

**VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM  
(Deemed to be University)**

**BDS DEGREE EXAMINATION – JANUARY 2021**

**Second Year**

**DENTAL MATERIALS**

**SECTION A**

**Time: Twenty Minutes**

**Maximum: 20 marks**

**Register Number :**

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**Signature of the candidate**

**Signature of the Invigilator**

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**Instructions to the candidates**

1. Write your Register Number and sign at the place specified on the first page of this Question Booklet.
2. Do not open this question booklet until Invigilator announces the commencement of the examination.
3. Answer ALL the Twenty questions. They carry equal marks. No negative marking for wrong answers.
4. Answers should be marked legibly in the SHEET provided in capital letters.
5. THE QUESTION BOOKLET SHOULD NOT BE TAKEN OUT OF THE EXAMINATION HALL.
6. Questions should not be copied and taken out of the Examination Hall. Any one found violating this rule shall not be permitted to write the examination and shall be sent out of the Hall.
7. At the end of 20 minutes, when the Invigilator announces 'STOP WRITING' you must stop writing immediately. If the candidate tries to attempt to answer the questions after the prescribed time, their answer script becomes invalid.
8. Hand over the questions booklet containing answer sheet to the invigilator when you finish answering or immediately after 20 minutes.

**DENTAL MATERIALS**  
**SECTION-A (20X1=20 MARKS)**  
(Multiple choice questions)

Time: Twenty Minutes

Maximum: 20 marks

Select the most appropriate answer and answer in the answer sheet attached:

1. Which of the following materials has a coefficient of thermal expansion closer to that of the tooth enamel?
  - A. Porcelain
  - B. Gold
  - C. Composite
  - D. Glass ionomer cement
2. A Good adhesive should possess all of the following except
  - A. High adherence wetting
  - B. High contact angle
  - C. Low contact angle
  - D. High flow
3. Polyacid modified composites are designated as
  - A. Compomers
  - B. Giomers
  - C. Hybrid ionomers
  - D. Ormocers
4. The layer of adherent debris on the enamel and dentin after using a rotary instrument is called
  - A. Oxidised layer
  - B. Corrosive layer
  - C. Smear layer
  - D. Beilby layer
5. One bottle system of adhesive resins
  - A. 4<sup>th</sup> generation bonding agents
  - B. Separate etching step not required
  - C. Separate etching step is still required
  - D. Contains only primer
6. Delayed expansion is associated with
  - A. Zinc in the amalgam
  - B. Low copper amalgam
  - C. High copper amalgam
  - D. Mercury in the amalgam

(p.t.o.)

7. Which of the following dental cement does not contain water as a part of the composition of the liquid component?
  - A. Zinc phosphate cement
  - B. Zinc Oxide eugenol cement
  - C. Zinc silicophosphate cement
  - D. Zinc Poly carboxylate cement
  
8. The cohesive gold used as bulk files is
  - A. Electra alloy
  - B. Mat alloy
  - C. Spherical gold
  - D. Gold foil
  
9. Miracle mix or cement is
  - A. A mixture of GIC and resin
  - B. Micro filled GIC
  - C. Silver powder fused with GIC
  - D. None of the above
  
10. The purity of gold is expressed in
  - A. Carate
  - B. Percentage
  - C. Fineness
  - D. Gram
  
11. Passivation effect in any alloy is imparted due to which of the following metal/element?
  - A. Zinc
  - B. Chromium
  - C. Copper
  - D. Nickel
  
12. Which of the following listed below is the best source of heat to carry out soldering?
  - A. Hydrogen
  - B. Natural gas
  - C. Acetylene
  - D. Propane
  
13. Time dependent plastic deformation of a material is called as
  - A. Creep
  - B. Viscosity
  - C. Flow
  - D. Elasticity

(p.t.o.)

(Sl.No. M23082a)

14. A metal which has been cold worked would exhibit
- A. Decreased strength
  - B. Increased strength
  - C. Decreased hardness
  - D. Increased ductility
15. Which of the following types of stainless steel has the best corrosion resistance?
- A. Carbon
  - B. Ferrite
  - C. Austenitic
  - D. Martensitic
16. Elastomeric impression most commonly suited for electroplating is
- A. Polysulphides
  - B. Polyvinyl siloxanes
  - C. Polyether
  - D. Agar
17. Glass transition temperature of impression compound is
- A. 43.5°C
  - B. 61°C
  - C. 39°C
  - D. 52°C
18. Which of the following waxes can be added to the paraffin wax to partially or entirely replace the carnuba wax
- A. Bee wax
  - B. Candedilla Wax
  - C. Ceresin
  - D. Microcrystalline wax
19. Best material for duplicating cast is
- A. Agar - agar
  - B. Alginate
  - C. Zinc oxide eugenol
  - D. Plaster of paris
20. Materials used to polish acrylic resin is
- A. Arkansas
  - B. Zircon
  - C. Rouge
  - D. Pumice

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**DENTAL MATERIALS**

Time : Three hours

Maximum : 70 marks

Answer ALL Questions

Answer Section A in the Answer Sheet attached to it 20 marks – 20 minutes to be handed over to the invigilator immediately after 20 minutes

Answer Section B& C in the same answer book

Time: 2 hours 40 minutes

**SECTION – B & C**

Maximum: 50 marks

**SECTION – B**

I. Write an Essay on : (1 x 10 = 10)

1. Describe the high copper silver amalgam alloys, their amalgamation, microstructure and advantages.

II. Write short notes on: (3 x 5= 15)

2. Direct filling gold.
3. Biocompatibility of dental materials.
4. Modifications of Glass Ionomer cements.

**SECTION – C**

III. Write an Essay on: (1 x 10 = 10)

5. Classify Impression materials. Write in detail about irreversible hydrocolloid.

IV. Write short notes on: (3 x 5= 15)

6. Porosities in casting alloys.
7. Hygroscope setting expansion in gypsum products.
8. Inlay waxes.

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