

Government of Karnataka



PARA MEDICAL BOARD

Revised Syllabus

of

II & III Year Diploma in Dental

Mechanic

**(Previously first/second year certificate course/
I year DDM/II DDM)**

2017

Second Year Diploma in Dental Mechanic

DENTAL MATERIALS INCLUDING METALLURGY:

Q P Code: 5171

Composition, properties, uses, advantages, disadvantages of the following materials

1. Plaster of Paris
2. Investment materials
3. Impression materials
4. Tray materials
5. Denture base materials
6. Waxes
7. Dental cements
8. Metallurgical terms
9. General properties of metals
10. Metals used in dentistry like gold, silver, zinc, lead, mercury and titanium.
11. Alloys used in dentistry like casting alloys, wrought gold, silver, stainless Steel, Nickel and chrome cobalt alloys
12. Heat treatment – Annealing and Tempering.
13. Solders, fluxes and anti fluxes
14. Tarnish and corrosion
15. Electrodeposition.

Applied Oral Anatomy:

Q P Code: 5172

Elementary anatomy of structure of denture/bearing area.

Human dentition and occlusion.

Functions teeth and morphology of crowns of teeth.

Tooth carving in wax and plaster.

Muscles of mastication and facial expression.

Mastication deglutition and phonation.

Movement of temporomandibular joint.

QUOTA OF PRE CLINICAL WORK

1. Cubes-5
2. Cubes-3
3. Preparation of cast, bending and boxing impression and cast preparation
4. Marking anatomical landmark
5. Fabrication of special tray
 - a. Shellac
 - b. Resin
 - c. Vacuum adapted tray
6. Fabrication of record base
 - a) Shellac
 - b) Resin-self cure & heat cure

7. Fabrication of occlusal rim
 a) Different material-compound, plaster, wax
 b) Wax-class I, class II, class III
8. Arrangement of teeth in
 a) class I-10 sets
 b) class II-5 sets
 c) class III-5 sets
9. Acrylisation of denture in a) class-I
 b) class-II
 c) class-III
10. Teeth carving of 28 teeth-incisors, canines, premolars, molars

PRACTICALS

Preclinical work for PUC passed (newly admitted) students followed by clinical works and minimum clinical work for all the students

Complete Dentures - 25

Removal Partial Dentures -100

Single Dentures -10

SCHEME OF TEACHING AND EXAMINATION FOR PRELIMINARY DDM

THEORY AND PRACTICALS

| PAPER | TEACHING HOURS | | EXAMINATION MARKS | | |
|--|----------------|-------------------|-------------------|---------------|-------|
| | THEORY HRS | PRACTICAL DAYS | INT ASS | BOARD EXAM | TOTAL |
| PAPER I (Dental Materials Including Metallurgy) | 60 | - | - | 50 | 50 |
| PAPER II (Applied Oral Anatomy) | 60 | - | - | 50 | 50 |
| PRACTICALS | - | 200 | - | 100 | 100 |

THEORY QUESTION PAPER PATTERN (PAPER-I AND PAPER-II)

- I. SHORT ESSAY (7 question) Any five - $4 \times 5 = 20$
- II. SHORT ANSWER (12 question) Any ten - $3 \times 10 = 30$
- TOTAL - 50

PRACTICALS (SCHEME OF PRACTICAL EXAMINATION FOR PRELIMINARY DDM)

Practical Exam(100)

- a. Records and Log books maintains 20 marks
- b. Teeth arrangement in class | relation 50 marks
- c. Wax pattern for given Kennedy's cl
for RPD Model or CD Laboratory devices 30 Marks

| Paper | SUBJECT | SECTION | Question paper Code | MAX. MARKS |
|--------------|-------------------------------------|----------------|----------------------------|-------------------|
| Paper 1 | Dental Materials & Metallurgy (N.S) | | 5171 | 50 |
| Paper 2 | Applied Oral Anatomy (N.S) | | 5172 | 50 |
| | Practical | | | 100 |

FINAL YEAR DDM DENTAL MECHANICS:THEORY

COMPLETE DENTURES

Q P Code: 6171

- Beading and boxing of impressions and cast preparation
- Marking the anatomical land marks in the edentulous casts
- Special trays
- Bite blocks and wax rims
- Articulators,classification and uses
- Mounting of casts,articulation,occlusal plane, curve of spec and balancing
- Principles of teeth selection and arrangement, waxing of trial dentures.
- Flasking,dewaxing,packing,curing and deflasking
- Finishing and polishing of dentures
- Repair and relining, rebasing
- Immediate dentures
- Making of splints, acrylic teeth

PARTIAL DENTURES,MAXILLOFACIAL PROSTHESIS AND ORTHODONTIC APPLIANCE

Q P Code: 6172

- Kennedy's classification
- Components of Removable Partial Dentures
- Principles of partial denture design,surveyors,surveying and block out procedures
- Casting machines, principles of casting and technics for fixed partial dentures and cast partial, dentures.
- Principals of wire bending
- Mechanical principles of orthodontic appliance
- Maxillofacial prosthesis

FIXED PARTIAL DENTURES

- Introduction,definition,classification of Fixed Partial Dentures
- Components of FPD's
- Die preparation and different die systems
- Waxing principles for crowns and FPD's
- Casting and finishing of FPD's
- Fabrication of Porcelain Fused to Metal crown and FPD's

THEORY QUESTION PAPER PATTERN (PAPER-I AND PAPER-II)

| | | | |
|-----|--------------|---|---------|
| I. | SHORT ESSAY | - | 5x4=20 |
| II. | SHORT ANSWER | - | 3x10=30 |
| | TOTAL | - | 50 |

PRACTICALS:

All concerned practical exercises according to theory topics and clinical work.

FINAL YEAR D.D.M CLINICAL WORK

1. CD-Acrylic 100
-Metal 5
2. SD-20
3. R.P.D-Acrylic-200
-Cast R.P.D-2
4. Repair/relining/rebasing-25 each
5. Inlays-2
6. Post core-2
7. Acrylic crown-5
Metal ceramic crown Anterior-5
Posterior-5
8. F.P.D Anterior-5
Posterior-5
9. Splints-5
10. Obturator and other surgical appliance-2
11. Ortho appliance-5
 - a. Wire bending:
Labial bow, Adams clasp, Finger spring, Expansion screws...etc
 - b. Removable appliances
 - c. Oral screen, Myofunctional appliances...etc

PRACTICALS

SCHEME OF PRACTICAL EXAMINATION FOR FINAL DDM

Practical Exam(100)

- | | |
|--|----------|
| a. Records and Log books maintains | 20 marks |
| b. Teeth arrangement in class I relation | 25 marks |
| c. Die preparation Wax pattern for 3 unit FPD | 25 Marks |
| d. Ortho appliance(wire bending) | 30 Marks |

| Paper | SUBJECT | SECTION | Question paper Code | MAX. MARKS |
|---------|--|---------|---------------------|------------|
| Paper 1 | Complete Dentures (N.S) | | 6171 | 50 |
| Paper 2 | Partial Dentures, Orthodontia, Maxiofacial Prosthesis(N.S) | | 6172 | 50 |
| | Practical | | | 100 |

d.REFERENCE BOOKS:

| SL NO | TEXTBOOK TITLE | AUTHOR | PUBLICATION | EDITION |
|-------|---|-------------------------------------|--|---------|
| 1 | Manual of Training Dental Technicians | | HerMajesty's Stationery Office | |
| 2 | Laboratory Procedures for Inlay, Crowns and Bridges | Deredk Stananought | Blackwell Scientific Publications Ltd. | |
| 3 | An Atlas of Removable Partial Denture design | Russel.Stratton/ Frank J.Wiebelt | Quintessence | |
| 4 | Science and Technic of Cast Restoration | George M. Hollenback | | |
| 5 | Guide to Occusal Waxing | Shillingburg/ Wilson/Morrison | Quintessence | 2nd |
| 6 | Dental Mechanics For Student | John Osborne | | 4th |
| 7 | Dental Implants Fundamental And Advanced Laboratory Technology (color atlas) | RobertWikelman Kenneth Orth | Wolfe | |
| 8 | Quintessence of Dental Technology | | Quintessence | |
| 9 | Dental Laboratory Technology | Nicholas Martielli | Mosby | 3rd |
| 10 | Practical Exercise in Dental Mechanics | F.G.Shaw D.C.Scott | | 3rd |
| 11 | Introduction to Metal Ceramic Technology | W.Patrick Naylor | Quintessence | |
| 12 | Precision Fixed Prosthodontics Clinical and Laboratory Aspects | M.Martignoni/ A.Schonenberger | Quintessence | |

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|----|--|----------------------------------|-----------------------------------|-----|
| 13 | Dental Laboratory procedures in Complete Denture Vol-1 Removable Partial Dentures Vol-2 Fixed Partial Dentures Vol-3 | Rhoads.Rudd Morrow | Mosby | 2nd |
| 14 | A Text Book of Dental Anatomy | Wheeler's | Saunders | 8th |
| 15 | Color Atlas of Ceramo-Mental Technology Vol- 1 and Vol-2 | Masahiro Kuwata | | |
| 16 | Essentials of Dental Ceramics- An Artestic Approach | Gerard J Chiche Alain Pinault | Year Book Medical Publishers,Inc. | |
| 17 | The Science and Art of Dental Ceramics Vol-1 | John.W.Mclean | Quintessence | |
| 18 | Creative Ceramic Color-A Practical System | Ernest.A. Hegenbarth | Quintessence | |
| 19 | The Design and Construction of Removable Orthodontic Appliances | C.Philip Adams | John Wright and Sons Ltd. | |
| 20 | A Manual of Practical Orthodontics | W.J.Tulley A.C.Campbell | John Wright and Sons Ltd. | 3rd |