

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

BDS DEGREE EXAMINATION – July 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. The first cement system that developed an adhesive bond to tooth structure is
  - A. Zinc phosphate
  - B. Zinc polycarboxylate
  - C. Glass Ionomer
  - D. Zinc Oxide Eugenol
  
2. The one paste light curable Glass Ionomer for restorative application is called
  - A. Hybrid Ionomer
  - B. Metal reinforced Glass Ionomer
  - C. Compomers
  - D. Conventional Glass Ionomer
  
3. Microleakage of Amalgam Restoration leads to
  - A. Crevice Corrosion
  - B. Tarnish
  - C. Galvanic Corrosion
  - D. Surface Corrosion
  
4. The cement that accelerates reparative dentin formation is
  - A. Polycarboxylate
  - B. Phosphate
  - C. Calcium Hydroxide
  - D. Glass Ionomer
  
5. The thickness of the cement used for base should be
  - A. >0.5mm
  - B. >0.75mm
  - C. >0.25mm
  - D. <0.75mm
  
6. For Luting applications, the maximum allowable film thickness should be
  - A. 80 $\mu$ m
  - B. 40 $\mu$ m
  - C. 10 $\mu$ m
  - D. 25 $\mu$ m

(p.t.o.)

7. The electrolytic precipitate of direct filling gold is
  - A. Crystalline Gold
  - B. Fibrous Gold
  - C. Granular Gold
  - D. Powdered Gold
  
8. Main processes that control the Quality of final direct gold restoration are
  - A. Cold Welding
  - B. Wedging
  - C. Both A and B
  - D. None of the above
  
9. Extension of resin that has penetrated into etched enamel or dentin is called
  - A. Smear Layer
  - B. Hybrid Layer
  - C. Primer
  - D. Resin Tag
  
10. Type I fluxes used for soldering aids in
  - A. Surface protection
  - B. Acts as reducing agent
  - C. Acts as Solvent
  - D. All of the above
  
11. Hydrophilic material has
  - A.  $90^\circ$  Contact angle
  - B.  $0^\circ$  Contact Angle
  - C.  $45^\circ$  Contact Angle
  - D.  $60^\circ$  Contact Angle
  
12. Strength necessary to resist specified amount of Plastic deformation is called
  - A. Ultimate Strength
  - B. Tensile Strength
  - C. Yield Strength
  - D. Compressive Strength
  
13. Zinc Oxide eugenol and Impression plaster are called
  - A. Mucostatic Impression material
  - B. Mucocompressive Impression material
  - C. Elastomeric Impression material
  - D. Hydrocolloid

14. The following acts as retarder in setting of gypsum except
- A. Potassium Sulfate
  - B. 20% Sodium Chloride
  - C. Potassium Citrate
  - D. Borax
15. Thermal expansion of Gypsum bonded investment material is regulated by
- A. Gypsum
  - B. Sodium Chloride
  - C. Boric Acid
  - D. Silica
16. The effects of cold working can be reversed by the process called
- A. Strain Hardening
  - B. Soldering
  - C. Annealing
  - D. Brazing
17. Super abrasive finishing material is
- A. Tripoli
  - B. Diamond
  - C. Sand
  - D. Pumice
18. Castable Glass ceramics are called
- A. Dicor
  - B. IPS Empress - 1
  - C. IPS Empress - 2
  - D. In Ceram
19. Chemical activation of denture base resin is accomplished through the addition of
- A. Camphroquinone
  - B. Benzoyl peroxide
  - C. Dimethyl para Toulidine
  - D. Hydroquinone
20. Plasticized acrylic resins are
- A. Relining Resin
  - B. Rebasing Resin
  - C. Repair Resin
  - D. Soft Liners

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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. Explain in detail the causes of defective casting with emphasis on Porosities, causes and methods to overcome it.

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

2. Color and its Dimensions.
3. Zones of flame.
4. Methods of Strengthening Ceramics.

**SECTION – C**

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

5. Explain in detail the Dental Amalgam alloys with composition, Metallurgical phases, types of alloys and properties.

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

6. Hybrid composite.
7. Types of Glass Ionomer Cement.
8. Heat sources for Soldering.

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