

**Paper Code : 12006**  
**B.D.S. Second Year Examination February-2018**  
**Dental Materials**

Time : Three Hours

Maximum Marks : 70

**Note :** Attempt all questions. Draw neat labelled diagram wherever necessary. Use separate answer sheet for Part A and Part B.

**Part-A**

Marks : 35

- Q. No. 1. Classify impression materials. Write in detail about addition silicon impression material. 15 Marks
- Q. No. 2. Write short notes on the following : 5 Marks Each
- (a) Creep and flow
  - (b) High copper alloys
  - (c) Abrasive and polishing agents
- Q. No. 3. Multiple Choice Questions : 1 Mark Each
- (a) When solid gets wet completely, contact angle is :
    - (i)  $90^{\circ}$
    - (ii)  $0^{\circ}$
    - (iii)  $45^{\circ}$
    - (iv)  $>90^{\circ}$
  - (b) Property of material, which describes the resistance to abrasion, is :
    - (i) Hardness
    - (ii) Yield strength
    - (ii) Brittleness
    - (iv) Elastic limit
  - (c) Hysteresis in a hydrocolloid gel is :
    - (i) Moisture absorption
    - (ii) Phenomenon of conversion of gel into sol
    - (iii) Loss of water by evaporation
    - (iv) Temperature lag between gelation and liquefaction temperature
  - (d) Inelastic impression material is :
    - (i) Alginate
    - (ii) Agar-Agar
    - (ii) Polyether
    - (iv) Impression compound
  - (e) The hygroscopic technique is associated with :
    - (i) Investment
    - (ii) Hydrocolloids
    - (ii) Cements
    - (iv) Amalgam

Conti..2..

B 10

**Part-B**

Marks : 35

Q. No. 1. Classify dental waxes. Write in detail about blue inlay wax.

15 Marks

Q. No. 2. Write short notes on the following :

5 Marks Each

- (a) Wrought base metal alloy
- (b) Ductility
- (c) Zinc free alloys

Q. No. 3. Multiple Choice Questions :

1 Mark Each

(a) Brush heap structure is found in :

- (i) Agar-Agar
- (ii) Alginate
- (iii) Zinc-oxide paste
- (iv) Both (i) and (ii)

(b) Type I gypsum is :

- (i) Dental stone
- (ii) Impression plaster
- (iii) Dental plaster
- (iv) Dental stone with high strength

(c) The retarder added in alginate powder is :

- (i) Calcium sulphate
- (ii) Sodium phosphate
- (iii) Diatomaceous earth
- (iv) Potassium phosphate

(d) The accepted polymer to monomer ratio by volume is :

- (i) 3 : 1
- (ii) 2 : 1
- (iii) 1 : 2
- (iv) 5 : 6

(e) Which is not present in Porcelain :

- (i) Silica
- (ii) Feldspar
- (iii) Calcium Carbonate
- (iv) Amorphous Materials

**Paper Code : 12006**  
**BDS 2<sup>nd</sup> Year**  
**University Main Examination – 2018**  
**Dental Material**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Write answer in separate answer book for Part A and Part B. Explain your answer with appropriate diagrams.**

**Part A**

**(35 Marks)**

- Q.1. Enumerate Anterior Restorative material. Discuss conventional composites. **(10 Marks)**
- Q.2. Classify impression materials. Give the composition and manipulation of impression compound. **(10 Marks)**
- Q.3. Write shorts notes on the following : **(5 Marks Each)**  
(a) Creep and flow  
(b) Curing Cycle  
(c) Blue inlay wax

**Part B**

**(35 Marks)**

- Q.1. Explain the causes of defective castings. **(10 Marks)**
- Q.2. Classify dental cements used in dentistry. Discuss glass ionomer cement in detail. **(10 Marks)**
- Q.3. Write shorts notes on the following : **(5 Marks Each)**  
(a) Silver Amalgam  
(b) 18-8 stainless steel  
(c) Abrasive and polishing agents

**Paper Code : 12006**  
**BDS Second Year**  
**University Supplementary Examination – February 2019**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B.**

**Part A**

**(35 Marks)**

**Prosthodontics**

- Q.1. Define and classify denture base resins. Describe heat cure denture base resin in detail. **(10 Marks)**
- Q. 2. Classify impression materials. Discuss in detail about elastomeric impression materials. **(10 Marks)**
- Q.3. Write short notes on the following : **(5 Marks Each)**
- (a) Inlay wax
  - (b) Recent advances in ceramics
  - (c) Youngs modulus of elasticity and resilience

**Part B**

**(35 Marks)**

**Conservative Dentistry**

- Q.1. Define and classify dental amalgam. Write in detail about composition, properties and uses of high copper alloy. **(10 Marks)**
- Q.2. Classify cements. Discuss glass ionomer cement in detail. **(10 Marks)**
- Q.3. Write short Notes on the following: **(5 Marks Each)**
- (a) Direct filling gold
  - (b) Tarnish and corrosion
  - (c) Cavity varnish

**Paper Code : 12006**  
**BDS Second Year**  
**University Main/Supple. Examination – November 2020**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.**

**Part A**

**(35 Marks)**

**Prosthodontics**

- Q.1. Classify impression materials. Discuss in detail gypsum products. **(10 Marks)**
- Q. 2. Discuss in details restorative resin. **(10 Marks)**
- Q.3. Write short notes on the following : **(5 Marks Each)**
- (a) Delayed expansion
  - (b) Glass ionomer cement
  - (c) Crazeing

**Part B**

**(35 Marks)**

**Conservative Dentistry**

- Q.1. Write about the composition, classification, properties, manipulation and uses of dental ceramics. **(10 Marks)**
- Q.2. Classify dental cements. Describe in detail classification, composition, properties and advantages of glass ionomer cement. **(10 Marks)**
- Q.3. Write short Notes on the following: **(5 Marks Each)**
- (a) Rake angle
  - (b) Hardness
  - (c) Amalgam toxicity

**Paper Code : 12006**  
**University Examination – August 2021**  
**BDS Second Year**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.**

**Part A**

(35 Marks)

**Prosthodontics**

- Q. 1. Classify investment materials. Discuss in details, composition, manipulation, uses and properties of gypsum & phosphate bonded investment materials. (10 Marks)
- Q. 2. Classify dental waxes. Discuss in detail inlay casting waxes. (10 Marks)
- Q. 3. Write short notes on the following : (5 Marks Each)
- (a) Hygroscopic setting expansion
  - (b) Irreversible Hydrocolloid (Alginate)
  - (c) Casting defects

**Part B**

(35 Marks)

**Conservative Dentistry**

- Q. 1. Define dental amalgam. Write the composition of low copper alloys with the function of each constituent. (10 Marks)
- Q. 2. Define and classify dental ceramics. Discuss in detail about machinable all-ceramic materials. (10 Marks)
- Q. 3. Write short Notes on the following: (5 Marks Each)
- (a) Electro Formed Dies
  - (b) Composition and setting reaction of glass ionomer cement
  - (c) Various uses of calcium hydroxide in dentistry

**Paper Code : 12006**  
**University Supplementary Examination – December 2021**  
**BDS Second Year**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.**

**Part A**

**(35 Marks)**

**Prosthodontics**

- Q. 1. Classify dental porcelains. Discuss in detail composition, manipulation, uses and properties of all ceramic systems. **(10 Marks)**
- Q. 2. What is polymerization? What are different stages of polymerization of methyl methacrylate? Write in brief about technical consideration of denture base resin. **(10 Marks)**
- Q. 3. Write short notes on the following : **(5 Marks Each)**
- (a) Impression compound
  - (b) Denture cleansers
  - (c) Hardness, malleability and ductility

**Part B**

**(35 Marks)**

**Conservative Dentistry**

- Q. 1. Classify casting defects. Discuss porosities in noble metal alloy castings. **(10 Marks)**
- Q. 2. Write the evolution of dental composites. Discuss in detail microfilled composites. **(10 Marks)**
- Q. 3. Write short Notes on the following: **(5 Marks Each)**
- (a) Mercury hygiene in dental office
  - (b) Define galvanism and its clinical significance
  - (c) Classify direct filling gold

**Paper Code : 12006**  
**University Examination – August-September 2022**  
**BDS Second Year**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.**

**Part A**

**(35 Marks)**

**Prosthodontics**

- Q.1. Classify investment materials. Discuss in details, composition, manipulation, uses and properties of gypsum & phosphate bonded investment materials. **(10 Marks)**
- Q. 2. What is polymerization? What are different stages of polymerization of methyl methacrylate? Write in brief about technical consideration of denture base resin. **(10 Marks)**
- Q.3. Write short notes on the following : **(5 Marks Each)**
- (a) Hygroscopic setting expansion
  - (b) Hardness, malleability and ductility
  - (c) Crazeing

**Part B**

**(35 Marks)**

**Conservative Dentistry**

- Q.1. Classify dental composites. Give its indications, contraindications, advantages and disadvantages. Explain the process of acid etching in detail. **(10 Marks)**
- Q.2. Classify dental bases. Explain in detail about the role of zinc phosphate cement as a dental base. **(10 Marks)**
- Q.3. Write short Notes on the following: **(5 Marks Each)**
- (a) Tarnish & Corrosion
  - (b) Eames technique
  - (c) Annealing & Degassing



**Paper Code : 12006**  
**Supplementary University Examination – December 2022**  
**BDS Second Year**  
**Dental Material**  
**Paper Third**

TIME: 3 hours

Maximum marks: 70

**Note: Attempt all questions. Draw neat labelled diagrams wherever necessary. Write answer in separate answer book for Part A and Part B. Parts of a question must be answered together.**

**Part A**

**(35 Marks)**

**Prosthodontics**

- Q. 1. What is polymerization? What are different stages of polymerization of methyl methacrylate? Also write in brief technical consideration of denture base material. **(10 Marks)**
- Q. 2. Classify elastic and elastomeric impression materials. Discuss in detail regarding rubber base impression material. **(10 Marks)**
- Q. 3. Write short notes on the following : **(5 Marks Each)**
- (a) Stress, strain, proportional limit and young modulus elasticity
  - (b) Tarnish and corrosion
  - (c) Form of matter of state

**Part B**

**(35 Marks)**

**Conservative Dentistry**

- Q. 1. Define dental amalgam. Classify dental amalgam. Explain in detail about the role of each ingredient in amalgam. **(10 Marks)**
- Q. 2. Classify direct filling gold. Explain in detail about each type. **(10 Marks)**
- Q. 3. Write short Notes on the following: **(5 Marks Each)**
- (a) Acid etching technique
  - (b) Agar alginate technique
  - (c) Hue, chroma, value