

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JULY 2019

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS **(RS-3)**

QP Code: 1185

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

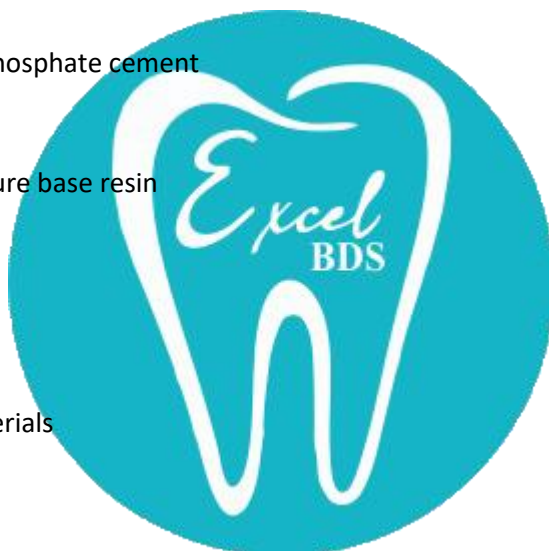
1. What are luting cements? Write in detail about the classification, composition, setting reaction and uses of type II glass ionomer cement.
2. Define hydrocolloids. Write the composition, setting reaction, control of setting reaction, uses, advantages, disadvantages and properties of alginate impression materials.

SHORT ESSAYS 8 x 5 = 40 Marks

3. Sandwich technique
4. Manipulation and uses of zinc phosphate cement
5. Tarnish and corrosion
6. High strength, high impact denture base resin
7. Casting defects
8. Condensation silicones
9. Eutectic and peritectic alloys
10. Biocompatibility of dental materials

SHORT ANSWERS 5 x 2 = 10 Marks

11. Long curing cycle
12. Modulus of elasticity
13. Eames technique
14. Thermal expansion
15. Dentifrices



Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – Dec 2019

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Classify the impression materials. Describe the composition and properties of addition silicone.
2. Define and classify composite resin. Describe in detail the manipulation and curing methods of restorative composite resins

Short Essay

3. Tests for biocompatibility
4. delayed expansion of amalgam
5. Luting cement
6. Porosities in casting
7. Type III Gypsum products
8. Soldering and welding
9. Classification of dental ceramics
10. Composition and uses of inlay wax



Short answers

11. 18-8 stainless steel
12. Dual cure resins
13. Malleability
14. Eutectic alloys
15. Cavity varnish

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JULY 2018

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- What are the types of denture base materials. Write in detail about their chemical and physical stages of polymerization and add a note on types of curing cycles.
- Define amalgam. Write in detail about the composition, uses, advantages, disadvantages, manipulation and properties of high copper amalgam.

SHORT ESSAYS

- Dental stone
- Impression compound
- Hardness
- Visible light cure resin
- Direct filling gold
- Titanium alloys
- Casting defects
- Allergic reaction to dental materials



SHORT ANSWERS

- Non eugenol cement
- Contact angle
- Galvanism
- Curing of composite resins
- Enumerate castable ceramics.

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II B.D.S Degree Examination – Dec 2018

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[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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LONG ESSAY

2 X 10 = 20 Marks

1. What are dental alloys? Write in detail the classification, composition and uses of dental casting alloys.
2. Classify dental impression materials. Describe in detail the properties, manipulation and uses of Addition silicone impression material.

SHORT ESSAYS

8 x 5 = 40 Marks

3. Manipulation of die stone
4. Calcium hydroxide paste
5. Mat gold
6. Firing of dental ceramics
7. Manipulation and uses of type II glass ionomer cement
8. Stress and strain
9. Cobalt chromium alloys
10. Manipulation of amalgam



SHORT ANSWERS

5 x 2 = 10 Marks

11. Syneresis
12. Types and uses of investment materials
13. Dentin bonding agents
14. Pulp capping agents
15. Tissue conditioners

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JUNE 2017

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Classify impression materials. Write in detail about the composition, setting reaction, and properties of polyvinyl siloxane impression material
- Describe in detail about the composition, properties, and manipulation of Glass ionomer cement.

SHORT ESSAY

- Work hardening and annealing
- Curing resin based composites
- Manipulation of AGAR impression material
- Explain briefly the test used for surface hardness
- Casting defect
- Low copper alloys
- Injection molding technique
- Eutectic alloys



SHORT ANSWERS

- Soldering and welding
- Creep
- Metamerism
- Coupling agents
- Base plate wax

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2017

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[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

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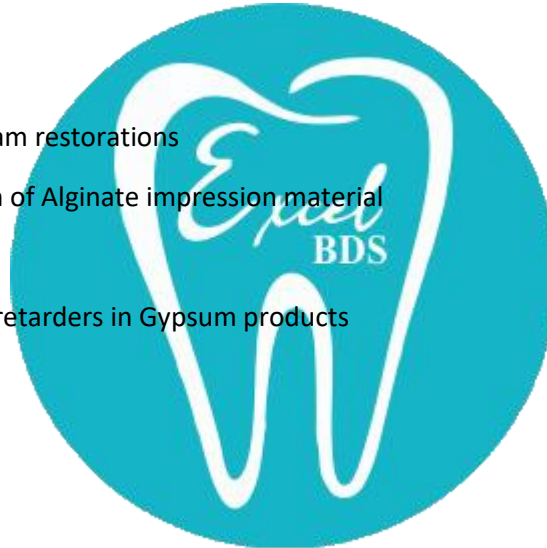
LONG ESSAY

2 X 10 = 20 Marks

- Classify Dental cement. Discuss the composition, manipulation and uses of Zinc polycarboxylate Cement
- Classify denture base resins. Explain the compression molding technique

SHORT ESSAYS

- Role of fillers in composite resin
- Metal free ceramics
- Suck back porosity
- Finishing and Polishing of Amalgam restorations
- Composition and setting reaction of Alginate impression material
- Soldering and Welding
- Significance of Accelerators and retarders in Gypsum products
- Cavity varnish and liners



SHORT ANSWERS

- Super elasticity
- Boxing wax
- Sprue
- Acid etch technique
- Microleakage in dental restorations

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JUNE 2016

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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LONG ESSAY

2 X 10 = 20 Marks

- Classify Dental cements based on their uses and describe the composition, setting reaction and properties of Zinc Phosphate Cement
- Classify impression materials and describe the composition, setting reaction and properties of Alginate impression material

SHORT ESSAYS

- Dentifrices
- Methods of strengthening Dental porcelain
- Types of Stainless steel
- Types of Casting defects
- Dental Implant materials
- High Copper Amalgam Alloys
- Heat treatment
- Stress and strain



SHORT ANSWERS

- Sprues
- Tray adhesives
- Galvanism
- Bite registration wax
- Coefficient of Thermal expansion

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2016

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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LONG ESSAY

2 X 10 = 20 Marks

- Classify investment materials. Write in detail the composition, setting reaction and uses of gypsum bonded investment materials
- Classify dental cements. Describe the composition, setting reaction and uses of glass ionomer cements

SHORT ESSAYS

- Glaze ceramic
- Acid etch technique
- Soldering and welding
- Coupling agent
- Delayed expansion
- Biocompatibility tests
- Implant materials
- Annealing in direct filling gold



SHORT ANSWERS

- Micro hardness test
- Polishing agents
- Uses of zinc oxide eugenol cement
- Dentifrices
- Copy milling

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JULY 2015

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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LONG ESSAY

2 X 10 = 20 Marks

- Classify denture base resins. Write in detail about the different methods of curing
- Classify silver amalgam alloys. Write in detail about the composition, properties and Setting reaction of silver amalgam.

SHORT ESSAY

- Write about the technical considerations of gypsum bonded investment
- Noble metal alloys
- Classification of direct filling gold
- Type 3 gypsum product
- Liners and bases
- Inlay wax
- Dentin bonding agents
- Dental implant materials



SHORT ANSWERS

- Pit and fissure sealants
- Uses of polycarboxylate cement
- Acid etch technique
- Creep
- Tray compound

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2015

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Classify Dental Amalgam alloys and describe the steps in manipulation of high Copper Amalgam Alloys
- Describe in detail about Abrasive and Polishing agents

SHORT ESSAYS

- Distortion and remedies of Inlay waxes
- Adverse effects of Dental materials
- Metal Ceramic Bonding
- Types of Glass ionomer cements
- Eutectic and Peritectic Alloys
- Components of Composite Resin
- Firing procedure in Dental Ceramics
- Explain different types of denture base resins in brief



SHORT ANSWERS

- Eames technique
- Elastic limit
- Super cooled Liquids
- Spherulites
- Die Spacer

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – JUNE 2014

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

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LONG ESSAY

2 X 10 = 20 Marks

- Classify impression materials. Compare in detail the properties, advantages, disadvantages and uses of hydrocolloids with elastomeric impression materials. Add a note on disinfection of impressions
- Discuss in detail the properties, advantages, disadvantages of dental ceramics. What are CAD-CAM restorations

SHORT ESSAY

- What are luting cements. Write their ideal requisites
- Expansion in investment materials
- Die stone
- Manipulation of silver amalgam
- Biocompatibility testing of dental materials
- Corrosion and its prevention
- Denture liners
- Abrasives and polishing agents



SHORT ANSWERS

- Microwave curing of resins
- Die spacers
- Classification of inlay wax
- Advantages and disadvantages of direct filling gold
- Self etch dental adhesives

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2014

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

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LONG ESSAY

2 X 10 = 20 Marks

- Define the term Water BY Powder Ratio and explain the setting reaction, methods of determining the setting times and factors affecting setting time of Gypsum Products.
- Describe in detail Composition, setting reaction, uses and properties of Zinc oxide Eugenol impression material

SHORT ESSAYS

- Explain in brief any five physical properties of dental materials
- Composition of Dental Ceramics
- Addition Poly Vinyl siloxane impression material
- Micro filled Composite Resin
- Polymerization cycles
- Calcium Hydroxide Cement
- Sensitization and Stabilization
- Explain different types of direct filling gold in brief.



SHORT ANSWERS

- Pickling
- Glass transition temperature
- Crazeing
- Rheology
- Age hardening

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – June 2013

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Classify dental cements. Add a note on the composition, types, chemistry of setting reaction and uses of glass ionomer cements.
- Classify denture base resins. Discuss their properties, manipulation, advantages and disadvantages

SHORT ESSAY

- Manipulation of agar impression material
- Expansion in gypsum products
- Abrasives and polishing agents
- Write about materials used for dental implants
- Phosphate bonded investments
- Write briefly about cavity varnishes
- Porosity in dental castings
- Calcium hydroxide



SHORT ANSWERS

- Separating media
- Delayed expansion
- Sandwich technique
- Gold foil
- Galvanism

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2013

Time: 3 Hrs.

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DENTAL MATERIALS

(RS-3)

QP Code: 1185

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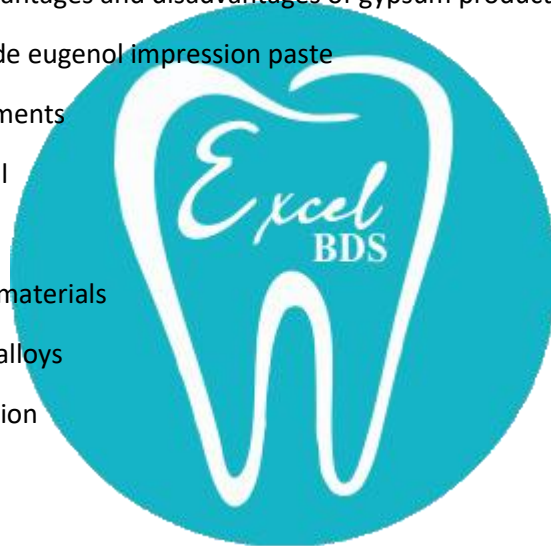
LONG ESSAY

2 X 10 = 20 Marks

- Classify silver amalgam. Write the composition and setting reaction of high copper amalgam
- Classify dental resins and give their composition. Compare self cure and heat cure acrylic denture base resins

SHORT ESSAY

- Define dental cast. Write the advantages and disadvantages of gypsum products as cast materials
- Setting time and uses of Zinc oxide eugenol impression paste
- Resin modified glass ionomer cements
- Properties of 18 - 8 stainless steel
- Design of dental burs
- Rheological properties of dental materials
- Noble versus base metal casting alloys
- Porcelain fused to metal restoration



SHORT ANSWERS

- Die spacer
- Tray adhesives
- Microleakage
- Acid etching
- Cavity varnish

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – June 2012

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS

(RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

Classify denture base materials. Write in details about the chemistry, properties and manipulation of heat cure acrylic resins

- Describe the composition, setting reaction and advantages of glass ionomer cement

SHORT ESSAY

- Refractory materials
- Acid etching
- Classification of dental ceramics
- Cavity varnish
- Resin modified glass ionomer cement
- Soldering
- Direct filling gold
- High copper amalgam



SHORT ANSWERS

- Chemistry of setting of irreversible hydrocolloid
- Localized shrinkage porosity during casting
- Zinc oxide eugenol cements
- 18-8 stainless steel
- Stress and strain

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2012

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS

(RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Give ideal requirements of investment material. Describe briefly about gypsum bonded investment
- Classify dental amalgam alloys. Describe briefly the composition and setting properties of admixed alloys

SHORT ESSAY

- Abrasive and polishing agents
- Components of composite resins
- Silicone impression materials
- Setting reaction of glass ionomer cements
- Zinc phosphate cement
- Cavity varnish
- Tissue conditioners
- Heat curing resins



SHORT ANSWERS

- Nitinol wires
- Cohesive gold
- Solid solutions
- Microfilled composites
- Resin teeth

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – June 2011

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS

(RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Classify impression material. Discuss in detail about the irreversible hydrocolloid impression material.
2. Define composite. Classify composite. Discuss briefly about each material.

Short essay

3. Luting cement
4. Base plate material
5. Hygroscopic expansion
6. Composition of ceramic
7. Stress and strain
8. Annealing of gold foil
9. Inlay wax
10. Poly carboxylate cement



Short answers

11. Delayed expansion
12. Pickling solution
13. Denture reliners
14. 18-8 wires
15. Dievestment

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – Dec 2011

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS

(RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

Classify dental ceramics. Write in detail about various all ceramics materials

- Discuss the composition and amalgamation reaction of high copper amalgam alloys

SHORT ESSAY

- Chemistry of polymerization
- Hardness tests
- Zinc phosphate cements
- Manufacture of gypsum
- Metal modified glass ionomer cements
- Light cured composite resins
- 18-8 stainless steel
- Casting shrinkage in alloys



SHORT ANSWERS

- Disinfection of impression
- Flux and antflux
- Classification of abrasives
- Annealing
- Irreversible impression materials

Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – June 2010

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Classify denture base resins. Write in detail about the different methods of curing
2. Classify silver amalgam alloys. Write in detail about composition, properties, setting reaction. Add a note on mercury hygiene.

Short essay

3. Write about the technical consideration of gypsum bonded investment.
4. Compare and contrast base metal and noble metal alloys
5. Compare and contrast alpha and beta hemihydrate
6. Type III gypsum products
7. Liners and bases
8. Inlay wax
9. Gutta percha
10. Dental implant material

Short answers

11. Pit and fissure sealants
12. uses of polycarboxylate cement
13. Acid etch technique
14. Creep
15. Tray compound



Rajiv Gandhi University of Health Sciences

II B.D.S Degree Examination – DECEMBER 2010

Time: 3 Hrs.

[Max. Marks : 70]

DENTAL MATERIALS (RS-3)

QP Code: 1185

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Classify dental cements, describe briefly setting reaction and manipulation of each cement
- Classify dental base resins write in detail about heat cure resins

SHORT ESSAY

- Posterior composites
- Gelation of irreversible hydrocolloids
- Dental burs and their functions
- Thermophysical properties of dental materials
- Dental implant materials
- Porosity in denture base resins
- Dentin bonding agents
- Glass ionomer cements



SHORT ANSWERS

- Epoxy die materials
- Tin foil substitutes
- Preamalgamated alloys
- High copper alloys
- Amalgamator

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