I. Elaborate on:  
(2 x 10 = 20)  

1. Classify Elastomeric impression materials. Write in detail about addition silicone.  

2. Explain in detail about Dentin Bonding agents.  

II. Write Notes on:  
(10 x 5 = 50)  

1. Lost wax Technique.  
2. Biocompatibility.  
4. Fluid resin Technique.  
5. Polymerization Cycle.  
6. Coupling Agent.  
7. Cavity Liners.  
8. Calcium Hydroxide.  
10. Pit and Fissure Sealants.  

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**SECOND YEAR B.D.S. DEGREE EXAM**  
(Common to First Year Paper III - Modified Regulation III Candidates)

**PAPER III – DENTAL MATERIALS**

*Q.P Code: 544208*

Time: 180 Minutes                                    Maximum: 70 Marks

**I. Elaborate on:**  
(2 x 10 = 20)

1. Impression materials - Give the composition, physical and mechanical properties of silicon rubber base impression material, add note on other elastic impression material used in dentistry.

2. Dental waxes - Give the composition, properties, manipulation, techniques of Inlay casting waxes and explain various causes for wax distortion and the remedies.

**II. Write Notes on:**  
(10 x 5 = 50)

1. Hygroscopic expansion.
2. Surface Hardness.
5. Sprue.
7. Dual cure composites.
8. Eames technique.
10. Cavity liners and Bases.

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I. Elaborate on:  

1. Explain the term Biocompatibility of Dental materials and describe briefly adverse effects from Dental Materials.

2. Describe the High Copper Silver amalgam alloys, their amalgamation, micro structure and their advantages.

II. Write Notes on:  

1. Epoxy Resin Dies.
2. Inlay waxes.
3. Divestment.
4. 18 - 8 Stainless Steel.
5. Die Hardener.
6. Anti- Cariogenic.
7. Organic Fillers.
8. Implant materials.
I. Elaborate on: (2 x 10 = 20)

1. Classify the denture base materials. Describe the ideal requirements of denture base materials.

2. Describe the compositions of various types of Resins and their functions and uses.

II. Write Notes on: (10 x 5 = 50)

1. Soldering and welding.
2. Syneresis and imbibitions.
4. CAD CAM.
5. Electroformed Dies.
6. Lost wax technique.
8. Dycal.
10. Frozen glass Techniques.

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SECOND YEAR B.D.S. DEGREE EXAM
(Common to First Year Paper III - Modified Regulation III Candidates)

PAPER III – DENTAL MATERIALS

Q.P Code: 544208

Time: 180 Minutes                                    Maximum: 70 Marks

I. Elaborate on:                                        (2 x 10 = 20)

1. Dental ceramics – definition, properties and classification, add a note on strengthening of ceramics.

2. Definition, classification and ideal requirements of dental cements and add a note on agents used for pulp protection.

II. Write Notes on:                                    (10 x 5 = 50)

1. Annealing.

2. Injection molding technique.

3. Coefficient of thermal expansion.

4. Delayed expansion.

5. Flux and anti flux.


7. Dentine bonding agents.

8. Dentifrices.

9. Types of gypsum products.

10. Dental inlay casting wax.

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I. Elaborate on:  

1. Define impression and add notes on the ideal properties, applications and classification of impression materials.

2. Definition, requirements and classification of dental casting investments and a note on setting expansion.

II. Write Notes on:  

1. Artificial denture teeth material.
2. Dimensions of colour.
3. Cement bases.
4. Low copper alloys.
5. All ceramic restorations.
7. Forms of direct filling gold.
8. Strain hardening of wrought alloys.
9. Room temperature vulcanizing silicones.
10. Thermal properties of inlay waxes.
I. Elaborate on:  
(2 x 10 = 20)

1. Classify gypsum products. Discuss in detail about their setting reaction.
2. Finishing and polishing agents used in dentistry.

II. Write Notes on:  
(10 x 5 = 50)

1. Soldering and welding.
2. Inlay waxes.
3. Pit and fissure sealants.
4. Dimensional changes of amalgam.
5. Fluoride releasing cements.
6. Stages in addition polymerization.
8. Dicor.
10. Syneresis and Imbibition.

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SECOND YEAR B.D.S. DEGREE EXAM
(Common to First Year Paper III - Modified Regulation III Candidates)

PAPER III – DENTAL MATERIALS

Q.P Code: 544208

Time: 180 Minutes Maximum: 70 Marks

I. Elaborate on: (2 x 10 = 20)

1. Dental implants – definition, classification and notes on implant materials and surface coatings.
2. Define abrasion and polishing, notes on desirable characteristics of an abrasive and abrasive instrument designs.

II. Write Notes on: (10 x 5 = 50)

1. Stainless Steel.
2. Compression molding technique.
3. Acid etching technique.
4. Admixed alloys.
5. Impression compound.
7. Galvanic corrosion.
8. Separating media.
9. Miracle Mix.
10. Co- Cr- Ni alloys.

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SECOND YEAR B.D.S. DEGREE EXAM
(Common to First Year Paper III - Modified Regulation III Candidates)

PAPER III – DENTAL MATERIALS

Q.P Code: 544208

Time: 180 Minutes Maximum: 70 Marks

I. Elaborate on: \(2 \times 10 = 20\)

1. Syneresis and Imbibition.

2. Classify Dental Cements. Discuss in detail about Glass Ionomer Cement.

II. Write Notes on: \(10 \times 5 = 50\)


2. Classification of Dental Amalgam.

3. Acid Etching Technique.


5. Calcium Hydroxide Cement.


7. Tarnish and Corrosion.

8. Shape Memory of Nickel Titanium Alloys.

9. Impression Compound.

10. Methods of Strengthening Ceramics.

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