



AA-3561

Seat No. _____

Second Year B. D. S. Examination

December - 2017

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- 1** **Classify Impression Materials. Describe** **14**
Elastomeric Impression Materials in detail.

- 2** **Write Short Notes : (Any Three)** **15**
 - (a) Differences between alpha hemihydrate and beta hemihydrate
 - (b) Pit Corrosion
 - (c) Gypsum Bonded Investments
 - (d) Classification of Dental Ceramics
 - (e) Liners and Bases

- 3** **Answer shortly :** **6**
 - (a) Uses of Inlay Wax
 - (b) Name the Luting Cements
 - (c) Composition of Light Cure Acrylic Resin
 - (d) What do you mean by Pickling ?
 - (e) What do you mean by Degassing ?
 - (f) Smear Layer

SECTION - II

- 4 What do you mean by Dental Amalgam ? Give its Composition and role of each ingredients. Discuss about Mercury Toxicity and Measures to control it in Dental Offices. 14
- 5 Write Short Notes : (Any Three) 15
- (a) Noble Metal Alloys
 - (b) Polymerization Cycles
 - (c) Dentifrices
 - (d) Young's Modulus
 - (e) Dental Implants.
- 6 Answer Shortly : 6
- (a) What do you mean by Metamerism ?
 - (b) Name the Auxiliary Dental Materials
 - (c) Composition of Dental Composites
 - (d) What do you mean by Flux ?
 - (e) Dustfree Alginate
 - (f) Working Time.
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KC-2851

Seat No. _____

Second Year B. D. S. Examination

June / July - 2017

Dental Material

Time : 3 Hours]

[Total Marks : 70

- Instructions:**
1. Write to the point.
 2. Draw diagrams whenever necessary.
 3. Separate answer book for each section .
 4. Figures to the right indicate full marks.

SECTION - I

1 Any one. 14

A. Enumerate ideal requirements of impression materials. Describe ZnO impression material in detail.

OR

B. Classify Dental casting alloys. Describe gold Alloys in detail.

2 Write short notes on any three. 15

1. Self cure resin
2. Factors controlling hygroscopic expansion of gypsum products.
3. Inlay wax
4. Classification and setting reaction of irreversible hydrocolloid.
5. Syneresis and Imbibitions.

KC-2851]

1

[Contd...

- 3 Write the answer in one or two sentences. 6
1. What do you mean by Ductility?
 2. What is the softening temperature of impression compound ?
 3. Purpose of using perforated trays for hydrocolloid impression materials?
 4. What is self life?
 5. Give two reasons for not packing acrylic resin in the mould during rubbery stage?
 6. Give name of four zones of blow torch flame.

SECTION - II

- 4 Any one. 14

A. Define Dental Amalgam. Give Composition, classification and role of each ingredient. Explain setting reaction of High copper alloys.

OR

B. Classify restorative resins. Describe Dental Composite in detail.

- 5 Write short notes on any three. 15

1. Tarnish and corrosion
2. Porosities in casting defects.
3. Uses of Abrasive agents.
4. Dental fluxes.
5. Zinc phosphate cement.

6 Write the answer in one or two sentences :

6

1. What is the film thickness of varnish?
 2. Three Dimensions' of color
 3. Where is calcium hydroxide used?
 4. Mixing and Setting time of GIC.
 5. Which are the fluoride releasing cements?
 6. Which dental material has "self sealing ability"?
and what is it ?
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Seat No. _____

December – 2016

Time : **3** Hours]

[Total Marks : 70]

1	Classify impression materials. Write in detail about types, composition and manipulation of Impression Compound.	14
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1 Classify gypsum products. And give difference between Dental Stone and Dental Plaster. 14

2 Short notes : (any three) **15**

- (1) Blue inlay wax
- (2) Abressive and Polishing agents
- (3) Separating media
- (4) Polymerization reaction
- (5) Difference between acrylic teeth and porcelain teeth.

- 3** Answer the following in one or two sentences : **6**
- (1) What is cohesion and adhesion ?
 - (2) Composition of alginate.
 - (3) Classify impression trays.
 - (4) What is imbibition ?
 - (5) Types of investment materials.
 - (6) Define soldering and welding.

SECTION - II

- 4** Write in detail about casting defects. **14**

OR

- 4** Give the composition, role of individual ingredient and manipulation of silver amalgam. **14**

- 5** Short notes : (any three) **15**

- (1) Cavity liners, cement base and varnishes
- (2) Zinc phosphate cement
- (3) Composition of light activated composite resin
- (4) Tarnish and Corrosion
- (5) Classification of glass ionomer cement.

6 Answer the following in one or two sentences : **6**

- (1) What do you mean by Picking ?
 - (2) Define creep and flow.
 - (3) What is thermal expansion ?
 - (4) Enumerate the tooth colored restorative materials.
 - (5) Total etch technique.
 - (6) Forms of Direct Filling Gold.
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PAL-3081

Seat No. _____

Second B. D. S. Examination

June / July - 2016

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- 1 Classify Denture Base materials. Describe Compression Molding technique in detail. 14
- 2 Write short notes: (any three) 15
 - (a) Hygroscopic Setting Expansion
 - (b) Sprue design
 - (c) Current biocompatibility issues in dentistry
 - (d) CAD-CAM
 - (e) Strongest phase of amalgam setting
- 3 Give answers in one or two lines : 6
 - (a) Composition of inlay wax
 - (b) Advantages of glass ionomer cement
 - (c) Annealing
 - (d) What do you mean by Poisson's ratio ?
 - (e) Eutectic alloy
 - (f) What do you mean by Thixotropic material ?

PAL-3081]

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[Contd...

SECTION - II

- 1 What do you mean by Hydrocolloid ? Discuss :14
the composition, setting reaction, recent advances
of irreversible hydrocolloid impression material.
 - 2 Short Notes : (any three) 15
 - (a) Finishing Materials used in dentistry
 - (b) Phosphate bonded investment material
 - (c) Acid-etch Technique
 - (d) Luting. cements
 - (e) Karat and Fineness.
 - 3 Give answers in one or two sentences: 6
 - (a) Adhesion and cohesion.
 - (b) Passivation of metal
 - (c) Reology
 - (d) Working time
 - (e) ADA specification no. of dental waxes
 - (f) Uses of Composite resin.
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GDY-2851

Seat No. _____

Second Year B. D. S. Examination

January - 2016

Dental Materials

Time : 3 Hours]

[Total Marks : 70

- Instructions :**
- (1) Figure to the right indicates full marks.
 - (2) Draw diagrams wherever necessary.
 - (3) Use separate answer book for each section
 - (4) Write legibly.

SECTION I

- 1** Classify dental cements. Discuss glass ionomer cements for its composition, manipulation and properties. **14**

OR

- 1** Classify wax. Give the ideal requirement, composition and properties of inlay wax. **14**
- 2** Write short notes : (any three) **15**
- (a) Tarnish and corrosion
 - (b) Casting shrinkage
 - (c) Mercury toxicity
 - (d) Polymerisation shrinkage.

- 3 Write in one or two sentences : 6
- (i) Define ductility and malleability.
 - (ii) Uses of calcium hydroxide cements.
 - (iii) What is galvanism ?
 - (iv) Rake angle
 - (v) What do you mean by pickling ?
 - (vi) Total etch technique.

SECTION II

- 4 Classify impression materials. Discuss irreversible hydrocolloid in detail. 14

OR

What is hygroscopic setting expansion ?
Discuss the factors controlling hygroscopic expansion of gypsum product.

- 5 Write short notes : (any three) 15
- (a) Porcelain metal bond
 - (b) Modulus of elasticity and elastic limit
 - (c) Types and requirements of investment materials
 - (d) Setting reaction of high copper amalgam.
- 6 Write on one or two sentences : 6
- (i) What is self life ?
 - (ii) What is surface tension ?
 - (iii) Four zones of blow torch flame
 - (iv) Write full form of KHN, BHN, VHN.
 - (v) Storage of agar agar impression material
 - (vi) Soft liners.



HDC-2531

Seat No. _____

Second Year B. D. S. Examination

June / July - 2015

Dental Materials

Time : 3 Hours]

[Total Marks : 70

Instructions :

- (1) Answer to the points.
- (2) Figure to the **right** indicates marks.
- (3) Draw diagram wherever **necessary**.
- (4) Write legibly.
- (5) Use **separate** answer books for each section.

SECTION - I

- 1 Classify Gypsum products. Write differences between dental plaster and dental stone. Discuss phenomenon of Hygroscopic expansion. 14
- 2 Write short notes : (any three out of five) 15
 - (a) Syneresis and imbibition
 - (b) Hardness
 - (c) Soldering and Welding
 - (d) Impression compound
 - (e) Classification of ceramics.
- 3 Short answers : 6
 - (a) What is co-polymerization ?
 - (b) What is proportional limit ?
 - (c) Define Tarnish and Corrosion.

HDC-2531]

16Contd...

- (d) What is sprue ?
- (e) Give composition of Alginate.
- (f) Describe mode of action of cold mould seal.

SECTION - II

1. Classify Silver Amalgam. Discuss composition, 14
Role of ingredients, Uses, Manipulation of the same.
2. Short notes : (any three) 5×3=15
 - (a) Phosphate bonded investment material
 - (b) Zinc phosphate cement
 - (c) Abrasive and Polishing agents
 - (d) Casting defects
 - (e) Karat and finess.
3. Short answers : 1×6=6
 - (a) What is Flux ?
 - (b) Enumerate tooth coloured restorative material.
 - (c) What is Smear layer ?
 - (d) Uses of Blue inlay wax.
 - (e) Classify denture base material.
 - (f) What is ceramic ?



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KCE-8431 Seat No. _____
Second Year B. D. S. Examination
November/December – 2014
Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION – I

1. Define Tarnish and Corrosion. Describe the Electrochemical Corrosion in detail. 14
2. Short Notes : (Any 3) 15
 - (a) Hygroscopic Setting Expansion
 - (b) Inlay Casting Wax
 - (c) Current Biocompatibility Issues in Dentistry
 - (d) Difference between Alginate and Agar Impression Material
 - (e) CAD-CAM Ceramic
3. Multiple Choice Questions : 6
 1. When solid gets wet completely, the contact angle is
 - (a) 90°
 - (b) 180°
 - (c) $0-90^\circ$
 - (d) 0°
 2. Non-eugenol Paste contains
 - (a) Resin group
 - (b) Silicate group
 - (c) Carboxyl group
 - (d) Quinone group

3. Cold Mold Seal is
 - (a) Binder
 - (b) Accelerator
 - (c) Filler Particles
 - (d) Seperating Medium
4. Co-Cr Alloy contains
 - (a) 60% Cobalt and 30% Chromium
 - (b) 50% Cobalt and 50% Chromium
 - (c) 30% Cobalt and 60% Chromium
 - (d) 90% Cobalt and 10% Chromium
5. Poison's Ratio is
 - (a) Related to the toughness of the material
 - (b) Ratio of lateral to the axial strain
 - (c) Represents the stress value at which a small amount of plastic strain occur
 - (d) The ability of a material to absorb elastic energy and deform plastically
6. Sprues can be fabricated from
 - (a) Metal
 - (b) Acrylic
 - (c) Wax
 - (d) All of the above

SECTION-II

1. What do you mean by Dental Amalgam? Discuss 14 the composition, role of each ingredients, properties, and uses of Dental Amalgam.

2. Short Notes : (Any 3)

15

- (a) Gold Foil
- (b) Stages of Polymerization
- (c) Phosphate Bonded Investment Material
- (d) Zinc Phosphate Cement
- (e) Noble Metal Alloys

3. Multiple Choice Questions :

6

1. Composite is retained by phenomenon of
 - (a) True Bonding
 - (b) Cohesion
 - (c) Mechanical Interlocking
 - (d) Atomic Forces
2. The opacity of ceramics is achieved by
 - (a) Boric Oxide
 - (b) Copper Oxide
 - (c) Silica
 - (d) Titanium Oxide
3. Diamond Particle size of 120-150 μm is categorized as
 - (a) Fine
 - (b) Course
 - (c) Medium
 - (d) Extra fine
4. Universal Bonding Agent is
 - (a) HEMA
 - (b) META
 - (c) NPG-GMA
 - (d) EDTA

5. Cement that adheres to tooth structure chemically is
- (a) Silicate
 - (b) Zinc Phosphate
 - (c) Composites
 - (d) GIC
6. Boiling Point of Monomer is
- (a) 100.8 °C
 - (b) 90.8 °C
 - (c) 74 °C
 - (d) 74.8 °C
-



BN-5071

Seat No. _____

Second Year B. D. S. Examination

June - 2014

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- 1** Classify Dental porcelain. Give details of composition, manipulation, properties and various stages of maturity of Dental porcelain. **14**
- 2** Write short notes : (any three) **15**
 - (i) Discuss modulus of elasticity and elastic limit
 - (ii) Cavity liners and varnishes
 - (iii) Porosity
 - (iv) Soldering and welding
 - (v) ADA specifications
- 3** MCQs **6**
 - (i) Which of the following is a mucostatic impression material
 - (a) Agar
 - (b) Alginate
 - (c) ZOE paste
 - (d) Impression compound

- (ii) Materials having high compressive strength and low tensile strength are classified as
 - (a) Ductile
 - (b) Brittle
 - (c) Malleable
 - (d) Resilient
- (iii) The strongest component of dental amalgam alloys
 - (a) γ phase
 - (b) β phase
 - (c) γ_1 phase
 - (d) γ_2 phase
- (iv) Nano fillers are in range of
 - (a) 10-100 microns
 - (b) 0.1-10 microns
 - (c) 0.01-0.1 microns
 - (d) 0.005-0.01 microns
- (v) Insufficient closure of flasks during packing of denture base resin results in
 - (a) Poor color stability
 - (b) Less polymerization shrinkage
 - (c) Increase in vertical dimension
 - (d) Loss of vertical dimension
- (vi) The spacer in the wax pattern should be placed at
 - (a) Right angle
 - (b) Acute angle
 - (c) Obtuse angle
 - (d) It depends upon the type of wax pattern

SECTION - II

- 1 (a) What is Dental amalgam. Give composition and role of each ingredient of Dental amalgam. 14
- (b) Explain Mercury Hygiene in detail.
- 2 Write short notes : (any three) 15
- (i) Dental waxes-classification and characteristic properties.
- (ii) Define hydrocolloid. Compare and contrast Agar and Alginate.
- (iii) Factors controlling Hygroscopic Setting Expansion (HSE) of Gypsum products.
- (iv) Karat and Fireness.
- (v) Acid Etching.
- 3 MCQs : 6
- (i) After amalgam polishing the outermost surface has crystals arranged flattered to tooth surface this layer is called.
- (a) Beilby's layer
- (b) Beillye's layer
- (c) Biebyt's layer
- (d) None of above
- (ii) The minimum film thickness for lining a single crown is
- (a) 20 μ m (micrometers)
- (b) 25 μ m
- (c) 35 μ m
- (d) 45 μ m

- (iii) Bond failure in metal ceramic can occur between
 - (a) Metal and porcelain
 - (b) Metal oxide and porcelain
 - (c) Metal - metal oxide
 - (d) All of above
 - (iv) A carious lesion is present on the Gingival third of a maxillary dental incisor. After caries excavation the lesion seemed to be shallow, the material of choice for restoration is
 - (a) Dental amalgam
 - (b) Composite resin
 - (c) Glass Ionomer Cement
 - (d) Zinc poly carboxylate cement
 - (v) The microhardness of denture is about
 - (a) $\frac{1}{2}$ that of enamel
 - (b) $\frac{1}{3}$ that of enamel
 - (c) $\frac{1}{4}$ that of enamel
 - (d) $\frac{1}{5}$ that of enamel
 - (vi) Dental gold wires are stronger than type IV cast golds of similar composition because of :
 - (a) heat treatment
 - (b) work hardening
 - (c) elongation of grains
 - (d) all of above
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GCZ-5631

Seat No. _____

Second Year B. D. S. Examination

December – 2013

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION A

- 1** What is hydrocolloids ? Discuss the composition of irreversible hydrocolloid materials. Describe the role of each ingredients. How will you manipulate the same. **14**

- 2** Short Notes : (any three) **3×5=15**
 - (a) Hygroscopic setting expansion
 - (b) Gold Foil
 - (c) Hardness
 - (d) Tarnish and Corrosion
 - (e) ADA specification.

- 3** Answer shortly: **1×6=6**
 - (a) What is calcination ?
 - (b) Define stress and strain.
 - (c) What is soldering and welding ?
 - (d) What is investment material ?
 - (e) What is smear layer ?
 - (f) What is Annealing ?

SECTION B

- 1 Classify Silver Amalgam. Describe all phases and manipulation technique in detail. 14
- 2 Short notes : (any three) 3×5=15
- (a) Physical stages of polymerization
 - (b) Sprue
 - (c) Accelerators and Retarders
 - (d) Glass ionomer cement
 - (e) Difference between Acrylic and Porcelain teeth.
- 3 Answer shortly : 1×6=6
- (a) Carat and Fineness
 - (b) What is contact angle ?
 - (c) What is Reservoir ?
 - (d) Uses of blue inlay wax.
 - (e) What is Flux ?
 - (f) Activators and Inhibitors in Acrylic Resin
-



K-4171

Seat No. _____

Second Year B. D. S. Examination

June - 2013

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - A

- 1** Classify Denture base materials and how far **14**
the Acrylic resin fulfils the same.

- 2** Short notes : (any **three**) **3×5=15**
 - (a) Syneresis and imbibition
 - (b) Aluminous Porcelain
 - (c) Ductility and Malleability
 - (d) Blue inlay wax
 - (e) Impression compound.

- 3** Answer shortly : **1×6=6**
 - (a) What is Hardness ?
 - (b) What is carat and fineness ?
 - (c) What is calcination ?
 - (d) Accelerators and Retarders in Gypsum products.
 - (e) What is Hydro colloid ?
 - (f) Uses of Type-I Gypsum product.

SECTION - B

- 1 Classify Dental cements. Give composition, manipulation and uses of Glass ionomer cement. 14
- 2 Short notes : (any **three**) 3×5=15
- (a) Tarnish and corrosion
 - (b) Casting defects
 - (c) Abrasive and Polishing agents
 - (d) Difference between α -hemihydrate and β -hemihydrates
 - (e) Base Metal Alloys.
- 3 Answer shortly : 1×6=6
- (a) What is stress ?
 - (b) What is mechanism of action of cold mould seal ?
 - (c) What is gamma phase ?
 - (d) What is investment material ?
 - (e) Name of non-aqueous elastomeric impression materials.
 - (f) What is proportional limit ?
-



JH-661

Seat No. _____

Second Year B. D. S. Examination

October / November – 2012

Dental Material

Time : 3 Hours]

[Total Marks : 70

SECTION - A

- 1 Enumerate tooth coloured restorative materials. 14**
Discuss composition, role of ingredients and method of condensation of dental porcelain.

- 2 Short notes : (any 3 out of 5) 3×5=15**
 - (a) Give composition and role of each ingredient or zinc oxide eugenol paste. How will you control its setting time ?
 - (b) What are the different denture base materials ? What should be the requirements of an ideal denture base material ?
 - (c) Compare and contrast the following materials :
 - (i) Acrylic and porcelain teeth
 - (ii) Alpha and Beta hemi hydrate
 - (d) What do you understand by term polymerization ? Discuss the stages of Polymerization.
 - (e) What is porosity in acrylic resin ? What causes it and how to eliminate it in denture processing ?

3 Multiple choice questions :

1×6=6

- (i) Which of the following is present in the powder of acrylic resin ?
 - (a) Methyl Methacrylate
 - (b) Benzyl Peroxide
 - (c) Hydroquinone
 - (d) Methylparatoloudine
- (ii) Which of the following is not an elastomeric impression material ?
 - (a) Poly sulfide
 - (b) Silicones
 - (c) Polyether
 - (d) Agar-Agar
- (iii) Which of the following components act as refractory material in dental ceramics ?
 - (a) Feldspar
 - (b) Soda - Ash
 - (c) Kaolin
 - (d) Silica
- (iv) Phenomenon in which porcelain appears different under varying light condition is
 - (a) Translucency
 - (b) Refractive optics
 - (c) Chameleon like effect
 - (d) Pacification
- (v) Gypsum in the investment acts as :
 - (a) Filler
 - (b) Binder
 - (c) Refractory
 - (d) Reactor
- (vi) Eugenol has an adverse reaction with acrylic materials, so material use for temporary cement is
 - (a) Glass ionomer cement
 - (b) Zinc oxide non eugenol cement
 - (c) Zinc phosphate cement
 - (d) Composite resin

SECTION - B

- 1 Classify the dental cements. Give the composition, 14.
properties and uses of glass ionomer cement.
- 2 Short notes : (any 3 out of 5) 3×5=15
 - (a) Compare and contrast the properties of Zinc oxide eugenol cement with Zinc phosphate cement.
 - (b) Classify casting alloys, and a note on wrought base casting alloy.
 - (c) Finishing and polishing agents in dentistry.
 - (d) Biocompatibility of dental materials
 - (e) Dentifrices.
- 3 Multiple choice questions : 1×6
 - (i) Which of the following passivating element in casting alloy ?
 - (a) Cobalt
 - (b) Chromium
 - (c) Iron
 - (d) Silver
 - (ii) The particle size in microfilmed composite is
 - (a) 0.02 to 0.04 mm
 - (b) 0.5 to 1.0 microns
 - (c) 0.01 to 0.1 microns
 - (d) 0.3 to 0.4 mm
 - (iii) The setting time of zinc phosphate may be retarded by :
 - (a) Increase in ratio of power to liquid
 - (b) Diluting liquid with water
 - (c) Increase the rate of addition of power to liquid
 - (d) Decrease the rate of addition of power to liquid

- (iv) PH of fully set zinc phosphate cement is :
(a) 3-4
(b) 4-5
(c) 6-7
(d) 7-8
- (v) The carat for gold foil used for restoration is :
(a) 18
(b) 20
(c) 22
(d) 24
- (vi) Which of the following elastomeric impression can be multiple poured ?
(a) Poly sulfide
(b) Condensation silicone
(c) Polyvinyl silicone
(d) Polyether.
-



K-9711

Seat No. _____

Second Year B. D. S. Examination

June / July - 2012

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- 1** Classify impression materials. Describe composition, role of each ingredients and the setting reaction of Zn OE impression materials. **14**

- 2** Write short notes : (any three) **15**
 - (a) Copper Amalgam
 - (b) Abrasive and polishing agents
 - (c) Soldering
 - (d) Cavity Varnish
 - (e) Separating media

- 3** Multiple choice questions : **6**
 - (1) Which is the best method to prolong setting time of ZOE paste ?
 - (a) Changing ratio of base and catalyst
 - (b) Cooling the mixing slab and spatula
 - (c) Addition of retarders while mixing

- (2) Which is plasticizer ?
(a) Dibutyl phthalate
(b) Glycol dimethacrylate
(c) Hydroquinone
(d) Ethyl acrylate
- (3) Boxing wax is also called as
(a) Inlay wax
(b) Carding wax
(c) Baseplate wax
(d) Sticky wax
- (4) The most malleable and ductile metal is
(a) Gold
(b) Silver
(c) Platinum
(d) Copper
- (5) Amalgam is called zinc-containing if zinc is%
(a) 0.01
(b) 0.02
(c) 0.03
(d) 0.2
- (6) Universal bonding agent is
(a) HEMA
(b) NPG-GMA
(c) META
(d) EDTA

SECTION - II

- 1 Classify Dental waxes. Give composition and ideal requirements of Blue inlay wax. 14

 - 2 Write short-notes : (any three) 15
 - (a) Tarnish and Corrosion
 - (b) Sprue and Sprue former
 - (c) Hardness
 - (d) Hygroscopic setting expansion
 - (e) Co-polymerization

 - 3 Answer following questions : 6
 - (1) What is modulus of elasticity ?
 - (2) What is syneresis ?
 - (3) Boiling point of monomer is ?
 - (4) What is stress ?
 - (5) What is pH of freshly mixed $\text{Zn}(\text{PO}_4)$ cement ?
 - (6) Define contact angle.
-



TQ-8526

Seat No. _____

Second Year B. D. S. Examination

October / November - 2011

Dental Material

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- 1** What is hydrocolloids ? Discuss the composition of irreversible hydrocolloid materials. Describe the role of each ingredient. How will you manipulate the same ? **14**
- 2** Write short notes (any three) **15**
 - (a) High Copper Amalgam
 - (b) Glass ionomer cement
 - (c) Gold foil
 - (d) Ductility and malleability.
- 3** Fill in the blanks : **6**
 - (i) Contact angle should be ideally _____ degree for proper wetting.
 - (ii) Impression compound should be placed at _____ temperature in the mouth.
 - (iii) Boiling point of monomer is _____.
 - (iv) Over-spatulation of Plaster of Paris results in _____.
 - (v) Boxing wax is also called _____.
 - (vi) Metallic oxide which forms on noble metal is _____.

SECTION - II

- 1 Describe composition, uses, advantages and disadvantages of Dental porcelain in detail. 14
 - 2 Write short notes (any three) 15
 - (a) Tarnish and corrosion
 - (b) Hygroscopic setting expansion
 - (c) Reservoir
 - (d) Composition of composite resin.
 - 3 Fill the blanks 6
 - (i) _____ material is used to take wash impression for edentulous patient.
 - (ii) _____ is a universal bonding agent.
 - (iii) _____ causes greatest warpage in acrylic denture.
 - (iv) _____ is used as acid for etching in restorative resins.
 - (v) _____ fineness of gold is used for direct filling.
 - (vi) Most malleable and ductile metal is _____.
-



PF-5526

Seat No. _____

Second Year B. D. S. Examination

June/July – 2011

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION - I

- | | | |
|---|---|----|
| 1 | What are different investment materials ? Give composition and methods of manipulation of any one type of investment material. | 14 |
| 2 | Short notes : (any three)
(a) Annealing
(b) Abrasives and polishing agents
(c) Gold alloys
(d) Composite resins. | 15 |
| 3 | Fill in the blanks :
(i) Maximum flow permitted for Type-B inlay wax at 37°C temperature is_____
(ii) _____phase is the weakest phase of amalgam.
(iii) The process of changing rubber base product or liquid polymer to rubber like material is generally known as_____
(iv) pH of freshly mixed glass ionomer cement is_____
(v) Etching is done with_____
(vi) Under trituration of Amalgam results in_____. | 6 |

SECTION - II

- 1 Classify silver amalgam. Describe all phases and manipulation techniques in detail. 14
 - 2 Short notes : (any three) 15
 - (a) Luting agents
 - (b) Zinc-phosphate cement
 - (c) Blue inlay wax
 - (d) Accelerators and Retarders.
 - 3 Give answer in single line or single word : 6
 - (i) Shrinkage-free ceramic is called_____.
 - (ii) Define stress.
 - (iii) Sprues can be fabricated from_____.
 - (iv) Softening heat treatment is also called as_____.
 - (v) Dental porcelains are classified as medium fusing if temperature is_____°C to _____°C.
 - (vi) Chemically dental stone is calcium sulphate_____.
-



6676

Seat No. _____

Second Year B.D.S. Examination

October / November – 2010

Dental Materials

Time : 3 Hours]

[Total Marks : 70

SECTION – I

- 1 Define Impression. Discuss about ideal properties and classification of Impression materials. Describe in detail about Zinc Oxide Eugenol impression paste in detail. 14
- 2 Write short notes on : (any three) 15
 - (i) Glass-Ionomer cement
 - (ii) Chemical stages of Polymerization
 - (iii) Type I Gypsum Product
 - (iv) Bhie Inlay Wax
- 3 Fill in the blanks : 6
 - (i) Chemically dental stone is calcium sulphate_____.
 - (ii) Contact angle should be ideally _____ degrees for proper wetting.
 - (iii) _____ is retarder in composition of Alginate.
 - (iv) _____ is used as acid for acid etch technique in restorative resins.

- (v) Dental porcelains are classified as medium fusing if the temperature is _____ to _____ °C.
- (vi) Boiling point of monomer is _____ °C.

SECTION - II

- 4 Define and classify Alloys. Discuss the Base Metal Alloys in detail. 14
- 5 Write short notes on : (any three) 15
- (i) Stress and strain
 - (ii) Dental Amalgam composition and function of each constituent.
 - (iii) Tarnish and Corrosion
 - (iv) Hygroscopic Setting Expansion.
- 6 MCQ : 6
- (i) Commonly used hardening solution for Hydrocolloids is
 - (a) Sodium Sulphate
 - (b) Potassium Sulphate
 - (c) Citrate
 - (d) Zinc acetate
 - (ii) Universal Bonding agent is
 - (a) HEMA
 - (b) NPG-GMA
 - (c) META
 - (d) EDTA

- (iii) Softening heat treatment is also called as
- (a) Annealing
 - (b) Work hardening
 - (c) Age hardening
 - (d) All of the above
- (iv) Fineness of the gold used for direct filling is
- (a) 22 carats
 - (b) 18 carats
 - (c) 24 carats
 - (d) 20 carats
- (v) Which of the following is not found in flux for soldering stainless steel ?
- (a) Borax
 - (b) Boric acid
 - (c) Magnesium Carbonate
 - (d) Potassium fluoride
- (vi) Sprues can be fabricated from
- (a) Wax
 - (b) Acrylic
 - (c) Metal
 - (d) All of the above
-



D-2951

Seat No. _____

Second Year B. D. S. Examination

April / May - 2010

Dental Materials

Time : 3 Hours]

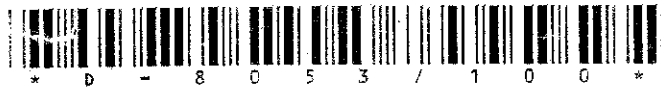
[Total Marks : 70

SECTION - I

- 1 Describe various tooth coloured restorative materials and give composition and uses of composite resin material. 14
- 2 Classify impression materials and describe composition, manipulation and uses of Alginate material. 14
- 3 Short notes : (any **three**) 12
 - (1) Luting Agents
 - (2) Ductility and Malleability
 - (3) Hygroscopic setting expansion
 - (4) Reservoir.

SECTION - II

- 1 Classify denture base materials and how far the acrylic resin fulfils the same? 14
- 2 What is silver Amalgam? Give composition, role of each ingredients, properties and uses of the same. 14
- 3 Short notes : (any **three**) 12
 - (1) Aluminous porcelain
 - (2) Glass ionomer cement
 - (3) Contact Angle
 - (4) Inlay wax.



D-8053

Seat No. _____

First Year B.D.S. Examination

October / November – 2008

Dental Materials

Time : 3 Hours]

[Total Marks : 80

- Instructions:**
- (1) Write legibly.
 - (2) Draw diagrams where **necessary**.
 - (3) Separate answer book for each section.
 - (4) Figures to **right** indicate **full** marks.

SECTION - I

- 1 Classify impression materials. Describe composition, role of each ingredients, and the setting reaction of zinc Oxide Eugenol impression material. 12
- 2 Describe the requirements of an ideal Denture base material. How for acrylic resin fulfills these requirements? 12

OR

- 2 Name different types of composite resins, its composition and properties of each in detail. 12
- 3 Write short notes on any **four** : 16
 - (a) A.D.A. specification
 - (b) Blue inlay wax
 - (c) Gold foil

- (d) Hardness
- (e) Sprue

SECTION - II

- 4 Classify Dental Cements. Give composition, manipulation and uses of Glass ionomer cement. 12
- 5 What is Gypsum? Describe the methods used for measuring initial and final setting time of Plaster of Paris. How will you control its setting time? 12

OR

- 5 Describe composition, uses, advantages and disadvantages of dental porcelain. 12
 - 6 Write short notes on any **four**: 16
 - (a) Accelerators and Retarders
 - (b) Tarnish and Corrosion
 - (c) Ductility and Malleability
 - (d) Trituration
 - (e) Separating media
-



DF-5503

Seat No. _____

First Year B. D. S. Examination

May / June - 2008

Dental Materials

Time : 3 Hours]

[Total Marks : 80

- Instructions :**
- (1) Write legibly.
 - (2) Draw diagrams where necessary.
 - (3) Use separate answer book for each section.
 - (4) Figures to the right indicate full marks.

SECTION - I

1 What is hydrocolloids ? Discuss the composition of irreversible hydrocolloid materials. Describe the role of each ingredient. How will you manipulate the same ? **12**

2 Classify Dental Cements. Compare the composition properties and uses of Glass ionomer cement and silicate cement. **12**

OR

2 Describe composition, uses, advantages and disadvantages of Dental Porcelain. **12**

3 Write short notes on any four : **16**

- (a) Proportional limit
- (b) Casting defects
- (c) Die materials
- (d) Stress and strain
- (e) Wrought metal alloys.

DF-5503]

1

[Contd...

SECTION - II

4 Give the names of different gypsum products. 12
Explain different manufacturing procedures and applied uses of gypsum products in detail.

5 What is polymerization ? Describe the stages the mixture passes through during mixing of heat activated polymer and monomer upto the stage of packing. 12

OR

5 Classify Dental Waxes. Describe the composition of Inlay Casting Wax and its properties. 12

6 Write notes on any four : (16)

- (a) Composite resins
 - (b) Carat and fineness
 - (c) Abrasive and polishing agents
 - (d) Copper amalgum
 - (e) Tarnish and Corrosion.
-



6803

Seat No. _____

First Year B. D. S. Examination

June - 2007

Dental Materials

Time : 3 Hours]

[Total Marks : 80

- Instructions :**
- (1) Write legibly.
 - (2) Draw diagrams where **necessary**.
 - (3) **Separate** answer book for each section.
 - (4) Figures to the **right** indicate **full** marks.

SECTION - I

- 1** Name different non-aqueous elastomeric impression **12** materials. Discuss the composition, role of individual ingredients, manipulation, advantages and disadvantages of Addition Poly Silicone impression materials.
- 2** What are different investment materials ? Give **12** composition and method of manipulation of any one type of investment material.

OR

- 2** Classify Dental Waxes. Give composition and ideal **12** requirement of Blue inlay Wax.

- 3 Write short notes on any four : 16
- (a) Soldering
 - (b) Syneresis and Imbibition
 - (c) Cavity Varnish
 - (d) Creep and Flow
 - (e) Abrasive and Polishing agents.

SECTION - II

- 4 Discuss the composition, role of individual ingredient and physical properties of Silver Amalgum Alloy.
- 5 Describe all the stages the mixture passing through from the time Acrylic Polymer and monomer are mixed until it is packed in the flask for curing. 12

OR

- 5 Describe various casting defects its causes and how will you do a casting to avoid such defects. 12
- 6 Write short notes on any four : 16
- (a) Stress and Strain
 - (b) Hygroscopic expansion
 - (c) Difference between α and β hemihydrates
 - (d) Separating media
 - (e) Gold alloys.

Narsinhbhai Patel Dental College & Hospital, Visnagar
Department of Prosthodontics- Dental Materials
IIND B.D.S. Internal Examination-2017 – 2018

Draw neat labeled diagrams wherever necessary.

Time: 3hrs

Total Marks: 50

Section- A (25 Marks)

1. Long Essay

1x7=7

- a) Classify Impression Materials. Write in detail about composition, setting reaction, manipulation, properties and uses of Bite registration paste.

2. Short Notes (3 of 5)

3x4=12

- a) Hue, value & chroma.
- b) Hardness
- c) Syneresis and Imbibition
- d) Physical stages of polymerization of Acrylic resin
- e) Compression moulding technique

3. Answer in one line

6x1=6

- a) Poisson's ratio
- b) Soluble plaster
- c) Composition of Impression compound.
- d) Uses of Irreversible hydrocolloid impression material
- e) What is CTE?
- f) What is calcination?

2nd year

NARSINHBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR

SECOND INTERNAL EXAM

DENTAL MATERIAL

SECTION – B

Long Essay

(7 marks x 1 = 7 marks)

1. Define Dental Amalgam, write Manipulation of Dental Amalgam.

Short Notes (Any Three)

(4 marks x 3 = 12 marks)

2. Advantage and Disadvantage of Dental Amalgam
3. Mercury Toxicity
4. Property of Dental Amalgam
5. Classification of Silver Alloys
6. Setting Reaction of Admixed type of high copper alloy

MCQS

(1 marks x 6 = 6 marks)

7. Strongest phase of Silver amalgam_____
- Weakest Phase of Silver Amalgam_____
8. Which ingredient cause delayed expansion in silver amalgam?
9. What is Eames Technique.
10. Maximum Strength of Silver amalgam occurs After ____Hours.
11. Define trituration.
12. Importance of Pre-carve & Post-carve Burnishing.

Narsinhbhai Patel Dental College & Hospital, Visnagar
Department of Prosthodontics- Dental Materials
IIND B.D.S. Preliminary Examination-2016 – 2017

Draw neat labeled diagrams wherever necessary.

Time: 3hrs

Total Marks: 70

Section- A (35 Marks)

1. Long Essay (1 of 2)

1x10=10

- a) Classify impression materials. Enumerate the composition, uses, advantage, and disadvantage. Recent modifications of alginate.
- b) Define dental ceramic. Write classification, composition and uses.

2. Short Notes (3 of 5)

3x5=15

- a) Hue, value & chroma.
- b) Tests for setting time of gypsum.
- c) Explain casting defects.
- d) Classify dental waxes.
- e) Classify gypsum product, water- powder ratio of each product.

3. Answer in one line (5)

5x1=5

- a) Zones of flame.
- b) List any two polishing agents.
- c) Types of corrosion.
- d) Slurry water.
- e) Name any two separating media.

4. MCQ's (5)

5x1=5

- a) Example For Metal Free Ceramic
 - 1) Porcelain jacket crown 2) Lithium-Di-Silicate 3) Both 1&2 4) None
- b) W/P Ratio Of Dental Stone Is
 - 1) 0.8 2) 0.18 3) 0.28 4) 0.38
- c) Perforated Tray Is Used For
 - 1) Zoe 2) Compound 3) Alginate 4) Agar
- d) Mouth Temperature Waxes
 - 1) Iowa 2) Modeling 3) Sticky 4) None
- e) Flux Is Used For Metal Flow
 - 1) Prevent 2) Allow 3) Both 4) None

SECTION – II

Question-1 Classify dental cement. Write in detail about type, composition, setting reaction & property of Glass Ionomer Cements. Or

Question- 1 Define Composite resin. Describe in detail about Classification, Composition of composite resin.

(10 marks)

Question- 2 Write short notes (Any Three)

(3x5marks = 15 marks)

1. High Copper Silver Amalgam
2. Calcium Hydroxide Cement
3. Zinc Oxide Eugenol Cement
4. Zinc phosphate Cement
5. Advantage and Disadvantage of silver amalgam

Question- 3 Answer in one line.

(5x1marks = 05 marks)

1. What is delayed expansion in Silver Amalgam?
2. Which ingredient act as scavenger in silver amalgam?
3. What is ASPA?
4. Define Silver Amalgam?
5. Write name of cements which are chemically bond to tooth structure?

Question- 4 MCQ

(5x1marks = 05 marks)

1. Which of the following weakest phase of the set amalgam:
a) Beta-2 b) Gamma
c) Gamma-1 d) Gamma-2
2. Fluoride rich materials include?
a) Silicate cement b) Glass ionomer cement
c) Polycarboxylate cement d) All of the above
3. Frozen slab technique s applicable to:
a) Zinc phosphate cement
b) Glass Ionomer cement
c) Zinc oxide Eugenol cement
d) Resin cement
4. Shade selection is done with in how much time to avoid fatigue of eyes?
a) 5 seconds
c) 15 seconds b) 10 seconds
d) 20 seconds
5. Which of the following show chemical bond with enamel:
a) Composites b) Direct filling resins
c) Polycarboxylate cements
d) BIS-GMA resins in pit and fissure sealants

Narsinhbhai Patel Dental College & Hospital, Visnagar
Department of Prosthodontics
II B.D.S. Second Internal Examination-2016-2017
DENTAL MATERIALS

Time: 1Hour

[25 MARKS]

SECTION I

1. Long Essay

[7]

Classify dental ceramics. Give details of composition & methods of strengthening dental ceramics.

2. Write Short Note [Any Three]

[12]

- a) Casting Defects
- b) Disinfection of Agar & Alginate Impressions
- c) Suck back porosity
- d) Pressable ceramic

3. Answer any 6 in short (one or two sentences)

[6]

- a) Hue & Value
- b) Brush Heap Structure
- c) Types of impression compound
- d) Setting time of alginate
- e) KHN
- f) Glazing
- g) Imbibition

DENTAL MATERIAL

SECTION – II

Time: 1Hour

[25 MARKS]

**Question-1 Classify dental cement. Describe in detail about Calcium Hydroxide Cement.
(7 marks)**

Question- 2 Write short notes (Any Three) (3x4marks = 12 marks)

1. Setting reaction of GIC
2. Tarnish & Corrosion
3. Classification of composite resin
4. Manipulation of Zinc Phosphate Cement
5. Classification of Silver Alloys

Question- 3 Answer in one line. (6x1marks = 06 marks)

1. Which ingredients cause delayed expansion?
2. Who introduced GIC?
3. What is pre-carv burnishing & post-carv burnishing?
4. Define Silver Amalgam?
5. Write a type of GIC Cement.
6. Write name of cements which are chemically bond to tooth structure?

**Dept of Prosthodontics , Crown & Bridge, Faculty of Dental Sciences, SP
University, Visnagar**

Second year BDS, 1st INTERNAL EXAMINATION, REGULAR BATCH

Sub- DENTAL MATERIALS

SECTION A (25 Marks)

I. LONG ESSAY (7 MARKS)

1 Classify impression materials . Discuss in detail about composition, manipulation, properties & uses of ALGINATE impression paste.

II. SHORT NOTES (ANY THREE) 3x4 = 12 (4 marks each)

1 Composition of ZOE impression paste

2 Classification of gypsum products

3 Laminate Impression Technique

4 Hygroscopic setting expansion

III. VERY SHORT ANSWERS 1x6 = 6 (1 mark each)

1 Value & Chroma

2 Hydrocol

3 Setting time

4 Syneresis

5 Impression compound

6 Young's modulus

Second Year B.D.S

First Internal Section-B (25marks)

[1×7marks=7marks]

Long Essay

1. Define Dental Amalgam, Write Manipulation Of Dental Amalgam.

[4 ×marks=12marks]

Short Notes (Any Four)

2. Composition Of Dental Amalgam.
3. History Of Dental Amalgam.
4. Properties Of Dental Amalgam.
5. Classification Of Silver Alloys.
6. Setting reaction of high copper alloy.

MCQS

[1marks ×6=6marks]

7. Define mulling
8. Which of the following strongest phase of the set amalgam:
a) Beta-2 b) Gamma c) Gamma-1 d) Gamma-2
9. Which ingredient cause delayed expansion?
a) Zinc b) copper c) silver d) palladium
10. Which component act as scavenger
a) Copper b) silver c) zinc d) tin
11. Define Burnishing
12. Define Carving

Narsinhbhai Patel Dental College & Hospital, Visnagar

Department of Prosthodontics

SUBJECT: DENTAL MATERIALS

II B.D.S. Preliminary Examination-2015-2016

Time: 3hrs

Total Marks: 100

Section- A (50 Marks)

1. Long Essay

20

Classify investment materials. Describe the casting procedure in brief. List the casting defects.

2. Short Notes (Any three)

3×8=24

- a) Physical and chemical stages of acrylic manipulation
- b) Difference between normal and hygroscopic setting expansion
- c) Classify elastomers. Write about A- silicon.
- d) 18-8 stainless steel

3. Short Answer

6×1=06

- a) Syneresis and imbibition
- b) Malleability and ductility
- c) Composition of ZOE paste
- d) Accelerators in gypsum
- e) Karat and fineness
- f) Ni-TiNol

Dental materials
Second Year B.D.S
Preliminary Examination
Section-B

[50 Marks]

Long Essay.

[14 marks*2=28marks]

1. Classify silver amalgam. Describe all phases and manipulation technique in detail.
2. Classify dental cements. Discuss Glass Ionomer Cement for its composition, manipulation and properties.

Short Notes.(Any three)

[5marks*3=15marks]

3. Tarnish and corrosion
4. Composition of Composite
5. Mercury toxicity
6. Cavity liners and varnishes

ANSWER SHORTLY

[1marks*7=7marks]

7. Total etch technique.
8. Define Creep. What is significance of it?
9. What is galvanism?
10. Importance of pre-carve and post-carve burnishing.
11. Coupling agent used in composite_____.
12. Enumerate parts of rubber dam kit.
13. Delayed Expansion

Narsinhbhai Patel Dental College & Hospital, Visnagar

Department of Prosthodontics

SUBJECT: DENTAL MATERIALS

II B.D.S. Preliminary Examination-2015-2016

Time: 3hrs

Total Marks: 100

Section- A (50 Marks)

1. Long Essay

20

Classify investment materials. Describe the casting procedure in brief. List the casting defects.

2. Short Notes (Any three)

3×8=24

- a) Physical and chemical stages of acrylic manipulation
- b) Difference between normal and hygroscopic setting expansion
- c) Classify elastomers. Write about A- silicon.
- d) 18-8 stainless steel

3. Short Answer

6×1=06

- a) Syneresis and imbibition
- b) Malleability and ductility
- c) Composition of ZOE paste
- d) Accelerators in gypsum
- e) Karat and fineness
- f) Ni-TiNoI

Dental materials
Second Year B.D.S
Preliminary Examination
Section-B

[50 Marks]

Long Essay.

[14 marks*2=28marks]

1. Classify silver amalgam. Describe all phases and manipulation technique in detail.
2. Classify dental cements. Discuss Glass Ionomer Cement for its composition, manipulation and properties.

Short Notes.(Any three)

[5marks*3=15marks]

3. Tarnish and corrosion
4. Composition of Composite
5. Mercury toxicity
6. Cavity liners and varnishes

ANSWER SHORTLY

[1marks*7=7marks]

7. Total etch technique.
8. Define Creep. What is significance of it?
9. What is galvanism?
10. Importance of pre-carve and post-carve burnishing.
11. Coupling agent used in composite_____.
12. Enumerate parts of rubber dam kit.
13. Delayed Expansion

DENTAL MATERIALS

II B.D.S Second Internal Examination 2016-17

Time: 1Hour 30 Mins

[25 MARKS]

SECTION I

1. Long Essay

[7]

Classify denture base resin. Name the chemical and physical stages of polymerization.
Write in detail heat cure resin and compression moulding technique.

2. Write Short Note [Any Three]

[12]

- a) Hue Chroma value
- b) Inlay wax
- c) Castable ceramics
- d) Cobalt chromium alloys

3. Answer any 6 in short (one or two sentences)

[6]

- a) Glass transition temperature
- b) Stress and strain
- c) Mixing and setting time for alginate
- d) Crazeing
- e) Die material
- f) Glazing
- g) Syneresis

DENTAL MATERIALS

II B.D.S Second Internal Examination 2016-17

Time: 1Hour 30 Mins

[25 MARKS]

SECTION II

1. Long Essay

a) Write definition, classification, physical properties, advantage and disadvantage of Composite material in detail.

[10]

(OR)

b) Write classification, physical properties, advantage, disadvantage, indication and contraindication of Amalgam in detail.

[10]

2. Write Short Note [Any Three]

[9]

- a) Ca(OH)_2
- b) Zinc Oxide Eugenol Cement
- c) Setting reaction of low and high copper Amalgam.
- d) Glass Inomer Cement
- e) Classification of dental Cement

3. Answer in short (one or two sentences)

[6]

- a) What is galvanism?
- b) Acid etching of Enamel
- c) Name different lights used for composite curing.
- d) Manipulation of GIC.
- e) Polymerization shrinkage.
- f) Rake Angle

Narsinhbhai Patel Dental College & Hospital, Visnagar
Department of Prosthodontics
II B.D.S.DENTAL MATERIALS First Internal Examination-2015-2016

Total Time: 1.5hrs

Total Marks : 50

Answer each section in different answer booklets

SECTION – A - 25 marks

1. Long Essay : 10 marks

- 1) Classify impression materials. Discuss in detail about addition silicone elastomer.

2. Short Notes (Any three) : 03 marks each

- 1) Types of setting expansion in gypsum products.
- 2) Uses of dental waxes.
- 3) Composition of alginate impression material.
- 4) Classify dental casting alloys.

3. Short Answer : 01 marks each

- 1) Dental plaster is ----- hemi-hydrate.
- 2) Name any two casting defects.
- 3) Composition of impression compound.
- 4) What is slurry water?
- 5) Syneresis & imbibition
- 6) Accelerator in ZOE paste is-----
a) zinc oxide b) mineral oil c) calcium chloride d) eugenol

SECTION – B – 25 marks

1. Long Essay : 10 marks

- 1) Discuss classification, physical properties, advantages, disadvantages, indication and contra indication of amalgam.

2. Short Notes (Any three) : 03 marks each

- 1) Classification of dental cements
- 2) Glass ionomer cement
- 3) Tarnish & Corrosion
- 4) Zinc Phosphate Cement
- 5) Setting Reaction Of High & Low Copper Amalgam

3. Short Answer : 01 marks each

- 1) what is Eames technique?
- 2) Causes of delayed expansion
- 3) Difference between amalgam & amalgam alloy
- 4) Strongest & weakest phase of low copper amalgam
- 5) Define trituration
- 6) Importance of pre-carve & post-carve burnishing

Narsinhbhai Patel Dental College & Hospital, Visnagar
Department of Prosthodontics
II B.D.S. 2nd Internal Examination-2015-2016(oct-dec batch)
Dental Material

Time: 1.5hrs

Total Marks: 50

Section- 1 (25 Marks)

1. Long Essay

7

Classify impression materials. Discuss Alginate impression material in detail.

2. Short Notes (Any three)

4×3=12

- a) Syneresis and imbibition
- b) High fusing compound
- c) Dental porcelain
- d) Casting defects

3. Short Answer

6×1=06

- a) Zone of flame
- b) Define soldering.
- c) Classification of direct filling Gold
- d) Define Calcination.
- e) Classification of Dental waxes.
- f) What is Karat and Finess.

Dept of Conservative & Endodontia
Second Year B.D.S
2nd Internal Examination (Oct-Dec Batch)
Dental Material

Section-2

[25 Marks]

Long Essay

[7 marks*1=7marks]

Que-1 Describe in details about classification, composition & properties of GIC .

Short Notes(any three)

[4marks*3=12marks]

Que-2 Zinc Phosphate cement.

Que-3 classification & Advantages of composite.

Que-4 Properties of silver amalgam.

Que-5 Zinc oxide eugenol cement.

MCQS

[1mark*6=6marks]

Que-6 Uses of dental cements.

Que-7 What is miracle mix?.

Que-8 Zinc polycarboxylate cement

Setting time - -----

Working time - -----

Que-9 Advantage of silver amalgam over composite.

Que-10 sandwich technique.

Que-11 frozen slab method.

Dept of Prosthodontics ,Crown & Bridge,NPDCH,Visnagar

Second year BDS PRELIMINARY EXAMINATION Regular BATCH 2014-15.

SUB- Dental Materials

Duration-3hours

Total marks-100

Section –A (50 MARKS)

I.LONG ESSAY

14 MARKS

1. Classify impression materials. Write in detail about composition, setting reaction, manipulation, and properties of Alginate. Also mention different modification and advancements in Alginate

II.SHORT NOTES (ANY FIVE)

5 x 5=25 MARKS(5 marks each)

1. Write in details about setting time measurement in gypsum.
2. Stress and strain in dental materials.
3. Setting expansion in investment material.
4. Casting alloys.
5. Abrasive and polishing agent.
6. Composition and classification of dental ceramics.
7. Casting defects

III.SHORT ANSWERS

1 1x 1=11 MARKS(1 marks each)

1. Hydroquinone in denture base resin acts as:
a) Inhibitor b) indicator
c) Activator d) base
2. Write in brief about syneresis and imbibition.
3. Classification of different type of prosthetic teeth material.
4. Define malleability.
5. The change in length per unit length of a material when its temperature is raised or lowered one degree is otherwise known as
a) Thermal diffusibility b) Coefficient of thermal conductivity
c) Linear coefficient of thermal expansion d) None of the above
6. Which of the following impression material is rigid impression material?
a) Polysulfide impression material b) Poly ether impression material
c) Alginate impression material d) Impression plaster
7. What is warpage in denture base resins?
8. Define soldering and brazing.
9. What is ductility?
10. Chemical formula of Gypsum is Calcium Sulphate_____.
11. Enumerate different types of Nobel metal alloys .

Section-B (50 MARKS)

Long Essay

Q 1. Discuss Classification, properties and types of direct filling gold in detail.

14

Short notes (any 5)

Q 2. Acid Etching

Q.3. Liners and bases

Q.4. Finishing and polishing agents

Q 5. Inlay wax

Q.6. Tarnish and corrosion

Q 7. Classification of amalgam

5x5

Q8. Short Questions

a) Creep

b) Two Anticariogenic agents.....

c) Eames technique

d) Setting time of zinc phosphate is

e) Coupling agent used in composite.....

f) Butt joint

g) Weakest phase of amalgam is

h) Composite is retained by.....bond

i) Main ingredient of ZnPO₄ cement liquid is.....

j) ADA specification number for amalgam.....

k) Cements which can be used as liners.....

-----Best of luck-----

SUB- Dental Materials

Duration-1hours 30 mins

Total marks-50

Section -1 (25 MARKS)

I.LONG ESSAY

7 MARKS

1. Classify impression materials. Write in detail about composition, setting reaction, manipulation, properties, uses and limitation of Zinc oxide eugenol impression paste.

II.SHORT NOTES (ANY THREE)

3 x 4=12MARKS (4 marks each)

1. Theories of setting in gypsum.
2. Zones of flame with diagram.
3. Composition and classification of dental ceramics.
4. Abrasive agents.

III.SHORT ANSWERS

6x 1=6MARKS (1 marks each)

1. Uses of flux in a solder.
 2. Hydroquinone in denture base resin material acts as _____.
 3. Define Ductility.
 4. Hue of an object refers to:
 - a) Basic colour of an object
 - b) Lightness or darkness of an object
 - c) Degree of saturation of particular colour
 - d) None of the above
 5. Glass transition temperature of impression compound is
 - a) 102°F
 - b) 43.5°C
 - c) 43.5°F
 - d) 102°C
 6. Composition of Cold cure denture base resins.
-

**Second Year B.D.S
1st Internal Examination
(Oct Dec batch 2015)**

[25 Marks]

1. Explain composites in detail (7 marks)

Short notes – any 3 (4marks each)

2. Classification and properties of direct filling gold
3. GIC – define , classify and indications
4. Define matrix , matricing and classify retainers
5. Advantages and disadvantages of amalgam
6. Zinc phosphate

MCQ (1 mark each)

7. Butt joint is _____ degrees .
8. Function of base –a. mechanical protection b. chemical protection
c. galvanic protection d. all of the above
9. Delayed expansion is due to presence of _____ amalgam and release _____ gas
10. _____ and _____ are used as liners
11. Which micro-organism is responsible to cause dental caries –
a. S.mutans b. S. aureus c. Actinomyces d. fungi
12. No. of point angles in a class II cavity is _____

Dept of Conservative & Endodontia

Second Year B.D.S

2nd Internal Examination

Dental Material

Section-2

[25 Marks]

Long Essay

[7 marks*1=7marks]

Que-1 Describe in details about classification, composition & properties of GIC .

Short Notes(any three)

[4marks*3=12marks]

Que-2 Zinc Phosphate cement.

Que-3 classification & Advantages of composite.

Que-4 Properties of silver amalgam.

Que-5 Zinc oxide eugenol cement.

MCQS

[1mark*6=6marks]

Que-6 Uses of dental cements.

Que-7 What is miracle mix?.

Que-8 Zinc polycarboxylate cement

Setting time - -----

Working time - -----

Que-9 Advantage of silver amalgam over composite.

Que-10 sandwich technique.

Que-11 frozen slab method.

SUB- Dental Materials

Duration-1hours 30 mins (SECTION 1&2)

Total marks-50

Section -1 (25 MARKS) 45 MINUTES

I.LONG ESSAY

7 MARKS

1. Classify denture base materials. Write in detail about the composition, setting reaction, manipulation, properties and uses of heat-cure acrylic resin.

II.SHORT NOTES (ANY THREE)

3 x 4=12MARKS (4 marks each)

1. Setting expansion in investment materials.
2. Classification and composition of dental ceramics
3. Composition and setting reaction of polyether impression material.
4. Dental waxes.

III.SHORT ANSWERS

6x 1=6MARKS (1 marks each)

1. Enumerate different Casting defects.
 2. Sodium phosphate in Alginate impression material acts as _____.
 3. Define karat and fineness.
 4. Formation of surface cracks on surface of denture base resins is :
 - a) Crazing
 - b) Processing error
 - c) Cracks
 - d) None of the above
 5. Cold mold seal –composition.
 6. Zones of flames used for torch melting.
-

Dept of Prosthodontics ,Crown & Bridge,NPDCH,Visnagar

Second year BDS 1st INTERNAL EXAMINATION REGULAR BATCH 2015-16.

SUB- Dental Materials

Duration-1 hours 30 mins

Total marks-50

Section -1 (25 MARKS)

I.LONG ESSAY

7 MARKS

1. Classify Gypsum Products. Write in detail about manufacturing process, setting reaction, manipulation, properties and uses of dental stone.

II.SHORT NOTES (ANY THREE)

3 x 4=12 MARKS (4 marks each)

1. Setting expansion in gypsum.
2. Stress and strain in dentistry.
3. Composition and setting reaction of Alginate impression material.
4. Inlay wax.

III.SHORT ANSWERS

6x 1=6 MARKS (1 marks each)

1. Uses of zinc oxide eugenol impression paste.
 2. Calcium Sulphate in Alginate impression material acts as _____.
 3. Define Malleability.
 4. Chroma of an object refers to:
a) Basic colour of an object b) Lightness or darkness of an object
c) Degree of saturation of particular colour d) None of the above
 5. Glass transition temperature of impression compound is
a) 102°F b) 43.5°C
c) 43.5°F d) 102°C
 6. Wettability of a surface is measured using _____.
- _____

Long Essay

[7marks*1=7marks]

Que:1 Define Silver Amalgam. Describe in Detail About Manipulation Of Silver Amalgam.

Short Notes(any three)

[4marks*3=12marks]

Que:2 Give Classification ,Advantages & Disadvantages of Silver Amalgam.

Que:3 Setting Reaction of Silver Amalgam.

Que:4 Mercury Toxicity.

Que:5 Tarnish & Corrosion.

MCQS

[1mark*6=6marks]

Que:6 Strongest Phase of Silver Amalgam _____
Weakest Phase of Silver Amalgam _____

Que:7 Due To Which Component of Silver Amalgam Delayed Expansion Occurs _____

Que:8 Eames Technique.

Que:9 Maximum Strength of silver amalgam Occurs After _____ Hrs

Que:10 Setting Time Of Silver Amalgam
Initial _____ Final _____

Que:11 Contra Indication Of Silver Amalgam.

Department of prosthodontics
Pre-university Examination-october,2013
Paper-Dental Material

(Time-3hrs)

(Total Marks-100)

Section-A-50 Marks

- (i) **Long essay** **10 marks each.**
- 1) Classify the impression materials. Describe composition, role of each ingredients and uses and advantage & disadvantages of addition silicone.
 - 2) Classify denture base materials and how far acrylic resin fulfils the same.
- (ii) **Short notes (answer any 3)** **5 marks each**
- 1) Physical stages of polymerization
 - 2) Hygroscopic setting expansion
 - 3) Hardness
 - 4) Accelerator and retarder
- (iii) **Short answers (answer any 3)** **3 marks each**
- 1) High fusing compound
 - 2) Reservoir
 - 3) Blue inlay wax
 - 4) Types of gypsum products
- (iv) **Give answer in one line(~~answer any 6~~)** **1 mark each**
- 1) Define stress.
 - 2) What is syneresis and imbibitions?
 - 3) What is modulus of elasticity?
 - 4) Give uses of impression plaster.
 - 5) What is contact angle?
 - 6) What is collid?

Section B – 50 MKS

Long essay –

10 mks each

1. Describe etiology of dental caries
2. Describe GIC in detail cement

SHORT NOTES (Ans any three) 5 mks each

1. Zinc phosphate cement
2. Mercury toxicity
3. Acid etching
4. Rake angle and rake phase

SHORT ANSWERS (Any three) 3 mks each

1. Instrument formula
2. Calcium hydroxide
3. Reactions of amalgam restoration
4. G V Black classification of cavities

Give answer in one line (one mks each)

1. Instrument formula for angle former
2. Name two anticariogenic cements
3. Define retention form
4. Name tooth coloured restorative materials
5. Use of enamel hatchet
6. Define mulling in amalgam restoration

Duration-3hours**Total marks-100**

I. LONG ESSAY

14 MARKS

1. Enumerate different denture base materials. Write in detail about composition, polymerization reaction, manipulation, different curing cycles and properties of heat activated acrylic resins.

II.SHORT NOTES (ANY FIVE)

5 x 5=25 MARKS (5 marks each)

1. Write in detail about Theories of setting of gypsum
2. Phosphate bonded investments.
3. Setting expansion in investment material.
4. Casting defects.
5. Dentifrices.
6. Composition and manufacturing of dental ceramics.
7. Poly vinyl siloxane (PVS) impression material.

III.SHORT ANSWERS

1 1x 1=11 MARKS (1 marks each)

1. Fusion temperature of impression compound is:
a) 39°C
b) 43.5°C
c) 34°C
d) 48.9°C
2. Write in brief about Hysteresis.
3. Sodium phosphate in Alginate impression material acts as _____.
4. Define Flexibility.
5. Qualitative measurement of colour is done by which system
a) Munsells system
b) $CIE\ L^*a^*b^*$ system
c) Volumetric colour system
d) None of the above
6. Which of the following impression material is most hydrophilic?
a) Polysulfide impression material
b) Poly ether impression material
c) C- silicone impression material
d) A-silicone impression material
7. Formation of surface cracks over the surface of denture base resins is called _____.
8. Name the different types of solder materials.
9. What is Annealing?
10. Chemical formula of Gypsum is Calcium Sulphate _____.
11. Enumerate different types of primary interatomic bonds.

SECOND YEAR EXAM PAPER

SECTION-2

1. Long Essay:-

(14 Marks)

Give Definition & Classification of Dental Amalgam. Describe in Details about the Manipulation of Dental Amalgam.

2. SHORT NOTES:- (Any five)

(25 Marks)

- A. Cavity Varnish
- B. Zinc Phosphate cement
- C. Mercury Toxicity
- D. Tarnish & Corrosion
- E. Classification & Properties of GIC
- F. Indications & Contraindications of composites
- G. Direct filling Gold

3. SHORT QUESTIONS

(11 Marks)

- 1. What is Burnishing?
- 2. The Cement Which has antibacterial Property is
 - A. Copper oxide cement
 - B. GIC
 - C. Zinc Phosphate Cement
 - D. Zinc oxide Eugenol Cement
- 3. Composition of GIC
- 4. What is Normal condensation Pressure For Amalgam
 - A. 1-2 Pounds
 - B. 2-3 Pounds
 - C. 4-6 Pounds
 - D. 3-4 Pounds

5. Most Common Drawback of Amalgam Restoration is
A. Secondary Expansion C. Marginal Breakdown
B. Porosity D. Contraction on Setting
6. Define C-Factor
7. Which of Following is Best For "Cermet" Cement
a. Cermet Cement is GIC With porcelain ceramic Fillers
b. Cermet Cement is GIC With Silver Amalgam alloy particles in it.
c. Cermet Cement is light cure GIC
d. Cermet Cement is self cure composite resin
8. The Dental Amalgam alloy & Mercury are Mixed in ratio of
A. 1:1 B. 2:1 C. 1:2 D. 1:3
9. How soon after contamination by moisture does a zinc containing amalgam restoration start expanding
A. 24 Hrs C. 1-2 Day
B. 3-5 Days D. One Week
10. What is the purpose of Addition of Orthoethoxy benzole acid to Zinc oxide eugenol cement
A. To improve compressive strength of the cement
B. To limit oral solubility of cement
C. To render cement light curable
D. To improve ease of manipulation of cement
11. Average particle size of microfilled Composite resins Ranges From:
A. 8-12 micrometer C. 0.04 micrometer
B. 0.5-3 micrometer D. 0.4 to 0.1 micrometer

NARSINHBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR
Dept of Prosthodontics Crown & Bridge
Second B.D.S. IInd Internal Examination-2014-2015
Sub: - Dental Material Science

22/8/14

Duration-3 hrs

Total Marks-70

SECTION-A (35 Marks)

1. Long Essay

14 marks

What is hydrocolloid? Discuss the composition, role of ingredients & manipulation of irreversible hydrocolloid

2. Short Notes (Any Three)

3×5 =15 Marks

- a) Hardness
- b) Types of gypsum products
- c) ADA specification
- d) Advantages and disadvantages of Impression compound. Discuss manipulation of the same.
- e) Mention Chemical and Physical stages of polymerization. Discuss physical stages of polymerization

3. Answer Shortly

1×6= 6 Marks

- a) What is Reservoir?
- b) Define stress & strain
- c) What is calcination?
- d) What is contact angle?
- e) What is investment material?
- f) Setting Reaction of Zinc-oxide Eugenol paste

SECTION-B (35 Marks)

1. Long Essay

14 marks

Classify Silver amalgam, Describe all phases and manipulation technique in detail.

2.Short Notes (Any three)

3×5 =15 Marks

- a) Luting agents
- b) Zinc phosphate cement
- c) Tarnish & corrosion
- d) Blue inlay wax
- e) Gold alloys

3.Answer Shortly

1×6= 6 Marks

- a) What is gamma phase?
- b) What is proportional limit ?
- c) What is PH of mixed Zn (Po₄) cement?
- d) What is Sprue?
- e) What is Carat & Fineness?
- f) What is Ceramic?



NARSINHBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR

IInd B.D.S. FIRST INTERNAL EXAMINATION (OCT-DEC BATCH)

Time:-1.5 Hrs

Total marks: - 50

1. Long Essay

14 Marks

- a) Classify impression materials write in detail about addition silicone elastomeric impression materials

2. Write short Notes (Any five) 05 Marks Each

25 Marks

- a) Difference between Normal & Hygroscopic setting expansion with diagram
- b) What is syneresis and imbibition, Precautions to prevent both
- c) Composition and uses of Impression compound.
- d) Composition and uses of Alginate
- e) Discuss the types of calcinations
- f) Composition & uses of ZOE Paste.
- g) Theories of Gypsum setting

3. Short Question/MCQ/Fill blank 01 Mark each

11 Marks

- a) ADA Specification Number of Gypsum Products is:
(1) 20 (2) 23 (3) 25 (4) 26
- b) _____ Hemihydrate is dental stone
- c) Fusion temperature of Impression compound is _____
- d) Best method to prolong setting time of zinc oxide eugenol paste
 - 1) Changing ratio of base and catalyst paste
 - 2) Add drops of water while mixing
 - 3) Cooling glass slab and spatula
 - 4) Add petroleum jelly while mixing
- e) What is slurry water?
- f) Laminate technique

P.T.O

g) Materials used for putty –reline technique

(1) Putty & Heavy body (2) Putty & medium body

(3) Putty & light body (4) Putty & regular body

h) Classify Gypsum Products

i) Types of Elastomers based on viscosity

j) Chromatic alginates

k) _____ Types of tray are used for agar impression

★ ★ ★ *Best of Luck* ★ ★ ★

NARSINHBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR

Dept of Prosthodontic Crown & Bridge

Second B.D.S. Preliminary Examination-May 2014

Sub: Dental Material Science

Duration-3 hrs

Total Marks-100

SECTION- A (50 Marks)

I. LONG ESSAY

14 Marks

1. What is hydrocolloids? Discuss the composition of irreversible hydrocolloid materials. Describe the role of each ingredients. How will you manipulate the same?

II. SHORT NOTES: (any five)

5 Marks Each

1. Hygroscopic setting expansion
2. Blue inlay wax
3. Aluminous Porcelain
4. Accelerators and Retarders
5. Abrasive and Polishing agents
6. Ductility and Malleability
7. Sprue

III. Give short answer

11 Marks

1. Shrinkage free ceramic is called _____
2. Define stress.
3. Chemically dental stone is calcium sulphate _____
4. What is Flux?
5. What is calcination?
6. Contact angle should be ideally _____ degrees for proper wetting
7. What is mechanism of action of cold mould seal?
8. What is carat and fineness?
9. The heat treatment of DICOR core is termed is
 - a) Ceramming
 - b) Annealing
 - c) pickling
 - d) soldering
10. Gypsum in the investment material acts as :
 - a) Filler
 - b) Refractory
 - c) binder
 - d) reactor
11. What is Metamerism?

✦ *Best of Luck* ✦

SECTION - B

1. LONG ESSAY (14 Marks)
 - A. Describe isolation methods and explain rubber dam in detail
2. SHORTNOTES (any five) (5 Marks Each)
 - a. Classification and properties and types of Direct filling gold
 - b. Wedges, Types and uses
 - c. GIC
 - d. Classification and properties of Amalgam
 - e. ZOE cement Composition and Uses
 - f. Calcium Hydroxide
 - g. Color
3. SHORT QUESTIONS (11Marks)
 - a. A butt joint is a -----degree joint
 - b. In which class of cavities amalgam is contraindicated
Class I -Class II - Class V - Class IV
 - c. Universal matrix band retainer is known as -----
 - d. Function of base
 - e. How many point angles are there in class II-----
 - f. Which microorganism causes enamel caries?
 - g. Who Discovered Glass Ionomer Cement?
 - h. Uses of Varnish
 - i. What are class VI Caries?
 - j. Miracle Mix
 - k. Composite restoration is retained by the means of
 - A) Chemical Bonding
 - B) Mechanical Bonding
 - C) Micro-Mechanical Bonding
 - D) None.

Narsinhbhai Patel Dental College & Hospital
Dept of Prosthodontics Crown & Bridge
Mid Term Examination-January 2014

Sub: Dental Material Science
Year: Second B.D.S.

Max marks-100
Duration 3hrs

SECTION -A

I. LONG ESSAY (10 marks each)

10X2

1. What is dental casting investment material? Name the available investment materials & describe the property of setting expansion of gypsum bonded investment material
2. Classify denture base materials. Define polymerization reaction. Describe the stages of addition polymerization reaction.

II. SHORT NOTES (3 marks each)

3X5

3. Cooling curves
4. Glass transition temperature
5. Disinfection of impression materials
6. Add a note on divestments
7. Wet field technique

III. Questions carrying 1 mark each

1X15

8. Accelerator present in ZnO-E impression paste

A. Zinc oxide C. Calcium chloride
B. Mineral oil D. Hydroquinone

9. Which of the following has least shelf life?

A. Condensation silicone C. Polyether
B. Addition silicone D. Polysulphide

10. The role of Benzoyl peroxide in heat activated acrylic resin as

A. Inhibitor C. Cross linking agent
B. Initiator D. Plasticizer

11. The following are the complete denture processing techniques

A. Fluid resin technique
B. Injection molding technique
C. Compression molding technique
D. All the above

12. Agar Agar impression material is

- A. Reversible in nature
- B. Hydrocolloid
- C. Thermoplastic
- D. None of the above

13. Polymer: Monomer ratio for heat cure acrylic resin

- A. 1:1
- B. 2:1
- C. 2:1
- D. 4:1

14. Platinum salt is a catalyst in which of the following elastomeric material

- A. Addition silicone
- B. Condensation silicone
- C. Polyether
- D. Polysulphide

15. Write the chemical equation of setting reaction for ZnO-E impression paste

16. Dental investment material used for gold casting is

- A. Silica
- B. Phosphate based
- C. Gypsum based
- D. Die stone

17. The average molecular weight for denture base polymer ranges from

- A. 8000-39000
- B. 8000-49000
- C. 8000-59000
- D. 8000-69000

18. What is condensation polymerization reaction?

19. Methods of manipulation of elastomeric impression material

- A. Single mix technique
- B. Multiple mix technique
- C. Reline technique
- D. All the above

20. Binder used in Gypsum bonded investment material is

- A. Impression plaster
- B. Dental stone
- C. Die stone
- D. Plaster of Paris

21. Investment material with finer particle size results in

- A. Less surface irregularity
- B. Excess surface irregularity
- C. No effect on the casting
- D. None of the above

22. ADA specification no for Alginate impression material is

- A. 15
- B. 16
- C. 17
- D. 18

SECTION II

LONG QUESTIONS - (10 marks each)

10X2

- Q1. Discuss mercury toxicity in detail
Q2. Write in detail dentin bonding agents in detail

SHORT NOTES (5 marks each)

5X4

1. Acid etching
2. Composition and reaction of highcopper amalgam in detail
3. Zinc-oxide Eugenol cement
4. Tarnish and corrosion

ANSWER IN SHORT (10 Marks -1 Mark EACH)

1X10

1. Instrument formula for GMT
2. Name two anticariogenic cements
3. Name tooth coloured restorative materials
4. Use of enamel hatchet
5. Define mulling in amalgam restoration
6. Define retention form
7. G V Black class III cavity
8. Organism which causes enamel caries
9. Define operative dentistry
10. Post burnishing

NARSHIBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR

SECOND BDS – DENTAL MATERIALS - THIRD INTERNAL

DATE : 04/06/2013

MAX MARKS :100

Answer section – A& B in separate answer booklets

DURATION :03 hrs

SECTION A

LONG ESSAY : 10 marks each

1. Explain in detail dental amalgam
2. Write GIC cement in detail

SHORT ESSAY : any 4 questions; 4 marks each

3. Mercury toxicity
4. Acid etching
5. Zinc phosphate cement
6. Calcium hydroxide
7. Direct filling gold

Short answer : any 3 questions ; 3 marks each

8. Explain tarnish and corrosion
9. Delayed expansion
10. Composition & classification of composites
11. classify dental cements

Multiple choicev: any 5 questions ; 1 mark each

12. Percentage of copper present in high copper single composition alloys

- a) 0-6%
- b) 12-28%
- c) 10-12%
- d) 12-25%

13. Purpose of burnishing the amalgam after condensation is to

- a) Reduce surface microporosities
- b) Smoothen the surface to prevent plaque accumulation
- c) Improves the marginal seal of the restoration
- d) All of the above

14. Composite is retained by the phenomena of

- a) Cohesion
- b) True bonding
- c) Mechanical interlocking
- d) Atomic forces

15. Main ingredient of zinc phosphate cement liquid is

- a) Phosphoric acid
- b) Polyacrylic acid
- c) Citric acid
- d) Maleic acid

16. Anticariogenic activity is present in which cement

- a) ZOE
- b) GIC
- c) Calcium hydroxide
- d) Zinc phosphate

17. ADA specification number of dental mercury is

- a) 1
- b) 4
- c) 6
- d) 8

Section - B

I. Long essay: 10 marks each

- 1) Enumerate gypsum products used in dentistry. Describe the composition of gypsum bonded investment material & explain how thermal expansion of mould takes place.
- 2) Define & classify dental ceramics. Discuss methods of strengthening dental ceramic.

II. Short essay : any 4 question ; 4 marks each

- 3) Denture cleansers.
- 4) Pressable ceramics.
- 5) Young's modulus of elasticity.
- 6) Tissue conditioners.
- 7) Physical stages of polymerization.

III. Short answer : any 3 questions ; 3 marks each

- 8) Pickling.
- 9) Low fusing impression compound.
- 10) Hygroscopic setting expansion
- 11) Dental application of waxes.

IV. Multiple choice : any 5 questions ; 1 mark each

- 12) The heat treatment of DICOR core is termed as
A) ceramming B) pickling C) annealing D) soldering
- 13) Resin material should be packed into the mould cavity
a) rubbery stage b) early stages of dough stage c) sticky stage d) late stages of dough stage
- 14) The materials used in laminate impression technique are
a) Alginate & agar b) Light body & putty c) Light body & regular d) light body & heavy

15) Cold mold seal is

- a) additive b) binder c) investment material
- d) separating media

16) Type of infiltrated glass core ceramic is

- a) Inceram alumina b) inceram spinell c) inceram zirconia d) all the above

17) If hydrocolloid is placed in water, they absorb water by a property called.....

- a) absorption b) imbibition c) adsorption d) syneresis

NARSHIBHAI PATEL DENTAL COLLEGE & HOSPITAL, VISNAGAR

SECOND BDS – DENTAL MATERIALS - THIRD INTERNAL

DATE : 04/06/2013

MAX MARKS :100

Answer section – A& B in separate answer booklets

DURATION :03 hrs

SECTION A

LONG ESSAY : 10 marks each

1. Explain in detail dental amalgam
2. Write GIC cement in detail

SHORT ESSAY : any 4 questions; 4 marks each

3. Mercury toxicity
4. Acid etching
5. Zinc phosphate cement
6. Calcium hydroxide
7. Direct filling gold

Short answer : any 3 questions ; 3 marks each

8. Explain tarnish and corrosion
9. Delayed expansion
10. Composition & classification of composites
11. classify dental cements

Multiple choicev: any 5 questions ; 1 mark each

12. Percentage of copper present in high copper single composition alloys

- a) 0-6%
- b) 12-28%
- c) 10-12%
- d) 12-25%

13. Purpose of burnishing the amalgam after condensation is to

- a) Reduce surface microporosities
- b) Smoothen the surface to prevent plaque accumulation
- c) Improves the marginal seal of the restoration
- d) All of the above

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- a) Cohesion
- b) True bonding
- c) Mechanical interlocking
- d) Atomic forces

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- a) Phosphoric acid
- b) Polyacrylic acid
- c) Citric acid
- d) Maleic acid

16. Anticariogenic activity is present in which cement

- a) ZOE
- b) GIC
- c) Calcium hydroxide
- d) Zinc phosphate

17. ADA specification number of dental mercury is

- a) 1
- b) 4
- c) 6
- d) 8

Section - B

I. Long essay: 10 marks each

- 1) Enumerate gypsum products used in dentistry. Describe the composition of gypsum bonded investment material & explain how thermal expansion of mould takes place.
- 2) Define & classify dental ceramics. Discuss methods of strengthening dental ceramic.

II. Short essay : any 4 question ; 4 marks each

- 3) Denture cleansers.
- 4) Pressable ceramics.
- 5) Young's modulus of elasticity.
- 6) Tissue conditioners.
- 7) Physical stages of polymerization.

III. Short answer : any 3 questions ; 3 marks each

- 8) Pickling.
- 9) Low fusing impression compound.
- 10) Hygroscopic setting expansion
- 11) Dental application of waxes.

IV. Multiple choice : any 5 questions ; 1 mark each

- 12) The heat treatment of DICOR core is termed as
A) ceramming B) pickling C) annealing D) soldering
- 13) Resin material should be packed into the mould cavity
a) rubbery stage b) early stages of dough stage c) sticky stage d) late stages of dough stage
- 14) The materials used in laminate impression technique are
a) Alginate & agar b) Light body & putty c) Light body & regular d) light body & heavy

15) Cold mold seal is

- a) additive b) binder c) investment material
- d) separating media

16) Type of infiltrated glass core ceramic is

- a) Inceram alumina b) inceram spinell c) inceram zirconia d) all the above

17) If hydrocolloid is placed in water, they absorb water by a property called.....

- a) absorption b) imbibition c) adsorption d) syneresis

Narsinhbhai Patel Dental College and Hospital Visnagar

Second Year B.D.S. (Regular Batch)

IInd Internal Exam 2012-2013

Dental Material

[Time: 2 Hours]

[Total Marks 50]

Q.1 What is Amalgam? Describe in detail Silver Amalgam. 16

Q.2 Write Short Notes On: 6x4=24

- a. Syneresis & Imbibitions
- b. Blue Inlay Wax
- c. Poly Methyl Methacrylate
- d. Dental Implants

Q.3 Answer Shortly; 5x2=10

- a. What is Luting?
- b. What is Carat & Fineness?
- c. What is Sprue?
- d. Give composition of Base Plate Wax.
- e. What is Co-Polymerization?

~~6~~
Narainbhai Patel Dental College & Hospital
IInd Internal Exam - IInd B.D.S. Oct-Dec. batch
2012.
Dental Materials Total marks - 50

Q.1 What is Amalgam? Describe in detail composition & role of each ingredient of Silver Amalgam. 16.

Q.2. Short notes (any three) $8 \times 3 = 24$

- a) Zinc-oxide Eugenol Impression Paste
- b) Hygroscopic Setting expansion
- c) Direct Filling Gold
- d) Tarnish & Corrosion

Q.3. Answer shortly. $2 \times 5 = 10$

1. What is gamma phase?
2. ~~Define~~ what is wetting agent?
3. What is the role of Trisodium Phosphate in alginate impression material?
4. What is accelerator & Retarder?
5. Name Finishing & Polishing agents used for metal alloys.

Narsinhbhai Patel Dental College

3rd Internal examination 2012

2nd year B.D.S.

Dental Material

Section 1

Q.1 What is Ceramic? Describe composition, uses advantages & disadvantages of dental ceramics. 16

Q.2 Write Short notes on; 8x3=24

1. Soldering & Welding
2. ADA
3. Stress & Strain

Q.3 Answer shortly 2x5=10

1. What is Gamma Phase?
2. What is internal separating media?
3. Name Non Aqueous Elastomeric Impression Material.
4. What is Activator & Initiator?
5. Give composition of Irreversible Hydrocolloid

Section 2

Q.4 Classify Dental Waxes. Give composition & ideal requirements of Blue Inlay Wax.

16

Q.5 Write Short notes on;

8x3=24

1. Co-polymerization
2. Luting Cements
3. Hygroscopic Setting Expansion

Q.6 Answer Shortly

2x5=10

1. What is gelatin?
2. What is Eutectic alloy?
3. What is Reservoir
4. What are two distinguish properties of GIC which no other cement has?
5. What is the cause of Fins in casting procedure?

Narsinhbhai Patel Dental College & Hospital
Second Year BDS (Oct-Dec Batch)
1ST INTERNAL EXAMINATION
DENTAL MATERIAL SCIENCE

Time : 2 Hours
Max. Marks : 50

Date : 12-03-12

Long Essay

1. Casting defects and causes. **(14x1=14)**

Short Notes (Any 6)

(6x6=36)

2. Dimensions of Color & Metamerism
3. Composition & Uses of Zinc Oxide Eugenol Impression Paste
4. Composition & properties of nickel chromium alloys
5. Mixing techniques for Elastomeric impression materials
6. Classification of Silver Amalgam alloys
7. Annealing & its steps.
8. Composition of porcelain & functions of each ingredient

GOOD LUCK

Narsinhbhai Patel Dental College and Hospital
2nd internal exam-Dental Material
2nd year B.D.S:2011-2012(Regular Batch)

(50 marks)

1. Classify Silver Amalgam..Describe all phases and manipulation technique in detail

16

2. Short notes(any three)

24

- a) Wrought metal alloys
- b) Zinc phosphate cement
- c) Generation of composite resin
- d) Investment material

3. Short Answer

10

- a) What is Reservoir?
- b) What is Carat and Fineness?
- c) Uses of GIC cement
- d) Inhibitor and Activator in acrylic resin
- e) What is Tarnish and corrosion?

2

NARSINHBHAI DENTAL COLLEGE AND HOSPITAL

FIRST TERMINAL EXAM –DENTAL MATERIALS(2011/12 REGULAR BATCH)

50 MARKS

Que: 1: Classify impression materials. Discuss zinc oxide eugenol impression paste in detail. 16

Que: 2: Short notes (any three) 24

- 1) Hardness
- 2) High fusing compound
- 3) Hygroscopic setting expansion
- 4) Syneresis and imbibition

Que: 3: One line answer 10

- 1) What is contact angle?
- 2) What is hydrocolloid?
- 3) What is stress and strain?
- 4) Uses of α -hemihydrates.
- 5) Accelerators and retarders in gypsum products.

NARSINHBHAI PATEL DENTAL COLLEGE

SECOND YEAR B.D.S. EXAMINATION

DENTAL MATERIALS

PRELIMINARY EXAMINATION (NOVEMBER BATCH) 2010-11

Time: 3 hours

100 marks

SECTION- 1

- QUE 1:** What is ceramic? Describe composition, uses, advantages and Disadvantages of dental ceramics. 16
- QUE 2:** Write short notes on: 18
- (1) Abrasive and Polishing agents.
 - (2) ADA
 - (3) Casting Defects.
- QUE 3: Answer shortly** 16
1. What is gamma phase.
 2. Composition of polycarboxylate cement
 3. What is syneresis.
 4. Name non-aqueous elastomeric impression materials.
 5. What is hygroscopic setting expansion.
 6. What is stress?
 7. What is mechanism of action of cold mould seal?
 8. What is hardness?

SECTION- 2

- QUE 1:** What is irreversible hydrocolloid? Discuss in detail composition, setting reaction, advantages and disadvantages of the same. 16
- QUE 2:** Write short notes on: 18
- (1) Dental waxes
 - (2) Tarnish and corrosion
 - (3) Gold foil
- QUE3: Answer shortly** 16
1. What is contact angle?
 2. What is trituration
 3. What is soldering and welding.
 4. What is reservoir.
 5. What is carat and fineness.
 6. What is accelerator and retarders.
 7. What is what is inhibitor and what is activator in acrylic resin.
 8. What is investment material?

SECOND YEAR B.D.S. EXAMINATION

DENTAL MATERIALS

PRELIMINARY EXAMINATION (REGULAR BATCH)

[100 marks]

SECTION- 1

QUE 1: What is ceramic? Describe composition, uses, advantages and Disadvantages of dental ceramics.

16

QUE 2: Write short notes on:

18

- (1) Abrasive and Polishing agents.
- (2) ADA
- (3) Cating Defects.

QUE 3: Answer shortly

16

1. What is gamma phase.
2. Composition of polycarboxylate cement
3. What is syneresis.
4. Name non-aqueous elastomeric impression materials.
5. What is hygroscopic setting expansion.
6. What is stress?
7. What is mechanism of action of cold mould seal?
8. What is hardness?

SECTION- 2

QUE 1: What is irreversible hydrocolloid? Discuss in detail composition, setting reaction, advantages and disadvantages of the same.

16

QUE 2: Write short notes on:

18

- (1) Dental waxes
- (2) Tarnish and corrosion
- (3) Gold foil

QUE3: Answer shortly

1

1. What is contact angle?
2. What is trituration
3. What is soldering and welding.
4. What is reservoir.
5. What is carat and fineness.
6. What is accelerator and retarders.
7. What is what is inhibitor and what is activator in acrylic resin.
8. What is investment material?

SECOND YEAR B.D.S. EXAMINATION

DENTAL MATERIALS

PRELIMINARY EXAMINATION (OCTOBER BATCH.)

50 marks.

QUE.1. What are different casting defects? Discuss in detail how it affects the final prosthesis.

16

QUE.2. Write short notes on

18

- (1) Tarnish and corrosion
- (2) Biocompatibility
- (3) Die materials

QUE 3: Answer in short:

16

1. What is finishing?
2. Classify abrasives.
3. What is an implant?
4. What is iatrogenesis?
5. What is patch test?
6. What is syneresis and imbibition?
7. Give composition of heat cure acrylic resin.
8. What is osseointegration.

NOOTAN DENTAL COLLEGE & HOSPITAL, VISNAGAR

2ND Year B.D.S (Oct. Dec. Batch-2010)

Subject: - Dental Materials

[3 Hours

[100Marks

Section-I

Q-1 Describe the requirements of an ideal denture base materials. How Acrylic resins fulfills these requirements. (18)

Q-2 Write Short Note on any three (18)

- (1) Syneresis and Imbibition
- (2) Soldering and Welding
- (3) ADA
- (4) Composite Resins

Q-3 Multiple choice questions (7)

- (1) Contact angle should be ideally _____ degree for proper wetting
(a) 0 Degree (b) 45 Degree (c) 60 Degree (d) 90 Degree
- (2) The most malleable and ductile metal is
(a) Gold (b) Silver (c) Platinum (d) Copper
- (3) Amount of water of reaction of stone compared to plaster is
(a) Greater (b) Lesser (c) Same (d) Variable
- (4) The most effective way of controlling setting time of gypsum product is
(a) Alteration of water powder ratio (b) Addition of gypsum pieces during mixing
(c) Increased spatulation (d) Addition of Accelerators and Retarders
- (5) Alginate sets by reaction involving
(a) Soluble alginate and calcium ions (b) Soluble alginate and Trisodium Phosphate
(c) Insoluble alginate and calcium ions (d) Insoluble alginate and Phosphate
- (6) Amalgam is designated as zinc containing if concentration exceed _____ %
(a) 0.01 (b) 0.02 (c) 0.03 (d) 0.2
- (7) Maximum flow permitted for Type-B inlay wax at 37 degree temperature
(a) 1% (b) 2% (c) 5% (d) 10%

Section-II

Q-1 What is Ceramic? Describe in detail the types, composition, uses, advantages and disadvantages of dental ceramics.

(18)

Q-2 Write Short Note on any three

(18)

- (1) Agar Agar
- (2) Trituration
- (3) Casting defects
- (4) Zinc Poly carboxylate cement

Q-3 Short questions

(7)

- (i) Define Stress
 - (ii) What is initiator and what is activator in Light cure resin
 - (iii) What is Gamma phase
 - (iv) Composition of Glass ionomer cement
 - (v) What is the role of Gum dammar in wax?
 - (vi) What is the use of hydroquinone in acrylic resin?
 - (vii) Density of direct filling gold is?
-

Narsinhbhai Patel Dental College

Second Year BDS-First Internal Exam

Dental Material

Total Marks: 40

Q:-1 Classify Gypsum Products and give uses of each. Describe calcination theory and hygroscopic setting expansion in detail. 12

Q:-2 Classify Silver Amalgam. Describe all phases and manipulation technique in detail. 12

Q:-3 Give the answers in single line or single word. 16

- i. Define contact angle
- ii. Give the uses of Glassionomer cement
- iii. Give the uses of blue inlay wax
- iv. Shrinkage-free ceramic is called
- v. Metallic oxide which forms on noble metal alloys is
- vi. Most commonly used "Wash Impression" material for edentulous patient
 - a) ZOE
 - b) Hydrocolloids
 - c) Impression compound
 - d) elastomers
- vii. Universal bonding agent is
 - a) HEMA
 - b) NPG-GMA
 - c) META
 - d) EDTA
- viii. Greatest warpage in acrylic denture occur in
 - a) During packing
 - b) During curing
 - c) During deflasking
 - d) During polishing

Nootan Dental College and Hospital, Visnagar
Preliminary Examination
Subject:- Dental Materials
Date:-23/8/08 **Time:- 8.30 to 11.30**
[Marks:- 100]

Section-I

- Q-1. Classify impression materials. Describe Composition, Role of each ingredient and Setting reaction of Zinc Oxide Eugenol Impression materials. (16)
- Q-2. Classify Dental Cements. Give Composition, Manipulation and Uses of Glass Ionomer Cement. (16)

OR

- Q-2. Describe the Requirements of an Ideal Denture Base Material. How far Acrylic resin fulfills these requirements. (18)
- Q-3. Short Notes (Any Three) (18)
- (1) Hardness
 - (2) Gold Foil
 - (3) ADA Specification and its importance
 - (4) Ductility and Malleability
 - (5) Separating Media

Section-II

- Q-4. What is Gypsum? Describe the methods used for measuring initial and final setting time of Plaster of Paris. How will you control its Setting time? (16)
- Q-5. Classify Composite Resins. Give Its Composition and Properties of each in detail. (16)

OR

- Q-5. What are the Causes of defects in Casting? Describe what care should be taken to prevent such defects. (18)
- Q-6. Short notes (Any Three) (18)
- (1) Blue Inlay Wax
 - (2) Sprue
 - (3) Trituration
 - (4) Syneresis and Imbibition
 - (5) Color

Nootan Dental College & Hospital Visnagar

First BDS Preliminary Examination

Dental Materials

[Date: 17/04/2008]

Time: 9:30 A.M. To 12:30 P.M.]
[Total Marks:100]

- Instructions:**
1. Write legibly
 2. Write two sections in separate answer books
 3. Figures to the right indicates full marks
 4. Draw diagrams wherever necessary

SECTION - I

1. Classify impression Materials. Describe composition, role of each ingredients and the setting reaction of Zinc Oxide Eugenol Impression Materials. 16
2. Describe the requirements of an ideal denture base material. How far acrylic resin fulfills these requirements. 16

OR

Name Different types of waxes used in Dentistry. Describe composition and properties of blue inlay wax.

3. Write Short notes on any Three: 18
 - a. Hardness
 - b. Carat & Fineness
 - c. Copper Amalgam
 - d. Composite resins

SECTION-II

4. What is gypsum ?. Describe the methods used for measuring initial & final Setting time of plaster of paris. How will you control its setting time: 16
5. Describe composition, uses, advantages, disadvantages of Dental Porcelain. 16

OR

Classify Dental Cements. Give Composition manipulation and uses of glass ionomer Cement.

6. Short Notes: 18
 - a. Abrasive and polishing agents
 - b. Ductility and malleability
 - c. Trituration
 - d. Wrought metal alloys

Nootan Dental College & Hospital, Visnagar

1st Internal Examination

Second YEAR B.D.S.

Sub.- Dental Materials

Date:- 04/11/2009

Time:- 9 am to 12 noon

[Marks:- 80 Marks]

SECTION 1

Q.1 Classify elastomeric impression materials Discuss in detail addition silicon rubber base impression materials. (12)

Q.2 Write short notes on (18)

- 1) Co-Polymerization
- 2) Luting agents
- 3) Hygroscopic Setting Expansion

Q.3 Answer the following questions (10)

- (1) Lattice pattern of most of dental materials is _____
- (2) What is Stress?
- (3) What is Modulus Elasticity?
- (4) Impression compound should be placed at _____ temp. in the mouth.
- (5) What is Syneresis?
- (6) The process of changing rubber base product or liquid polymer to rubber like material is generally known as _____
- (7) Which is commonly used cross linking agent in acrylic resin?
- (8) Boiling point of monomer is?
- (9) Write composition of cobalt-chromium alloy.
- (10) What is the PH of freshly mixed GIC?

(P.T.O)

SECTION 2

Q.4 Define & classify alloys. Describe base metal alloys in detail. (12)

Q.5 Write short notes on (12)

- 1) Poly methyl methacrylate
- 2) ADA
- 3) Blue Inlay Wax

Q-6 Multiple choice question (10)

1. Over spatulation of plaster of paris results in
 - a) increased strength of set material
 - b) decrease in strength of set material
 - c) not resulted to strength of material
 - d) results in decrease of setting material
2. Contact angle should be ideally _____ degrees for proper wetting
 - a) Zero degree
 - b) 45 degree
 - c) 60 degree
 - d) 90 degree
3. Which of the following hardness test uses a hardened steel indenting tool
 - a) Rockwell hardness test
 - b) Vickers hardness test
 - c) Brinnel hardness test
 - d) Knoop hardness test
4. Impression compound is characterized by
 - a) crystalline structure with definite melting point
 - b) Amorphous in nature with high thermal conductivity
 - c) Amorphous in nature with low thermal conductivity
 - d) crystalline structure with high thermal conductivity
5. Which of the following is the best method of prolonging the setting time of ZOE paste
 - a) Changing the ratio of base and catalyst
 - b) Cooling the mixing slab and spatula
 - c) Addition of retarders while mixing
6. Separating medium is used during for flasking of resin for all the following reasons except
 - a) Prevent water contamination from investment effecting setting of resin
 - b) ease the separation of upper and lower halves of the flask
 - c) To prevent monomer from being absorbed by plaster of paris
 - d) To reduce the number of trial closures
7. Which of the following acts as plasticizer
 - a) Dibutyl phthalate
 - b) Glycol dimethacrylate
 - c) Hydroquinone
 - d) Ethyl acrylate
8. Annealing the gold foil is the process which
 - a) Softens and restores the cohesive quality
 - b) Improve ductility and malleability
 - c) Reduces the tarnish and corrosion resistance
 - d) Reduces the melting point of alloys
9. Boxing wax is also called as
 - a) Inlay wax
 - b) Carding wax
 - c) Base plate wax
 - d) Sticky wax
10. Which of the following is common to polycarboxylate and glass ionomer
 - a) Powder- zinc oxide
 - b) Powder- Alluminosilicate glass
 - c) liquid- Phosphoric acid
 - d) Liquid- Polyacrylic acid

Nootan Dental College & Hospital, Visnagar

First Terminal Examination

Dental Materials Total Marks:100

Time: 9.00 am to 12.00pm

Date: 03/12/2007

SECTION-I

- Q.1 Classify impression materials. Give Composition, role of each in gradients, advantages, disadvantages & uses of zinc oxaide, eugenol impression material. 16
- Q.2 Classify Gypsum products. Describe how they are manufactured. 16
- Q.3 Write Short Note on any three 18
- (1) Stress & Strain
 - (2) Polysulphide impression materials.
 - (3) Ductility and malleability
 - (4) ~~Hygroscopic~~ setting expansion
- (S) A D A

SECTION-II

- Q.4 Give composition, role of each ingredient, manipulation and setting reaction of irreversible hydrocolloid impression materials. 16
- Q.5 Give difference between α and β hemihydrats. 16
- Q.6 Write Short Note on any three 18
- (1) Hardness
 - (2) Syner^esis and imbibition.
 - (3) Creep & flow
 - (4) ~~Setting time of Gypsum products.~~
- (A) Wetting.

Nootan Dental College and Hospital, Visnagar
Preliminary Examination
Subject:- Dental Materials
Date:-23/8/08 **Time:- 8.30 to 11.30**
[Marks:- 100]

Section-I

- Q-1. Classify impression materials. Describe Composition, Role of each ingredient and Setting reaction of Zinc Oxide Eugenol Impression materials. (16)
- Q-2. Classify Dental Cements. Give Composition, Manipulation and Uses of Glass Ionomer Cement. (16)

OR

- Q-2. Describe the Requirements of an Ideal Denture Base Material. How far Acrylic resin fulfills these requirements. (18)
- Q-3. Short Notes (Any Three) (18)
- (1) Hardness
 - (2) Gold Foil
 - (3) ADA Specification and its importance
 - (4) Ductility and Malleability
 - (5) Separating Media

Section-II

- Q-4. What is Gypsum? Describe the methods used for measuring initial and final setting time of Plaster of Paris. How will you control its Setting time? (16)
- Q-5. Classify Composite Resins. Give Its Composition and Properties of each in detail. (16)

OR

- Q-5. What are the Causes of defects in Casting? Describe what care should be taken to prevent such defects. (18)
- Q-6. Short notes (Any Three) (18)
- (1) Blue Inlay Wax
 - (2) Sprue
 - (3) Trituration
 - (4) Syneresis and Imbibition
 - (5) Color

**NOOTAN DENTAL COLLEGE & HOSPITAL,
VISNAGAR**

**Terminal Examination
First B.D.S.
Dental Materials**

8th March, 2007

Time: 9:00 A.M. To 11:00 A.M

Instructions: 1) Total Marks- 50

- 2) Figures on right of each question indicate full marks.
3) Draw diagrams wherever necessary.**

Q.1 State ideal requirements of Denture base material. How fare an acrylic resin fulfills them? 16

OR

Q.1 What do you understand by polymerization? Discuss in brief Stages of polymerization.

Q.2 Classify impression materials. Give composition, role of each ingredient and manipulation of irreversible hydrocolloid impression materials. 16

OR

Q.2 What is Gypsum? Explain different manufacturing procedures and applied uses of Gypsum Products in detail.

Q.3 Wright Short notes on (Any Three) 18

- (A) Blue inlay Casting wax**
- (B) Hardness**
- (C) Accelerators and retarders**
- (D) Ductility and malleability**
- (E) Zinc oxy phosphate Cement**