

## قائمة الاسئلة 05:47 2025-05-24 قائمة الاسئلة

(50) الامتحان درجة - الفترة - والاسنان الفم وجراحة طب كلية - الكل - قسم- الاول المستوى - Dental Materials Exam 2025

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- 1) Which material offers the most natural translucency in ceramic restorations?
  - 1) In-Ceram Alumina
  - 2) + In-Ceram Spinell
  - 3) Zirconia
  - 4) Alumina
- 2) Which of the following is the primary component of dental adhesives?
  - 1) Sodium chloride
  - 2) + Bis-GMA
  - 3) Hydroxyapatite
  - 4) Methyl methacrylate

## 3) ...... results from two sets of forces directed toward each other in the same straight line

- 1) Tension.
- 2) + Compression.
- 3) Torsion
- 4) Shear
- 4) Why is GIC best restorative material in children?
  - 1) Good marginal integrity.
  - 2) It has less occlusal wear.
  - 3) \_\_\_\_ High strength.
  - 4) + It can bond to both enamel and dentin.
- 5) ..... is the resistance of a material to per moment deformation. It indicates the amount of energy necessary to deform the material to the proportional limit.
  - 1) + Resilience.
  - 2) Brittleness.
  - 3) Hardness
  - 4) Stiffness
- 6) Which of the following statements are not correct?
  - 1) + Thermal diffusivity is the ability of a material to conduct heat
  - 2) Wear is abrasion (with or without a chemical) of a substance
  - 3) Creep is the slow dimensional change under load
  - 4) Stress is the internal force per unit cross-sectional area acting on a material.
- 7) Compressive stress is computed by dividing the external force by the:
  - 1) + Area of the test specimen upon which the weight rests.
  - 2) Elasticity of the test specimen in strain.
  - 3) Length of the test specimen beneath the force.
  - 4) Strain of the test specimen per unit length.
- 8) The property that measures the expansion of a material per unit length for every degree of temperature change is called the.
  - 1) Thermal Conductivity
  - 2) Elongation of a body
  - 3) + Linear coefficient of thermal expansion
  - 4) Thermal Diffusivity
- 9) About the solubility and sorption of materials, which of the following statements is incorrect?
  - 1) Absorption refers to the uptake of liquid by the bulk solid
  - 2) The sorption mean adsorption plus absorption.





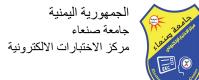
- 3) Adsorption indicates concentration of molecules at the surface of a solid or liquid.
- 4) + No one.
- 10) The application of an external force to a body results in a change in dimension of that body this mean:
  - 1) Stress.
  - 2) + Strain
  - 3) Force.
  - 4) Stress curve.
- 11) The definition of ...... is 'physicochemical interaction between a metal or an alloy and its environment that results in a partial or total destruction of the material or in a change of its properties'.
  - 1) Tarnish.
  - 2) <u>-</u> Erosion.
  - 3) + Corrosion
  - 4) Galvanism.
- 12) The opposite of toughness is
  - 1) \_ \_ Resilience.
  - 2) + Brittleness.
  - 3) Hardness.
  - 4) Stiffness
- 13) The Knoop hardness number which one of the following materials is closest to that of dentin (KHN 65)?
  - 1) Tooth enamel.
  - 2) Pure Gold.
  - 3) + Silicate cement.
  - 4) Porcelain.
- 14) The type of stress to which dental amalgam is most resistant is:
  - 1) Tensile stress.
  - 2) Shear stress.
  - 3) + Compressive stress.
  - 4) Impact stress.
- 15) ..... may be defined as the energy absorbed by a material in undergoing elastic deformation up to the elastic limit.
  - 1) Toughness.
  - 2) \_\_\_\_ Modulus of elasticity.
  - 3) + Resilience.
  - 4) Ductility.
- 16) The flexural strength of a material is its ability to .... before it breaks.
  - 1) + Bend, Flex or Twist.
  - 2) Bend or Flex.
  - 3) Flex or Twist.
  - 4) Bend or Twist
- 17) Modulus of elasticity means:
  - 1) Ability to be stretched with permanent deformation.
  - 2) \_\_\_ Ductility of a material.
  - 3) + Rigidity or stiffness of the material.
  - 4) Malleability of a material.
- 18) The point at which stress of material exhibits a specific limited deviation P is called:
  - 1) Proportional limit.
  - 2) Tensile strength
  - 3) \_\_\_\_ Ultimate strength.
  - 4) + Yield strength





- 19) Which of the following types of dental adhesive systems involves self-etching primers?
  - 1) Total etch system
  - 2) + Two-step self-etch system
  - 3) Light-cured resin system
  - 4) Glass ionomer system
- 20) What is the primary disadvantage of using the total-etch bonding system?
  - 1) It requires a longer setting time
  - 2) + It can cause postoperative sensitivity
  - 3) It requires multiple visits
  - 4) It is less effective on enamel
  - Which elastomeric material is known for its excellent dimensional stability and high accuracy?
    - 1) Polysulfide
    - 2) Condensation silicone
    - 3) + Addition silicone.
    - 4) Alginate
- 22) From the low to the high value of coefficients of thermal expansion, Rank the following materials:
  - 1) Enamel, Dentin, Porcelain, Amalgam, Composite, and Denture acrylic resin
  - 2) Dentin, Enamel, Amalgam, Porcelain, Composite, and Denture acrylic resin
  - 3) + Porcelain, Dentin, Enamel, Amalgam, Composite, and Denture acrylic resin.
  - 4) Amalgam, Enamel, Dentin, Porcelain, Composite, and Denture acrylic resin.
- 23) What type of bonding does glass ionomer cement exhibit with tooth structure?
  - 1) Mechanical bonding only
  - 2) \_ Chemical bonding only
  - 3) + Both chemical and mechanical bonding
  - 4) No one.
- 24) All the following are advantages of nano calcium hydroxide particles compared to traditional hydroxide Except?
  - 1) + Decreased cytotoxicity.
  - 2) Deeper penetration in dentinal tubules.
  - 3) Increase antibacterial activity.
  - 4) Increased surface area contacts with pathogens.
- 25) Which of the following implant designs is most commonly used?
  - 1) Cylindrical.
  - 2) + Screw root form.
  - 3) Blade.
  - 4) Cylindrical and Screw root form.
- 26) Which of the following has antimicrobial activity?
  - 1) EDTA.
  - 2) Sodium hypochlorite.
  - 3) <u>-</u> MTAD.
  - 4) + Sodium hypochlorite and MTAD.
- 27) Which material offers the most natural translucency in ceramic restorations?
  - 1) \_\_\_\_ In-Ceram Alumina
  - 2) + In-Ceram Spinell
  - 3) Zirconia
  - 4) Alumina
- 28) What property makes zinc phosphate cement suitable for use as a luting agent?
  - 1) High fluoride release
  - 2) Antibacterial action

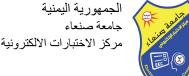




- 3) Flexibility.
- 4) + No one
- 29) What is the primary goal of using intracanal medications in dental treatment?
  - 1) + Disinfect the root canal system.
  - 2) Reduce pain.
  - 3) Increase tooth strength.
  - 4) Reduce inflammation and reduce pain.
- 30) The main component of the powder in zinc phosphate cement is:
  - 1) + Zinc oxide.
  - 2) Silica
  - 3) Magnesium oxide.
  - 4) Zinc oxide and Silica.
- 31) Creep is highest in:
  - 1) High copper amalgam.
  - 2) \_\_\_\_ Zinc free amalgam.
  - 3) + Low copper amalgam.
  - 4) Zinc containing amalgam
- 32) What is the primary purpose of surfactants added to some PVS materials?
  - 1) To increase viscosity
  - 2) \_ To enhance flow
  - 3) + To improve wettability
  - 4) To increase working time
- 33) Which phase in low copper dental amalgam is most susceptible corrosion?
  - 1) Y (Ag3Sn).
  - 2) Y1 (Ag2Hg3).
  - 3) + Y2 (Sn8H)
  - 4) No one.
- 34) Which elastomeric material has the highest tear strength?
  - 1) Polyether
  - 2) + Polysulfide
  - 3) Condensation silicone
  - 4) Addition silicone
- 35) What is the setting reaction of polyvinyl siloxane (PVS) based on?
  - 1) Hydrocolloid reaction.
  - 2) Condensation polymerization
  - 3) + Addition polymerization.
  - 4) Thermal reaction
- 36) Which of the following is an advantage of Pressed Lithium Disilicate (e.g., IPS e.max Press)?
  - 1) Allows for rapid fabrication with high precision
  - 2) + Provides superior marginal fit and enhanced mechanical properties
  - 3) Reduces chair time significantly
  - 4) Consistent quality with minimized human error
  - Which factor does not reduce creep in dental amalgam?
- 1) Avoiding Y2 phase formation.
  - 2) Using high copper alloys.
  - 3) Proper condensation techniques.
  - 4) + Increasing mercury content during mixing.
  - Which impression material is most affected by moisture?
  - 1) Polyether.

38)





- Alginate 2) +
- 3) Silicone. \_
- 4) Plaster
- 39) Which impression material is known for its ability to be poured multiple times without distortion?
  - Polysulfide 1) \_
  - Polyvinyl siloxane 2) +
  - 3) Alginate
  - Impression compound 4)
- What is the primary disadvantage of polyether impression material? 40)
  - Poor accuracy 1) \_
  - 2) Poor dimensional stability
  - 3) High stiffness after setting +
  - Short working time 4) \_
- We can improve the dimensional accuracy of impression material by: 41)
  - Using hydrophilic or hydro-active material 1)
  - Proper moisture control especially in case of hydrophobic material 2)
  - Using low viscosity material with minimum and uniform thickness. 3)
  - + All are true. 4)
- An amalgam has a force of 111 N applied over a contact area of 6.45 mm2, which of the following is the 42) stress applied to the amalgam?
  - 1720 MPa 1)
  - 2) 172 MPa
  - 3) 1.72 MPa \_
  - + 17.2 MPa 4)
- 43) The most ductile and malleable metal is:
  - Copper 1) \_
  - Silver. 2) \_
  - 3) + Gold.
  - Platinum. 4)
- What abrasive is used in air-particle abrasion for surface preparation? 44)
  - 1) Zinc oxide \_
  - Aluminum oxide 2) +
  - 3) Diamond powder
  - 4) Calcium carbonate
- The main difference between dental stone and dental plaster is: 45)
  - Chemical composition. 1) -
  - 2) Shelf life.
  - Shape and size of particles. 3) +
  - Solubility in water. 4)
- What is the main advantage of using calcium hydroxide as an intracanal medicament in primary teeth? 46)
  - Good sealing ability 1) -
  - Anti-inflammatory properties 2)
  - Antibacterial effect. 3) +
  - All are true 4) \_
- Which of the following is considered a bioactive material? 47)
  - 1) \_ Stainless Steel.
  - Hydroxyapatite. 2) +
  - Co-Cr alloy. 3)
  - Gold. 4) \_





- 48) ..... is the ability of material to resist abrasion
  - 1) + Hardness
  - 2) Abrasion
  - 3) Cutting
  - 4) Stress
- 49) Which method is used to form abrasive instruments without melting the material?
  - 1) Vitreous bonding
  - 2) \_\_\_ Rubber bonding
  - 3) + Sintering
  - 4) Resinoid bonding
- 50) What determines whether silica forms a crystalline or amorphous structure upon solidification?
  - 1) The amount of silica present
  - 2) \_\_\_\_ The presence of metal ions
  - 3) + The rate of cooling during solidification
  - 4) The temperature of the firing oven
- 51) Which type of dental composite is specifically designed for anterior teeth due to its superior aesthetic qualities?
  - 1) + Micro-fill composites
  - 2) Macro-fill composites
  - 3) Hybrid composites
  - 4) Packable composites
- 52) What is the role of fluxes in ceramic materials?
  - 1) They increase the strength of the ceramic matrix.
  - 2) + They break the Si–O–Si bonds, reducing the structural integrity of the glass or ceramic matrix.
  - 3) They improve the transparency of ceramics.
  - 4) They enhance the crystalline structure of the ceramic.
    - is the form of hydroxyapatite in which fluoride ions have replaced some of the hydroxyl ions.
    - 1) Hydroxyapatite.
    - 2) Chlorapatite
    - 3) Carbonate-Apatite.
    - 4) + Fluorapatite
- 54) Disadvantages of SDF stains carious tooth structure \_\_\_\_\_.
  - 1) Blue

- 2) Yellow
- 3) + Black
- 4) Green
- 55) What is the primary purpose of abrasives in polishing applications?
  - 1) To apply color
  - 2) To increase shine
  - 3) To provide texture
  - 4) + To remove material
- 56) Which of the following polishing material extremely fine used for polishing teeth and restoration inside the mouth?
  - 1) Pumice
  - 2) + tin oxide
  - 3) Garnet
  - 4) Both pumice and tin oxide
  - What is the most effective abrasive for dental use?
  - 1) + Diamond dust

57)



2) 3)

4)

1)

2) 3)



- Which of the following cements needs a larger area of the slab to reduce the exothermic reaction?
  Calcium hydroxide cement.
  Polycarboxylate cement.
  Zinc phosphate cement.
- 4) Glass ionomer cement

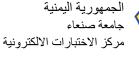
Carbide

Aluminum oxide

All are true.

- 59) Which one of the elements in dental amalgam in primarily responsible for tarnish?
  - 1) Silver.
  - 2) Tin.
  - 3) Zinc.
  - 4) + Mercury
- 60) Why is silica (SiO<sub>2</sub>) considered brittle in both its crystalline and amorphous forms?
  - 1) Because it contains water molecules.
  - 2) + Due to its ionic nature
  - 3) Because it's metallic in structure
  - 4) Due to its high thermal conductivity
- 61) Fillers are added to composite resin to increase:
  - 1) Working time.
  - 2) Hydrophilic properties.
  - 3) <u>-</u> Matrix deformation.
  - 4) + Wear resistance.
- 62) What is the primary purpose of "dressing" an abrasive instrument?
  - 1) To polish enamel
  - 2) To sterilize the instrument
  - 3) + To restore grinding efficiency by removing debris
  - 4) To enhance bonding strength
- 63) Sixth-generation dentin bonding agents are characterized by:
  - 1) Three-step application process
  - 2) + Self-etching primers (no rinse)
  - 3) Use of eugenol-based primers
  - 4) Exclusion of adhesives
- 64) What is the main difference between crystalline and amorphous structures?
  - 1) + Crystalline has a regular atomic pattern; amorphous is random.
  - 2) Both have random atom arrangements.
  - 3) Amorphous is more organized than crystalline.
  - 4) Crystalline exists only in liquids.
- 65) Which method is used to prevent premature polymerization?
  - 1) Using light-cured resin only
  - 2) Adding optical modifiers
  - 3) + Using inhibitors like BHT and oxygen
  - 4) Applying less filler content
- 66) What property of ceramics can damage opposing dentition?
  - 1) Low thermal conductivity
  - 2) \_\_\_\_ High polish-ability
  - 3) + High surface roughness
  - 4) Low thermal conductivity and high surface roughness.
- 67) What distinguishes dual-cured resins from other curing methods?







- 1) + They can cure via both chemical and light activation
- 2) They only cure under light
- 3) They use heat instead of light
- 4) They don't require any curing agents
- 68) The "over-waiting phenomenon" occurs due to:
  - 1) Excessive solvent evaporation
  - 2) \_\_\_\_ Insufficient etching time
  - 3) + Residual water diluting the primer
  - 4) Over-polymerization of resin.
- 69) Which method is used to remove the smear layer?
  - 1) Mechanical instrumentation.
  - 2) Sodium hypochlorite.
  - 3) Chlorhexidine.
  - 4) + Sodium hypochlorite and Chlorhexidine.
- 70) Which surface method involves adding materials to the implant surface?
  - 1) Subtractive.
  - 2) + Additive.
  - 3) Polishing.
  - 4) Vaporization.