shrinking of the alloy
3. shrinking of the die
4. expansion of the wax pattern
5. dimensional change of the impression
Ans: 2

437. During the condensation of amalgam into a cavity, the?
1: condensation should be started at the peripheries, slowly moving towards the center
2. cavity should be slightly overfilled
3. amalgam should be carried in one or two large increments
4. cavity should be slightl
5. cavity should be slightly underlined, so that burnishing will ensure good marginal fit
Ans: 2

438. Stain removing commercial denture cleansers, usually contain?
1: soda ash
2. sodium perborate
3. potassium perborate
4. hydrochloric acid
5. sodium hypochlorite
Ans: 5

439. The heat treatment of “soaking” the alloy at a high temperature to produce a solid solution, followed by quenching is known as?
1: solution heat treatment
2. age hardening
3. liquid heat treatment
4. strain hardening heat treatment
Ans: 1

440. The propensity of some noble metal alloys to cause green stains at the margin of the metalporcelain interlace, is due to the presence of?
1: oxygen
2. zinc
3. silver
4. platinum
5. Tin
Ans: 3
441. The structure of alginates when set is most similar to that of?
1: dental plaster
2. reversible hydrocolloids
3. impression compound
4. polymethyl methacrylate
Ans: 2

442. A noble metal casting alloy containing iridium will have?
1: high yield strength
2. fine grain size
3. high elongation
4. better tarnish resistance
5. all of the above
Ans: 5

443. A filler which may be used in poly-sulfide impression materials is?
1: oleic acid
2. titanium dioxide
3. silicate
4. potassium sulfate
5. none of the above
Ans: 2

444. The operator can overcome the low thermal conductivity of impression compound by?
1: giving adequate time to cool completely before removing the Impression from the mouth
2. holding the tray firmly under pressure once placed in the mouth
3. dipping the tray with compound in a bowl of water for 15 min at 50°C
4. pouring the permanent cast in stone
5. not stressing the compound when it is placed in the mouth
Ans: 1

445. Which component of zinc oxide-eugenol impression paste acts as plasticizer?
1: Kaolin or diatomaceous earth
2. Canada or Peru balsam
3. Calcium chloride or zinc acetate
4. Rosin or lanolin
5. Vegetable or mineral oil
Ans: 5

446. Plaster on hardening will show a linear expansion of?
1: less than 0.01%
2: 0.01% to 0.05%
3: 0.15% to 0.30%
4: 0.5% to 1.5%
5: 21%
Ans: 3

448. The hardness of rubbers and elastomers is expressed as?
1: Knoop hardness number
2. Shore A hardness number
3. Brinell hardness number
4. Rockwell hardness number
Ans: 2
447. An impression, made in impression compound, should be poured immediately in plaster to eliminate discrepancies resulting from?
1. polymerization shrinkage
2. syneresis
3. hysteresis
4. dehydration
5. stress relief
Ans: 5

449. The dry strength of set plaster will be increased when?
1. W/P ratio is increased
2. porosity is high
3. accelerators or retarders are added
4. the mixture is overmixed
5. none of the above
Ans: 5

450. All of the following are desirable characteristics of an abrasive agent, except that, it should?
1. present a round smooth surface to the work
2. be harder than the work
3. possess high impact strength
4. fracture rather than dull
5. none of the above
Ans: 1

451. The cross-linking agent used for polysulfide polymers is?
1. dimethyl siloxane
2. ethyl alcohol
3. lithopone
4. lead dioxide
5. benzyol peroxide
Ans: 4

452. The most commonly used separating media for curing dentures is?
1. soaps
2. starches
3. water soluble alginates
4. cellulose lacquers
5. tin foils
Ans: 3

453. In the direct technique of fabricating in-lay wax patterns, the wax pattern is prepared?
FCPS Part 1 Dentistry
Reference: Vijay Pratab Dental Material MCQs
1. by pouring molten wax into the impression
2. prior to tooth preparation
3. on the tooth itself
4. on the master die
Ans: 3

454. Carnauba Wax is added to basic paraffin wax to?
1. ensure uniformity of hatches
2. improve the smoothness in molding
3. render it resistant to clacking and flaking
4. decrease flow at mouth temperature
Ans: 4

455. In a constitutional phase diagram, in the area below the solidus, the metal is in?
1: a liquid state
2. a solid state
3. an amorphous state
4. both a solid and a liquid state
5. a non-crystalline state
Ans: 2

456. A byproduct of the setting reaction of condensation silicone elastomeric materials is?
1: methane
2. benzoyl peroxide
3. hydrogen
4. ethyl alcohol
5. Water
Ans: 4

457. The average processing shrinkage of a heat-curing resin denture is?
1: 0.005%
2: 0.05%
3: 0.5%
4: 5.0%
Ans: 3

458. When restoring a tooth with composite resins, the matrix strip used to contour the resin should be held in place until
1: polymerization begins
2. the probe tip is no longer able to penetrate the material when pushed with light finger pressure
3. polymerization is complete
4. the material hardens
Ans: 4

459. The setting time of non-aqueous elastomeric impression materials is the same as the?
1: working time
2. curing time
3. mixing time
4. polymerization time
5. none of the above
Ans: 5

460. Alginates are made dustless by the addition of?
1: wintergreen
2. anise
3. glycol
4. silicate powder
5. Borates
Ans: 3

461. With some addition silicone impression materials, pitting of the stone cast may occur as a result of escaping?
1: ethyl alcohol
2. nitrogen gas
3. helium gas
4. hydrogen gas
5. Water
Ans: 4

462. The restorative material having hardness nearest to that of enamel is?
1: micro-filled composite resin
2. direct filling gold
3. silicate cement
4. Amalgam
Ans: 4

463. The primary objective of condensation of an amalgam mix is to?
1: ensure uniform distribution of mercury
2. force amalgam into all parts of the cavity
3. produce layering
4. bond the unattached sigma particles together
5. break up the matrix
Ans: 2

464. The gypsum product having the highest setting expansion is?
1: Type I plaster
2. Type II plaster
3. Type III stone
4. Type IV stone
5. Type V stone
Ans: 5

465. Self polymerizing acrylic resins differ from heat-cured resins, in that, they?
1: have higher color stability
2. have lower residual monomer content
3. are more porous
4. have higher molecular weight
5. have a greater transverse strength
Ans: 3

466. Which of the following is true for both reversible and irreversible hydrocolloids?
1: They can be stored in a humidor with-out any dimensional change
2. They can be converted from gel to sol
3. An increase in temperature will retard gelation
4. None of the above
Ans: 4

467. All of the following have been employed as pit and fissure sealants, except?
1: Methyl methacrylate resin
2. Cyanoacrylate resin
3. Bis - GMA resin
4. Polyurethane resin
Ans: 1

468. When performing the Vickers hardness test, the indenting tool is in the shape of?
1: a 136degree diamond pyramid
2. a blunt pointed cylinder
3. a rhomboidal pyramid
4. a conical diamond
Ans: 1

469. Impression plasters are plaster of Paris to which modifiers have been added. Modifiers are added to?
1: decrease porosity and to increase strength
2. regulate setting time and to control setting expansion
3. increase flow and to decrease solubility
4. prevent formation of exothermic heat and to control warpage
Ans: 2

470. Canada balsam or Peru balsam are added to zinc oxide-eugenol primarily to?
1: mask the irritating action of eugenol
2. increase flow
3. accelerate the setting reaction
4. ensure a smoother mix
5. provide body to the mass
Ans: 2

471. Mercaptan rubbers are?
1: polyether elastomers
2. addition polymerizing silicones
3. polysulfide elastomers
4. condensation polymerizing silicones
Ans: 3

472. The length of the sprue former depends primarily on the?
1: length the of the casting ring
2. thickness of the wax pattern
3. thickness of the sprue former
4. angle at which it is attached to the pattern
Ans: 1

473. Zinc oxide-eugenol cement is not suitable for permanent cementation of restorations because of its?
1: lack of thermal protection to the pulp
2. high solubility
3. lack of ability to seal the margins
4. lack of strength
Ans: 4

474. The antiflux used for gold solders is?
1: silicon
2. titanium
3. cryolite
4. graphite
Ans: 4

475. In porcelain fused to metal restorations, some of the most commonly used alloys have a base of?
1: platinum
2. chromium
3. silver
4. gold
5. Palladium
Ans: 4

476. The ability of direct filling gold to be welded together at room temperature, is because of its malleability and?
   1: lack of oxide surface coating
   2. high thermal conductivity
   3. extreme softness
   4. high degree of purity
Ans: 1

477. Compared to unfilled acrylic resins, conventional composite resins have a greater?
   1: hardness
   2. polymerization shrinkage
   3. linear coefficient of thermal expansion
   4. water sorption
   5. all of the above
Ans: 1

478. The recommended mercury: alloy ratio for most modern dental amalgam is?
   1. 1.5:1
   2. 1:2
   3. 1:1
   4. 2:1
Ans: 3

479. The cement of choice for temporary restorations in areas of the mouth not subjected to high stress, is?
   1: zinc oxide eugenol
   2. calcium hydroxide
   3. glass ionomer
   4. composite resin
Ans: 1

480. The melting point of pure gold is?
   1: 1060°C
   2. 720°C
   3. 1500°C
   4. 580°C
Ans: 1

481. A wax pattern should be invested as soon as possible after it is fabricated, in order to minimize changes in shape because of?
   1: changes in room temperature
   2. relaxation of internal stresses
   3. expansion of wax
   4. decrease in the flow of wax
Ans: 2

482. Which of the following is true regarding porosity in an acrylic denture?
1: Internal porosity occurs uniformly throughout the denture
2. Porosity is common if there is homogeneity in the dough or gel at the time of polymerization
3. Gaseous porosity appears as small bubbles evenly distributed throughout the denture
4. None of the above
Ans: 4

483 Which of the following substances is used as a refractory in investment powders?
1: Borax
2. Calcium sulfate hemihydrate
3. Silica
4. Calcium sulfate dihydrate
5. Sodium diphosphate
Ans: 3

484. All of the following are properties of cobalt - chromium - nickel wires, except?
1: they can be heat treated
2. they have excellent tarnish and corrosion resistance
3. their hardness is comparable to stain-less steel
4. they cannot be soldered or welded
5. none of the above
Ans: 4

485. The abrasive effect of a dentifrice on the tooth, primarily depends on which factor of tooth brushing?
1: Diameter of the bristles
2. Frequency and manner of brushing
3. Wetness of the bristles
4. Whether bristles are made of nylon or natural fibers
5. All of the above
Ans: 2

486. Despite its acidic nature polycarboxylate cement fails to cause any damage to the pulp as the?
1: large size of acid molecule prevents its diffusion through dentinal tubules
2. cement attains neutrality rapidly
3. acid gets diluted by the fluids of the dentinal tubules
4. acid forms complex chelates with the hydroxyapatite molecules of enamel
Ans: 1

487. The flux used for soldering stainless steel wires is similar to that used for gold solders with the exception of the addition of?
1: stannous fluoride
2. sodium nitrate
3. potassium fluoride
4. calcium carbonate
Ans: 3

488. Abrasiveness of tooth structure can he measured by?
1: calculating weight loss
2. using radioactive tracers
3. measuring dimensional change
4. all of the above
5. none of the above
Ans: 4
489. An 18 gauge SS wire has a diameter of?
1: 1.562 mm
2. 1.024 mm
3. 0.638 mm
4. 2.164 mm
Ans: 2

490. Which of the following defects in casting is not because of the solidification shrinkage of the alloy?
1: Suck-back porosity
2. Microporosity
3. Localised shrinkage porosity
4. Subsurface porosity
Ans: 4

491. When mixing heat-curing resins, if the polymer/monomer ratio is higher, the?
1: reaction time and shrinkage will be lesser
2. reaction time and shrinkage will be more
3. reaction time will be more but the shrinkage will be lesser
4. reaction time will be lesser but the shrinkage will be more
Ans: 1

492. A gold alloy, designated as 20 karat, contains?
1: 80% pure gold
2. 20 parts of pure gold with 4 parts of other metals
3. 20 parts of pure gold with 80 parts of other metals
4. only gold
Ans: 2

493. The working time of a phosphate investment mix can be increased, by increasing the?
1: liquid/powder ratio
2. temperature of the mix
3. mixing time and mixing efficiency
4. all of the above
Ans: 1

494. Which of the following is important when using water soluble alginates as separating media before packing resin into the mold?
1: Separating media should never be applied till the flask reaches room temperature
2. The complete mold and tooth surface should be coated
3. As thick a layer as possible should be applied
4. Waxes or oils remaining on the mold surface will not permit the solution to make contact with the investment
Ans: 4

495. If a pure molten metal solidifies in a cylindrical mold, which is at a temperature considerably below the melting point of the metal, the grain structure of the metal on solidification would appear?
1: columnar
2: spherical
3. basket
4. Radial
Ans: 4
496. Which of the following will form a peritectic alloy?
1: Silver and tin
2. Silver and copper
3. Silver and gold
4. Silver and palladium
Ans: 1

497: Base metal alloys have casting shrinkages in the range of?
1: 2-2.3%
2. 1-1.25%
3. 3.4.2%
4. 1.2-1.6%
Ans: 1

498: All of the following have the same chemical formula, except?
1: densite
2. hydrocal
3. phosphate-bonded investment
4. impression plaster
5. none of the above
Ans: 3

499. Alu-wax contains?
1: copper
2. silica
3. aluminium
4. zinc oxide
Ans: 3

500. Gypsum investments should not be heated above ?
1: 450°C
2. 700°C
3. 1000°C
4. 1250°C
Ans: 2

501. Amalgam dies may be made in?
1: irreversible hydrocolloid impressions
2. polyether impressions
3. compound impressions
4. addition silicone impressions
Ans: 3

502: The process of manufacturing gypsum products from gypsum is known as?
1: milling
2. sintering
3. virtification
4. calcining
5. Fusing
Ans: 4

503. A dental resin exhibited brittle fracture when stressed, but the same material had been found to be
ductile previously. The condition that was most likely altered during brittle failure was ?
1: amount of load
2. testing temperature
3. strain rate
4. load angulation
Ans: 3

504. With regard to elastomeric impression materials, the setting time ?
1: is less than the curing time
2. is equal to the curing time
3. is less than the working time
4. is more than the curing time
5. and curing time are not related
Ans: 1

505. Malleability of a material can be expressed as?
1: percentage elongation
2. proportional limit
3. shear strength
4. percentage compression
5. Young's modulus
Ans: 4

506: A colloidal state in which a liquid is distributed in another liquid is termed ?
1: suspension
2. sol
3. emulsion
4. gel
5. Dispersion
Ans: 3

507. In general.
1: malleability increases with decrease in temperature
2. ductility decreases with increase in temperature
3. ductility increases with increase in temperature
4. malleability decreases with increase in temperature
Ans: 2

508. All of the following chemicals accelerate the setting reaction of gypsum products, except?
1: 10% sodium chloride
2. potassium sulfate
3. acetates
4. potassium tartrate
5. none of the above
Ans: 3

509. How much volumetric shrinkage will occur during the polymerization of pure methyl methacrylate?
1: 33%
2. 60%
3. 21%
4. 30%
5. 7%
Ans: 3
510. The conditioner 'or primer' for composite resins may contain any of the following, except
1: aluminium oxalate and aluminium nitrate
2. nitric acid and N-phenylglycine (NPG)
3. citric acid and resorcinol cyclo-oxalate (RCO)
4. glutaraldehyde and hydroxyethyl meth-acrylate (HEMA)
5. 4-methoxyethyltrimellitic anhydride (META)
Ans: 3

511. The accuracy of the temperature of the casting furnace may be verified by?
1: observing the color of the mold in shadow
2. using templates of chemicals that melt at a specific temperature
3. reading the pyrometer
4. using a thermometer
Ans: 2

512. Glass ionomer cement liquids contain all of the following, except
1: citric acid
2. itaconic acid
3. tartaric acid
4. polyacrylic acid
5. none of the above
Ans: 1

513. The purpose of heating direct filling gold before its condensation is?
1: sterilization
2. homogenization
3. volatilizing surface contaminants
4. softening
5. none of the above
Ans: 3

514. Wax elimination and heating of the gypsum mold can be started, after the mold
1: has hardened for at least 12 hours
2. is completely dry
3. has hardened for at least one hour
4. is allowed to harden overnight
Ans: 3

515. Which of the following cements does not dissolve or erode in oral fluids?
1: Resin cement
2. Polycarboxylate cement
3. ESA reinforced zinc oxide - eugenol cement
4. Glass ionomer cement
Ans: 1

516. The basic composition of dental porcelain is?
1: borax, feldspar, lime
2. feldspar, quartz, kaolin
3. lime, quartz, feldspar
4. boric acid, kaolin, borax
Ans: 2
517. The ability of a cast gold inlay to be burnished is most accurately described, which of the following of its properties
1: Percentage elongation
2. Flow
3. Elastic unit
4. Stress
Ans: 1

518. After it is inserted, a silicate restoration should not be finished for at least
1: 10 minutes
2: half an hour
3: 6 hours
4: 24 hours
5: 72 hours
Ans: 4

519. The area below the stress-strain Curve showing the energy required to fracture the material is known as the
1: ultimate tensile strength
2. hardness
3. toughness
4. elastic limit
5. resilience
Ans: 3

520. A greater bulk of material will produce a better impression if the material is
1: polysulfide
2. wax
3. addition silicone
4. polyether
5. Alginate
Ans: 5

521. If a stone cast is immersed in running water for 5 hours, its linear dimension is likely to be reduced by
1: 25%
2. 15%
3. 1.5%
4. less than 0.01%
5. there will be no reduction of linear dimension in running water
Ans: 3

522. In denture base resins, inhibitors are added to the monomer to
1: prolong the shelf life
2. initiate the reaction
3. activate the monomer
4. reduce the viscosity of the polymer
5. increase the time of the dough stage of the resin
Ans: 1

523. A loss of vertical dimension is observed in complete dentures processed from
1: heat curing resins by compression molding
2. fluid resins in a hydrocolloid mold
3. chemically activated resins by compression molding  
4. pour type resins in a gypsum mold  
5. injection moulded resins in a special flask  
Ans: 2

524. Conventional cavity varnishes containing chloroform or ether are not used with resin restorative materials, as they  
1: fail to prevent thermal sensitivity  
2. lead to open margins  
3. inhibit the polymerization of resin  
4. irritate the pulp  
5. all of the above  
Ans: 3

525. Most metals used in dentistry are of which lattice type?  
1: Rhombic  
2. Orthorhombic  
3. Tetragonal  
4. Monoclinic  
5. Cubic  
Ans: 5

526. Which of the following is not likely to be an ingredient in agar hydrocolloid impression material?  
1: Wax  
2. Glycerine  
3. Silica  
4. Calcium chloride  
5. Thymol  
Ans: 4

527. The average total dimensional change occurring during the processing of a compression molded, resin denture is approximately  
1: 0.1-0.2mm  
2. 0.001-0.002mm  
3. 0.01-0.02mm  
4. 1-2mm  
Ans: 1

528. A primary undesirable characteristic of pit and fissure sealants is ?  
1: low coefficient of thermal conductivity  
2. short working time  
3. curing by ultra violet light  
4. high tensile strength  
5. low viscosity  
Ans: 5

529. A gold solder designated 18 karat indicates that the solder  
1: contains 75% pure gold  
2. is 600 fine  
3. can be heated to 180*C  
4. none of the above  
Ans: 4
530. A generally accepted curing cycle for heat-curing resins is?
1: 75*C x 69min
2. 75*C x 30 min, followed by 30 mm of boiling
3. 65*C x 90 min, followed by 90 min
4. 500*C x 1.5 hours
Ans: 3

531. The process of heating a cast alloy to eliminate composition differences (coring), is termed
1: annealing
2. homogenization
3. transformation
4. Recrystallization
Ans: 2

532. Noble metal dental casting alloys are classified according to their?
1: melting temperature
2. malleability
3. castability
4. dental function
5. age hardening capability
Ans: 4

533. When gypsum investments are heated to 1000°C, the correct sequence of dimensional change would be
1: expansion, contraction, expansion
2. expansion, shrinkage
3. contraction, expansion
4. shrinkage, expansion, contraction
Ans: 4

534. Which of the following is a disadvantage of zinc oxide eugenol impression paste?
1: Inaccuracies in producing surface detail
2. Dimensional change upon hardening
3. Stinging sensation
4. Poor flow
5. Inability to compress soft tissues
Ans: 3

535. The agar hydrocolloid impression material must be conditioned before insertion in the patient's mouth for all of the following reasons. except to
1: increase its viscosity
2. prevent the material from flowing out of the tray
3. prevent injury to mouth tissue
4. reduce dimensional change
Ans: 4

536. The nucleation of a molten metal inhibited by 'seeding', is referred to as?
1: heterogenous nucleation
2. monogamous nucleation
3. polygamous nucleation
4. homogenous nucleation
Ans: 1
538. Which of the following may be classified as a composite material?
1: Gold foil
2. A filled resin
3. Inlay wax
4. Colloidal silica
5. Copper phosphate cement
Ans: 2

539. Which of the following is an inelastic impression material?
1: Zinc oxide-eugenol
2. Agar agar
3. Polysulfide
4. Tray silicone
Ans: 1

540. Methyl methacrylate may be activated by all of following, except
1: UV light
2. tertiary amines
3. Stannous peroxide
4. sulfuric acid derivatives
Ans: 3

541. The binder used in dentifrices is
1: propylene glycol
2. sorbitol
3. Carboxy-methylcellulose
4. Water
Ans: 3

542. The impression material producing the least accurate surface details is?
1: polyether
2. reversible hydrocolloid
3. irreversible hydrocolloid
4. addition silicone
5. ZOE
Ans: 3

543. The molecules of one substance adhere to molecules of another. The substance to which the molecules adhere to, is termed?
1: adhesion
2. adhesives
3. cohesion
4. adherend
Ans: 4
544. Abrasion of tooth structure is independent of the stiffness or composition of the brush bristles. It depends almost entirely on the properties of the dentifrice used in conjunction with the tooth brush.
1: The first statement is true and the second false
2. The first statement is false and the second true
3. Both statements are true
4. Both statements are false
Ans: 3

545. Which of the following cements is not used as a thermal insulating base under restorations?
1: Glass ionomer
2. Calcium hydroxide
3. Polycarboxylate
4. Zinc oxide-eugenol
5. Silicate
Ans: 5

546. Which of the following forms of gypsum is of beta-hemihydrate form?
1: Type V investment
2. Densite
3. Gypsum bonded investment
4. Hydrocal
5. None of the above
Ans: 5

547. The fusion temperature of impression compound is approximately
1: 100°C
2. 65°C
3. 45°C
4. 30°C
Ans: 3

548. The addition silicones may show dimensional change as a result of
1: contraction because of cross-linking
2. loss of volatile accelerator component
3. evaporation of alcohol during setting
4. extraction of the water soluble plasticizer during setting
Ans: 1

549. The strength of an amalgam restoration
1: according to ADA specifications should be a minimum of 20 MPa at the end of 1 hour
2. after 20 minutes will be 60% of its 1 week strength
3. reaches its peak after 3 hours
4. after 8 hours is usually 70% to 90% of its final strength
Ans: 4

550: When electroplating an impression with copper, the cathode is the?
1: cooper sulfate
2: the impression being electroplated
3. a copper plate or rod
4. distilled water
Ans: 3

551: in size, the largest porosities in a casting, are of which type?
1: Microporosity
2. Pin hole
3: Suck back
4: Gas inclusion
Ans: 4

552. The Brinell hardness number (BHN) of pure gold Is
1: 6
2. 140
3. 25
4. 1100
Ans: 3

553. All of the following alloy elements participate in the solid solution hardening of base metal alloys, except?
1: iron
2. molybdenum
3. aluminium
4. Copper
Ans: 3

554. The hardest and most effective abrasive for tooth enamel is
1: diamond
2. tin oxide
3. emery
4. Garnet
Ans: 1

555. Which of the following is a noble metal?
1: Cobalt
2. Copper
3. Zinc
4. Palladium
5. None of the above
Ans: 4

556. Ductility can be measured by?
1: reduction in area at the fractured end
2. cold bend test
3: elongation after fracture
4. all of the above
5. none of the above
Ans: 4

557. All of the following slow down the setting reaction of gypsum products except?
1: dried blood
2. borax
3. sodium citrate
4. 30% sodium chloride
5. 4% sodium sulfate
Ans: 5

558. All of the following are accelerators of the setting reaction of zinc oxide Eugenol, except?
1. acetic acid
2. water
3. zinc acetate dihydrate
4. calcium chloride
5. Boroglycerin
Ans: 5

559. Room temperature vulcanization (RN) silicones are
1: condensation polymerizing silicones
2. addition polymerizing silicones
3. polyether elastomers
4. polysulfide elastomers
Ans: 1

560. The pure form of gold used in dentistry is
1. Type II gold
2. cohesive gold
3. Type III casting gold
4. noncohesive gold
5. gold used for making palatal bars
Ans: 2

561. A thick mix of zinc phosphate cement is not indicated for luting restorations, as the
1: mix will be highly acidic
2. restoration will not seal properly
3. physical properties of the cement film may be impaired
4. cement will be highly soluble in oral fluids
Ans: 2

562. For a successful metal-ceramic restoration, both the metal and porcelain must have closely matched
1: solidification shrinkage
2. specific gravity
3. coefficient of thermal expansion
4. compressive strength
Ans: 3

563. Syneresis and imbibition are inherent properties that affect the dimensions of
1: silicones
2. impression compounds
3. reversible hydrocolloids
4. polysulfide rubbers
5. irreversible hydrocolloids
Ans: 5

564. All of the following properties of waxes depend upon temperature, except
1: creep
2. flow
3. solidification shrinkage
4. coefficient of thermal expansion below 85° F
5. plastic deformation
Ans: 1

565. The liquidus temperature of an alloy is the temperature at which the
1. last liquid solidifies  
2. first solid begins to form  
3. first solid begins to liquefy  
4. last solid begins to form  
Ans: 2

566. When taking the impression of an edentulous arch, the impression compound should be softened  
1. in an electric oven  
2. over a gas flame  
3. in a water bath  
4. in an autoclave  
5. in a dry heat oven  
Ans: 2

567. Internal porosity due to the boiling of the monomer is usually present on the surface of a denture  
because the exothermic heat can be conducted away from the surface of the resin to the investing medium.  
1. Both the statement and reason are correct  
2. Both the statement and reason are wrong  
3. The statement is correct but the reason is wrong  
4. The statement is wrong but the reason is correct  
Ans: 4

**THE END**