

**SHORT TERM VOCATIONAL
CERTIFICATE COURSE**

COURSE NAME:
Dental Lab Assistant
(6months Duration)

Prepared by:
Mohammed Younus
Dental Technician (RDT)
Sapphire Dental Lab, Hyderabad

Course Coordinator:
Dr. R. JYOTHSNA RANI
Principal & Lecturer SIVE,
O/o Director of Intermediate Education, Hyderabad

STATE INSTITUTE OF VOCATIONAL EDUCATION
O/o Director of Intermediate Education, Hyderabad
HYDERABAD, TELANGANA

DENTAL LAB ASSISTANT

NAME OF THE COURSE : Dental Lab Assistant

SECTOR : PARAMEDICAL

COURSE CODE : DLA

ENTRY QUALIFICATION : SSC

PRE-REQUISITES: Basic Knowledge of basic dental anatomy.

TERMINAL COMPETENCE: After completing this course, student will be able to work as a Dental Lab Assistant.

DURATION:

6 Months: (40 Hours: English + Course content: 200 Hours)

Introduction of the course:

Objectives:

- To learn about Basics of Dental Lab Technology
- To understand basic dental lab processes and procedures
- To make dental prosthesis and appliances
- To get awareness of advanced technology

Skills:

- Be able to communicate in English
- Be able to handle the cases as per their skills in different sections of dental lab (e.g. removable prosthodontic acrylic work section, fixed prosthodontic work, orthodontic work, digital dentistry)

ON THE JOB TRAINING AND PRACTICAL:

- Pouring the dental impressions
- Model and dye fabrications
- Fabrication of Crown and bridge wax pattern

- Investing of wax pattern
- Casting
- Metal finishing
- Dental porcelain application

SCHEME OF INSTRUCTION

1. Communicative English: 40 hours (per module)

2. Course: 200 hours (06 months)

Duration of Course	Theory		On the Job Training		Total	
	Hours	weightage	Hours	weightage	Hours	weightage
1 Module (06 months)	60	30%	140	70%	200	100%

SYLLABUS

Unit- 1. Dental Materials (10 Hours)

- a) Gypsum Products
- b) Impression Materials
- c) Dental Waxes
- d) Dental Investment Material
- e) Dental Acrylic Material

Unit-2. Dental Anatomy (10 Hours)

- a) Dental Formula
- b) Basic Anatomy of Oral Cavity
- c) Tooth Morphology
- d) Temporomandibular Joint (TMJ)

Unit-3. Dental Mechanics (10 Hours)

- a) Casting of Impression

- b) Steps for Metal Frame Work
- c) Steps for Acrylic Work
- d) Steps for Orthodontic Appliances

Unit- 4. Dental Lab Infection Control (10 Hours)

- a) PPE
- b) Hand Wash
- c) Disinfection of Impressions
- d) Prosthesis.

Unit – 5. Dental Ceramics (10 Hours)

- a) Steps for Ceramic Work
- b) Steps for CAD Cam Work

Unit – 6. Sterilization (10 Hours)

- a) Dry Sterilization
- b) Chemical Sterilization
- c) Auto Clave Machine

Practical Syllabus: (28 hours each)

- a) Fabrication of single unit - Removable Partial denture
- b) Fabrication of multiple units of removable partial denture
- c) Fabrication of Single unit PFM crown
- d) Fabrication of 3 units PFM Bridge
- e) Record keeping in lab

LIST OF EQUIPMENT

- **CAD/CAM Milling Machine:** Essential for fabricating dental restorations from digital designs.
- **Furnace:** Used for sintering ceramic materials.
- **Articulator:** A device that simulates jaw movement for accurate restoration fitting.
- **Hand Instruments:** Such as spatulas, brushes, and carving tools for shaping and finishing.

- **Microscope or Loupes:** For precise work.
- **Materials:** Dental ceramics (e.g., E. max, Zirconia), investment materials, glazes, and stains.

Qualifications of Teaching Faculty:

- a) Graduation from any recognized university with an aggregate of 55% marks and should be a Registered Dental technician
- b) 3+ Years of Experience in Well Equipped lab

Division of Marks:

Theory: 100 Max. Marks

- 1. Communicative English: 20 marks
- 2. Short Questions: 6 x5m = 30 marks
- 3. Long Questions: 4x10 = 40 marks
- 4. Multiple Choice Questions: 10x1=10 marks

Practical: 100 Max. Marks

- 1. External: 40 marks
- 2. Record/ Mini Project & Viva: 10 marks
- 3. Internship/ OJT: 50 marks

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REGD. NO:

TIME : 3 HRS

TIME

MAX MARKS: 100

**DENTAL LAB ASSISTANT
MODEL QUESTION PAPER (THEORY)**

SECTION- A

COMMUNICATIVE ENGLISH

20 MARKS

SECTION- B

Note: a) Answer ALL questions.

b) Each question carries **5 Marks**.

6X5M=30 MARKS

1. What are accelerators and retarder?
2. Define dental cements and its uses in dentistry.
3. Classify inlay wax and write about its composition.
4. Define soldering. Mention the types of solder used in dentistry.
5. Explain the parts of tooth.

SECTION- C

Note: a) Answer any **Four** questions.

b) Each question carries **10 Marks**.

4X10M=40 MARKS

1. Classify gypsum products used in dentistry? Write a note on water powder ratio, mixing time of type III gypsum.
2. What do you understand by FDI system? Explain the need for having dental formula in dental practice.
3. Describe in detail the permanent maxillary right central incisor.

4. What is dental Ceramic? Write about dental lab procedures for porcelain fused to metal (PFM) crown.
5. What is elastomer? Write about silicone elastomers.
6. Draw a labelled diagram of lower Jaw and explain its parts briefly.

SECTION-D

MCQS

10X1=10 Marks

1. What is the role of dental labs in the field of dentistry?

- A) To fabricate dental prosthetics
- B) To extract teeth
- C) To perform dental exams
- D) To administer anesthesia

2. Which material is commonly used for fabricating dental prosthetics?

- A) Porcelain
- B) Acrylic
- C) Zirconia
- D) Wax

3. Which property describes the ability of a dental material to return to its original shape after being deformed?

- A) Elasticity
- B) Strain
- C) Toughness

D) Strength

4. What is the significance of mechanical properties in dental restorations and prosthetic materials?

A) Enhancing aesthetics

B) Preventing dental decay

C) Providing patient comfort

D) Maintaining oral health and functionality

5. What is the purpose of dental impression materials?

A) To fabricate dental crowns and bridges

B) To seal root canals and hold fillings in place

C) To secure dental restorations in place

D) To make a mold or replica of the teeth and gums

6. Which type of dental plaster is commonly used to make study models?

A) Impression compound

B) Alginate

C) Dental plaster

D) Dental stone

7. What is the primary use of alginate in dentistry?

A) To secure dental restorations in place

B) To make study models and diagnostic casts

C) To create molds and impressions of teeth

D) To make temporary restorations

8. What is one advantage of dental acrylic materials?

- A) Resistance to fracture and wear
- B) Perfect color matching to natural teeth
- C) Superior strength and flexibility
- D) Ease of manipulation and durability

9. What is the purpose of disinfecting dental impressions?

- A) To prevent cross-contamination between patients and dental laboratory personnel
- B) To improve the accuracy of the impressions
- C) To enhance the durability of the impression material
- D) To reduce the drying time of the impressions

10. Which ligament provides support during movement of the jaw?

- A) Medial Pterygoid
- B) Stylomandibular Ligament
- C) Temporalis
- D) Lateral Pterygoid

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MODEL QUESTION PAPER (PRACTICAL)

Note: a) Answer ALL questions.

b) Each question carries **10 Marks**.

4X10=40MARKS

1. What are impression materials? Write in detail about different impression materials used.
2. Describe step-by-step procedure in fabrication porcelain fused metal (PFM) crown.
3. Write about importance of record keeping in dental lab setups.
4. What is sterilization? Mention about Auto Clave and draw a neat diagram.

Record/Mini Project & Viva

10 Marks

Internship/OJT

50 Marks