



**NATIONAL COMPETENCY STANDARD &
COMPETENCY BASED TRAINING CURRICULUM
FOR
DENTAL TECHNICIAN
NVQ LEVEL 4**

(Competency Standard Code: N85S030)



**Developed and Validated by;
National Apprenticeship & Industrial Training Authority
971, Sri Jayawardenepura Mawatha,
Welikada,
Rajagiriya.**



**Endorsed by;
Tertiary & Vocational Education Commission
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State Ministry of Skills Development, Vocational Training, Research and Innovations

Section 1 - Introduction

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Section 1 - Introduction

PREFACE

National Competency Standards (NCS) and curricula are an essential element for the implementation of a unified Technical and Vocational Education & Training System for Sri Lanka and forms the basis for the National Vocational Qualification Framework of Sri Lanka, which provides for the award of nationally and internationally recognized qualifications. The NCS are developed in consultation with industry and are designed using a nationally agreed specific format to maintain uniformity and consistency of standards amongst occupations.

The NCS and curricula specify the standards of performance of a competent worker and the various contexts in which work may take place. NCS also describe the knowledge, skills and attitudes required in a particular occupation. NCS and curricula provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competencies acquired either following training or through work experience.

NCS focus on what is expected of a worker in the workplace and curricula focus on the learning process.

- NCS stress upon the ability to transfer and apply knowledge and skills to new situations and environments.
- In NCS and curricula the emphasis is upon outcomes and upon the application of knowledge and skills, not just the specification of knowledge and skills.
- NCS and curricula are concerned with what people are able to do and the ability to do a task in a range of contexts.
- NCS and curricula include all aspects of workplace performance and not only narrow task skills.

NCS especially can serve a number of purposes including;

- Providing advice to curriculum developers about the knowledge, skills and attitude to be included in the curriculum.
- Providing specifications to Competency Based Assessors about the knowledge, skills and attitudes to be demonstrated by candidates.
- Providing advice to industry about job functions, which in turn can be used for the development of job descriptions, performance appraisal systems and work flow analysis.

The lead organization for the development of NCS and curricula is the National Apprentice & Industrial Training Authority. The standards so developed are endorsed by the Tertiary & Vocational Education Commission as National Documents.

There is a requirement to review the standards within the prescribed period as appropriate as and when required, with the assistance of relevant industry groups and incorporate the changes in the National Competency Standards.

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Section 1 - Introduction

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Section 1 - Introduction**NATIONAL COMPETENCY STANDARD & COMPETENCY BASED TRAINING CURRICULUM
For
DENTAL TECHNICIAN
NVQ Level 04****(Competency Standards Code: N85S030)****Content Page**

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Section 2
NATIONAL COMPETENCY STANDARD
FOR THE OCCUPATION OF
Dental Technician
NVQ Level 04
(Competency Standards Code: N85S030)

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Packaging for National Vocational Qualification (NVQ)

- National certificate at **NVQ Level 4** in the occupation of **Dental Technician** will be awarded to those who are competent in units U01 + U02 + U03 + U04 + U05 + U06 + U07 + U08 + BU01 + BU02 + BU03 + BU04 – N85S030Q1L4

Occupation Definition

Dental Technician is a member of the dental team, who constructs custom-made restorative and dental appliances according to prescription from a dental surgeon to improve the aesthetics and functions of the patient.

Section 2 – National Competency Standard

UNIT TITLE	Prepare Cast
UNIT DESCRIPTOR	This unit covers the competencies required to, cast the impression according to the prescription of the dental surgeon.
UNIT CODE	N85S030U01
Element	Performance Criteria
1. Carryout impression casting	1.1 Job card is read and understood (interpreted) 1.2 Impression is disinfected using suitable disinfection method as per Standard Operating Procedure (SOP) 1.3 Casting material, tools and equipment are selected and obtained as per job card 1.4 Boxing procedure is carried out for master impression (if required) 1.5 Casting material is mixed using <i>mixing methods</i> according to prescription 1.6 Impression is casted using <i>standard pouring methods</i>
2. Prepare working cast	2.1 Cast is removed from the impression without any distortion 2.2 Cast is examined and excess material removed using plaster cutting plier 2.3 Base is prepared for study model or working cast using model trimmer 2.4 Working cast is sent to the dental clinic for further improvements
3. Construct special tray	3.1 Periphery tray margin is drawn on the cast by identifying anatomical land marks 3.2 Undercuts are blocked with suitable material according to the type of undercuts and special tray material 3.3 Wax spacer is adopted on the cast as per job card 3.4 Special tray is constructed according to the job card 3.5 Constructed special tray is sent to the dental clinic as per SOP

Range/Context:

The work connected to this unit may take place in a plaster room in dental laboratory. Work related to this unit may be performed individually.

Elaboration of Terms in Performance Criteria

- ***Mixing methods*** in PC 1.5 may include; using vacuum mixer or manually.
- ***Standard pouring methods*** in PC 1.6 may include; using vibrator or manually.

Critical Aspects:

The assessment must confirm that the candidate is able to:

- Make correct water powder ratio
- Cast the impression within the correct time period
- Remove the cast from the impression after fully set of pouring material

The following tools, equipment & material are included within this unit.

Tools, Equipment and Materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife

Documents, References, Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials

Section 2 – National Competency Standard

- Plaster knife
- Plaster cutting pliers
- Plaster bowl and spatula
- Vacuum mixing unit
- Vibrator
- Model trimmer
- Measuring devices
- Base formers
- Tray holders
- Hot water unit
- Hack saw
- Marker
- Design knife
- Product information sheets
- Lab prescription card / Job card

Material

- Gypsum materials
- Separating media
- Special tray materials
- Surface tension reducing agents
- Disinfectants

Underpinning Knowledge and Skills

Underpinning Knowledge

- Denture classification
- Dental anatomy (Anatomical land marks)
- Impression materials
- Casting materials
- Special tray materials
- Tray types
- Tooth morphology
- Carving

Underpinning Skills

- Handling tools instruments and equipment
- Handling materials
- Mixing of casting materials

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Fabricate Removable Complete and Partial Dentures
UNIT DESCRIPTOR	This unit covers the competencies required to fabricate removable complete and partial dentures.
UNIT CODE	N85S030U02
Element	Performance Criteria
1. Construct base plate	<p>1.1 Job card is read and understood (interpreted)</p> <p>1.2 Master cast is disinfected using suitable disinfection method as per Standard Operating Procedure (SOP)</p> <p>1.3 Required tools, equipment and materials are selected and obtained as per job card</p> <p>1.4 Undercuts are measured using cast surveyor</p> <p>1.5 Denture bearing area is drawn using pencil and carver in master cast</p> <p>1.6 Base plate is constructed on master cast according to the job card</p> <p>1.7 Heat treating process is applied according to base plate material (if required)</p> <p>1.8 Base plate is trimmed using micromotor or polishing lathe</p>
2. Construct record blocks	<p>2.1 Wax rim is prepared according to standard measurement</p> <p>2.2 Wax rim is adopted to base plate on center of the ridge</p> <p>2.3 Record block is smoothed using blow torch and polished using cotton wool</p> <p>2.4 Record block is sent to the dental clinic for further improvements (if required) after disinfection</p>
3. Carryout denture trial	<p>3.1 Registered record block is disinfected and job card is read and understood</p> <p>3.2 Record block is mounted on selected articulator using articulation procedure according to job card</p> <p>3.3 Teeth are selected and teeth setting is carried out according to the guidelines of record block, job card details and principles of teeth arrangements</p> <p>3.4 Wax denture is festooned (gum work) for better appearance</p> <p>3.5 Wax denture trial is sent to the dental clinic with job card for further improvements (if required) after disinfection</p>
4. Finish the denture	<p>4.1 Denture trial is disinfected and job card is read and understood</p> <p>4.2 Changes are made according to the job card (if any) and resent to the clinic (if required)</p> <p>4.3 De-articulated denture trial is adopted to the cast and sealed according to the guidelines</p> <p>4.4 Flasking, de-waxing, packing and curing carried out to finish the denture according to laboratory standards and SOP</p> <p>4.5 Re-mounting and occlusal adjustments are carried out for correct occlusion</p> <p>4.6 Polishing procedure is carried out according to the SOP</p> <p>4.7 Fabricated denture is disinfected and packed as per SOP</p>

Section 2 – National Competency Standard

Range/Context:

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Elaboration of terms in Performance Criteria

- **Denture bearing area** in PC 1.5 may include peripheral seal, ~~and~~ posterior palatal seal (postdamn) according to anatomical land marks.

Critical Aspects

The assessment must confirm that the candidate is able to:

- Make correct water powder ratio (monomer polymer)
- Select correct articulation procedure
- Use denture base material as per Manufacturer's instructions
- Apply correct temperature and pressure during packing
- Follow finishing procedures

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Wax carver
- Plaster knife
- Plaster cutting pliers
- Plaster bowl and spatula
- Vacuum mixing unit
- Vibrator
- Model trimmer
- Measuring devices
- Flasks
- Hack saw
- Marker
- Design knife
- Hot water unit
- Polymerization unit
- Micromotor
- De-waxing unit
- Hydraulic flask press
- Clamps
- Cast surveyor
- Articulator
- Polishing lathe
- Bunsen burner
- Hot plate spatula
- Acrylic burs
- Trimming burs
- Carborandum burs and wheel
- Polishing stones
- Cotton wool buff

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets

Section 2 – National Competency Standard

- Felt cone
- Blow torch

Material

- Artificial teeth
- Denture base material
- Abrasive and polishing agents
- Separating material
- Modelling wax
- Gypsum materials
- Disinfectants

Underpinning Knowledge and Skills

Underpinning Knowledge

- Anatomical land marks for maxillary and mandibular arch
- Gypsum materials
- Denture materials
- Type of Dentures
- Types of articulators and Articulation procedures
- Artificial teeth and guidelines of teeth arrangement
- Teeth selection
- Flasking procedure
- De-waxing procedure
- Packing procedure
- Physical stages of Polymerization
- Curing cycles
- De-flasking procedure
- Trimming and polishing procedure
- Cast surveyor

Underpinning Skills

- Measuring, weighing and mixing of materials
- Handling instruments and equipment
- Use cast surveyor
- Interpretation of job card
- Communication skills
- Team work
- Time management

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Perform Denture Copying
UNIT DESCRIPTOR	This unit covers the competencies required to copy denture to transfer of contours from the existing to the new, to maintain neuromuscular control according to the clinical guidelines (job card) and existing denture guidelines.
UNIT CODE	N85S030U03
Element	Performance Criteria
1. Duplicate dentures	1.1 Old denture is disinfected and job card is read and understood 1.2 Required tools, equipment and materials are selected and obtained as per job card 1.3 Existing denture is duplicated using impression material or lab silicone 1.4 Molted wax is poured into the <i>impression</i> up to the gingival margins of the teeth 1.5 Base is prepared using self-cure material or tray material according to the laboratory standards and material manufacturer's instructions 1.6 Replica denture is disinfected and sent to the clinic to align occlusal vertical dimensions (OVD) 1.7 Recorded replica denture is casted using hard plaster and mounted on an articulator
2. Carryout teeth setting	2.1 Tooth mould and shade information is selected according to the job card and existing denture guidelines 2.2 Teeth setting is carried out removing the wax teeth, and replaced acrylic teeth one by one according to the existing denture guidelines and job card 2.3 Trial denture is sent to the dental clinic for further improvements (if required) after disinfection
3. Finish duplicate denture	3.1 Trial denture is disinfected and job card is interpreted 3.2 Trial denture is adopted to the cast and sealed and wax denture is festooned (gum work) for better appearance 3.3 Flasking, de-waxing, packing and curing carried out to finish the denture according to laboratory standards and SOP 3.4 Re-mounting (split cast mounting technique) and occlusal adjustments are carried out for correct occlusion 3.5 Polishing procedure is carried out according to the SOP 3.6 Copied denture is disinfected and packed as per SOP

Range/Context

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Elaboration of terms in Performance Criteria

- *Impression* in PC 1.4 may include duplicated denture in the laboratory or impression obtained from the dental clinic.

Section 2 – National Competency Standard

Critical Aspects

The assessment must confirm that the candidate is able to:

- Make correct water powder ratio (monomer polymer)
- Select correct articulation procedure
- Apply correct temperature and pressure during packing, boiling and de-flasking
- Carryout teeth setting according to existing denture guideline
- Maintain correct OVD according to existing denture guideline

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Wax carver
- Plaster knife
- Brush
- Plaster cutting pliers
- Plaster bowl and spatula
- Bunsen burner
- Dental laboratory dust collector
- Dental lab light curing unit
- Vacuum mixing unit
- Vibrator
- Model trimmer
- Measuring devices
- Impression tray
- Duplicating Flasks
- Hack saw
- Marker
- Design knife
- Hot water unit
- Polymerization unit
- Micro motor
- De-waxing unit
- Hydraulic flask press
- Clamps
- Articulator
- Polishing lathe
- Acrylic burs
- Trimming burs
- Carborandum burs and wheel
- Polishing stones
- Silicone points
- Cotton wool buff
- Felt cone

Material

- Artificial teeth
- Gypsum materials
- Denture base material
- Impression materials

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets

Section 2 – National Competency Standard

- Impression tray materials
- Abrasive and polishing agents
- Separating material
- Modelling wax
- Separating media
- Lab putty (laboratory silicone)

Underpinning and Knowledge

Underpinning Knowledge

- Anatomical land marks for maxillary and mandibular arch
- Denture materials
- Gypsum materials
- Impression materials
- Principles of teeth setting
- General principles of denture retention
- Types of articulators and Articulation procedures
- Artificial teeth and guidelines of teeth arrangement
- Types of Dentures
- Split cast mounting procedures
- Denture duplicating procedure (Denture copying)
- Flasking procedure
- De-waxing procedure
- Packing procedure
- Physical stages of Polymerization
- Curing cycles
- De-flasking procedure
- Trimming and polishing procedure

Underpinning Skills

- Measuring, weighing and mixing of materials
- Handling instruments and equipment
- Teeth carving, trimming and polishing
- Interpretation of job card
- Communication skills
- Team work
- Time management

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Repair Dentures
UNIT DESCRIPTOR	This unit covers the competencies required to repair fractured dentures, displaced or broken tooth/teeth, addition of teeth, carryout denture relining and rebasing.
UNIT CODE	N85S030U04
Element	Performance Criteria
1. Repair fractured dentures	<p>1.1 Fractured denture is disinfected as per Standard Operating Procedure (SOP)</p> <p>1.2 Required tools, equipment and materials are selected and obtained as per job card</p> <p>1.3 Broken denture parts are assembled and fixed with glue /sticky wax on polishing surface</p> <p>1.4 Assembled denture is strengthened with strong sticks on the occlusal surface to prevent distortion</p> <p>1.5 Separating media is applied for the fitting surface of the denture</p> <p>1.6 Plaster base is prepared for the assembled denture using quick setting plaster</p> <p>1.7 Denture is removed and pre preparation carried out for repairing</p> <p>1.8 Separating media is applied and denture parts are placed carefully on the plaster base without creating any spaces</p> <p>1.9 Self-cure material mixture is prepared as per guidelines given in material data sheets and applied on the fracture area</p> <p>1.10 Finishing procedure is carried out after repaired denture is cured</p> <p>1.11 Repaired denture is disinfected and returned to the dental clinic</p>
2. Repair displaced / broken tooth on denture (tooth addition)	<p>2.1 Denture to be repaired is disinfected as per SOP</p> <p>2.2 Required tools, equipment and materials are selected and obtained as per job card</p> <p>2.3 Tooth is selected using selection criteria</p> <p>2.4 Fractured tooth is cut off or adding surface is trimmed and selected tooth is placed making any adjustments</p> <p>2.5 Finishing procedure is carried out after repaired denture is cured</p> <p>2.6 Repaired denture is disinfected and returned to the dental clinic</p>
3. Carryout denture relining	<p>3.1 Wash impression is disinfected as per SOP</p> <p>3.2 Required tools, equipment and materials are selected and obtained</p> <p>3.3 Boxing procedure is carried out (if required) to obtain the correct landmark and casted</p> <p>3.4 Finishing procedure is carried out after relined denture is cured</p> <p>3.5 Relined denture is disinfected and returned to the dental clinic</p>

Section 2 – National Competency Standard

4. Carryout denture rebasing	<p>4.1 Existing denture and impression are disinfected as per SOP</p> <p>4.2 Required tools, equipment and materials are selected and obtained</p> <p>4.3 Impression is casted and denture is placed on the cast</p> <p>4.4 Denture base is trimmed completely except the dental arch to keep proper position</p> <p>4.5 Denture bearing area is drawn and wax base is adopted to the cast and dental arch</p> <p>4.6 Trial denture is disinfected and sent to the clinic to align Occlusal Vertical Dimensions (OVD)</p> <p>4.7 Adjustments are made (if any) and finishing procedure is carried out</p>
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Range/Context

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Elaboration of Terms in Performance Criteria

- **Pre preparation** in PC 1.7 may include; remove sticky wax & sticks and clean, trim & bevel fractured areas
- **Selection criteria** in PC 2.3 may include space, shade, mould and occlusion.
- **Wash impression** in PC 3.1 means impression taken with the existing denture with relining material in the dental clinic.
- **Proper position** in PC 4.4 means keep fitting surface of the existing denture at least three points (one point anteriorly and two points posteriorly) should contact the cast (to the horse shoe shape).

Critical Aspects

The assessment must confirm that the candidate is able to:

- Keep 2mm gap between two broken denture pieces and bevelling should be 3mm from either side
- Ensure the minimum thickness of the wash impression
- Ensure 3-point contacts of the existing denture to the cast
- Maintain correct OVD during relining and rebasing

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Wax carver
- Plaster knife
- Brush
- Plaster cutting pliers
- Plaster bowl and spatula
- Bunsen burner
- Dental laboratory dust collector
- Vacuum mixing unit
- Vibrator

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets (MSDS)

Section 2 – National Competency Standard

- Model trimmer
- Measuring devices
- Hack saw
- Marker
- Design knife
- Hot water unit
- Pressure curing unit
- Micro motor
- Polishing lathe
- Acrylic burs
- Trimming burs
- Carborandum burs and wheel
- Polishing stones
- Silicone points
- Cotton wool buff
- Felt cone

Material

- Artificial teeth
- Gypsum materials
- Denture base material
- Adhesive and polishing agents
- Dental waxes
- Separating media
- Lab putty (laboratory silicone)

Underpinning Knowledge and Skills

Underpinning Knowledge

- Anatomical land marks for maxillary and mandibular arch
- Type of Dentures
- Denture materials
- Gypsum materials
- Types of denture fractures
- Relining and rebasing (reasons, methods and comparison)
- Types of articulators and Articulation procedures
- Artificial teeth and guidelines of teeth arrangement
- Physical stages of Polymerization
- Curing cycles of base materials
- Trimming and polishing procedure

Underpinning Skills

- Measuring and weighing
- Use articulator
- Handle instruments and equipment
- Safe use of instruments and equipment

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others

Section 2 – National Competency Standard

- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Fabricate Removable Orthodontic Appliances
UNIT DESCRIPTOR	This unit covers the competencies required to fabricate basic orthodontic appliances.
UNIT CODE	N85S030U05
Element	Performance Criteria
1. Carryout impression casting	1.1 Job card is read and understood (interpreted) 1.2 Impression is disinfected using suitable disinfection method as per SOP 1.3 Casting material, tools and equipment are selected and obtained as per job card 1.4 Casting material is mixed using mixing methods according to prescription 1.5 Impression is casted using standard pouring methods
2. Prepare orthodontic study model	2.1 Cast is removed from the impression without any distortion 2.2 Cast is examined and excess material removed using plaster cutting plier 2.3 Base is prepared for study model using orthodontic guidelines 2.4 Study model is sent to the dental clinic for treatment plan after disinfecting
3. Fabricate orthodontic plate	3.1 Cast / impression is obtained from the clinic with the detailed job card 3.2 Impression is casted as per SOP and working cast is prepared 3.3 Components are prepared and placed on the correct positions as per job card 3.4 Functional areas are covered with wax and separating media applied for easy removal from the cast 3.5 Self-cure material is prepared and poured using sprinkle-on technique 3.6 Plate is cured using pressure pot and appliance is finished as per SOP and sent to the clinic

Range/Context:

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Orthodontic appliances that covered under this unit are; anterior bite plane, posterior bite plane, tongue guard, active and retentive components of orthodontic appliances.

Elaboration of terms in Performance Criteria

- **Mixing methods** in PC 1.4 may include; using vacuum mixer or manually.
- **Standard pouring methods** in PC 1.5 may include; using vibrator or manually.
- **Components** in PC 3.3 may include active and retentive components.

Critical Aspects

The assessment must confirm that the candidate is able to:

- Carryout wire bending

Section 2 – National Competency Standard

- Place the components on the cast
- Fabricate orthodontic appliance adhering to the clinician’s instructions

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Wax carver
- Plaster knife
- Plaster cutting pliers
- Plaster bowl and spatula
- Bunsen burner
- Dental laboratory dust collector
- Vacuum mixing unit
- Vibrator
- Model trimmer
- Measuring devices
- Marker
- Design knife
- Micro motor with hand piece
- Polishing lathe
- Acrylic burs
- Trimming burs
- Carborandum burs and wheel
- Polishing stones
- Silicone points
- Cotton wool buff
- Felt cone
- Orthodontic pliers
- Cutting plier
- Blow torch
- Soldering jigs
- Soldering tweezer

Material

- Gypsum materials
- Abrasive and polishing agents
- Modelling wax
- Stainless Steel (SS) Wires
- Expansion screw
- Soldering wires/ flux

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Laboratory procedures involved in orthodontic diagnosis
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets (MSDS)

Underpinning Knowledge and Skills

Underpinning Knowledge

- Occlusion and malocclusion
- Basic principles of orthodontic appliances
- Principles of wire bending

Underpinning Skills

- Maintain and safe handling of pliers and equipment
- Use of pliers and equipment
- Carryout wire bending procedures

Section 2 – National Competency Standard

- Sprinkle - on techniques
- Anterior and posterior bite planes
- Tongue guards
- Removable retainers and space maintainers
- Repair of removable appliances
- Maxillary expansion
- Movement of individual teeth and group of teeth
- Type of anchorages
- Positioning of orthodontic components
- Finishing appliances

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Fabricate Occlusal Splints
UNIT DESCRIPTOR	This unit covers the competencies required to fabricate mouthguard, bleaching trays and retainers.
UNIT CODE	N85S030U06
Element	Performance Criteria
1. Fabricate mouthguard	<p>1.1 Job card is read and understood</p> <p>1.2 Impression is disinfected using suitable disinfection method as per Standard Operating Procedure (SOP)</p> <p>1.3 Casting material, tools and equipment are selected and obtained as per job card</p> <p>1.4 Impression is casted using standard pouring methods</p> <p>1.5 Cast is examined and excess material removed and trimmed after removing cast from the impression</p> <p>1.6 Undercuts are blocked with suitable material after preparing working cast</p> <p>1.7 Margin is drawn on the cast according to the job card</p> <p>1.8 Splint is constructed using thermoplastic vacuum former according to the job card</p> <p>1.9 Cutting and polishing procedures are carried out as per SOP</p> <p>1.10 Mouthguard is sent to the dental clinic after disinfection</p>
2. Fabricate bleaching tray	<p>2.1 Job card is read and understood</p> <p>2.2 Impression is disinfected using suitable disinfection method as per SOP</p> <p>2.3 Casting material, tools and equipment are selected and obtained as per job card</p> <p>2.4 Impression is casted using standard pouring methods</p> <p>2.5 Cast is examined and excess material removed and trimmed after removing cast from the impression</p> <p>2.6 Undercuts are blocked with suitable material after preparing working cast</p> <p>2.7 Margin is drawn and wax spacer is adopted according to the job card</p> <p>2.8 Bleaching tray is constructed using thermoplastic vacuum former according to the job card</p> <p>2.9 Finishing procedure is carried out as per SOP</p> <p>2.10 Bleaching tray is sent to the dental clinic after disinfection</p>
3. Fabricate retainer	<p>3.1 Job card is read and understood</p> <p>3.2 Impression is disinfected using suitable disinfection method as per SOP</p> <p>3.3 Casting material, tools and equipment are selected and obtained as per job card</p> <p>3.4 Impression is casted using standard pouring methods</p> <p>3.5 Cast is examined and excess material removed and trimmed after removing cast from the impression</p> <p>3.6 Undercuts are blocked with suitable material after preparing working cast</p> <p>3.7 Undercuts are blocked out with suitable material</p>

Section 2 – National Competency Standard

	<p>3.8 Margin is drawn on the cast according to the job card</p> <p>3.9 Retainer is constructed using thermoplastic vacuum former according to the job card</p> <p>3.10 Finishing procedure is carried out as per SOP</p> <p>3.11 Retainer is sent to the dental clinic after disinfection</p>
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Range/Context

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Elaboration of terms in Performance Criteria

- **Standard pouring methods** in PC 1.4 may include; using vibrator or manually.

Critical Aspects

The assessment must confirm that the candidate is able to:

- Adopt the thermoplastic sheet at the correct temperature according to the manufacturer's specifications

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Wax carver
- Plaster knife
- Plaster cutting pliers
- Plaster bowl and spatula
- Bunsen burner
- Dental laboratory dust collector
- Vacuum mixing unit
- Vibrator
- Model trimmer
- Model arch trimmer
- Thermoplastic vacuum former
- Measuring devices
- Marker
- Design knife
- Micro motor with hand piece
- Scissor
- Polishing lathe
- Acrylic burs
- Trimming burs
- Carborandum burs and wheel
- Polishing stones
- Silicone points
- Cotton wool buff
- Felt cone

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets (MSDS)

Material

- Gypsum materials

Section 2 – National Competency Standard

- Abrasive and polishing agents
- Modelling wax
- Vacuum former sheets

Underpinning Knowledge and Skills

Underpinning Knowledge

- Anatomical land marks for maxillary and mandibular arch
- Occlusal splints
- Types of mouthguards
- Types of retainers
- Types of bleaching trays
- Thermoplastic vacuum former
- Thermoplastic vacuum forming stages
- Different types of thermoplastic sheets
- Trimming procedures
- Polishing procedures

Underpinning Skills

- Handling instruments and equipment
- Operate thermoplastic vacuum former
- Use of cast surveyor
- Maintain and safe handling of pliers and equipment

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Fabricate Acrylic Crowns and Bridges
UNIT DESCRIPTOR	This unit covers the competencies required to fabricate temporary acrylic crown and temporary bridges.
UNIT CODE	N85S030U07
Element	Performance Criteria
1. Prepare working cast	1.1 Working cast is disinfected using suitable disinfection method as per SOP 1.2 Job card is read and understood 1.3 Required materials, tools and equipment are selected and obtained as per job card 1.4 Excess materials are trimmed using model trimmer 1.5 Cast is examined and excess material (if any) of prepared margins removed using carver and design knife
2. Prepare temporary crown / bridge	2.1 Tooth / teeth are selected according to job card 2.2 Undercuts are blocked in abutment teeth to facilitate the easy removal / insert of temporary crown or bridge 2.3 Acrylic teeth are prepared according to the prepared tooth guidelines 2.4 Separating media is applied on the prepared tooth (working cast) after applying wax spacer 2.5 Tooth coloured self-cured acrylic mixture is prepared according to manufacturer's guidelines 2.6 Temporary crown/bridge is prepared with selected tooth and prepared mixture 2.7 Temporary crown/bridge is cured using pressure curing unit 2.8 Temporary crown/bridge is removed from the cast and excess materials are trimmed, polished and finished 2.9 Temporary crown/bridge is disinfected and packed before sent to the dental clinic

Range/Context

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Critical Aspects

The assessment must confirm that the candidate is able to:

- Select tooth / teeth according to shade and mould
- Prepare acrylic tooth / teeth according to margins of the working cast

The following tools, equipment & material are included within this unit.

Tools, Equipment and Materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Wax knife
- Plaster knife
- Plaster cutting pliers
- Plaster bowl and spatula
- Model trimmer
- Measuring devices

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Guidelines for tooth preparation
- Product information sheets
- Lab prescription card / Job card
- Material Safety Data Sheets (MSDS)

Section 2 – National Competency Standard

- Hack saw
- Marker
- Design knife
- Hot water unit
- Micromotor
- Articulator
- Polishing lathe
- Acrylic burs
- Trimming burs
- Carborundum burs and wheel
- Polishing stones
- Cotton wool buff
- Felt cone
- Pressure curing unit

Material

- Artificial teeth
- Abrasive and polishing agents
- Separating material
- Modelling wax
- Gypsum materials
- Disinfectants
- Compressed air

Underpinning Knowledge and Skills

Underpinning Knowledge

- Tooth morphology
- Artificial teeth and guidelines of teeth arrangement
- Classification of partial dentures
- Types of pontics
- Types of temporary crown and bridge
- Temporary crown materials
- Gypsum materials
- Types of articulators and Articulation procedures
- Trimming and polishing procedure

Underpinning Skills

- Handling instruments and equipment
- Measuring and weighing
- Use of wax carving techniques
- Use of trimming techniques
- Polishing and finishing skills

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Maintain Dental Laboratory
UNIT DESCRIPTOR	This unit covers the competencies required to maintain stocks of laboratory consumable, assist to inventory of laboratory items and record according to given instructions.
UNIT CODE	N85S030U08
Element	Performance Criteria
1. Clean the working area and instruments	1.1 Checklist is maintained to verify the number of instruments 1.2 Working area is cleaned as per SOP 1.3 Instruments are cleaned and disinfected to prevent cross contamination as per SOP 1.4 Waste management practices are applied as per SOP 1.5 Cleaning records are maintained as per SOP
2. Carryout maintenance of instruments	2.1 Periodical maintenance activities are carried out as per SOP 2.2 Calibrating and other maintenance records are checked and informed to relevant sections as per SOP 2.3 Working condition of the equipment are inspected daily
3. Maintain required stock levels	3.1 Relevant stock levels are identified as per given instructions 3.2 Records are compiled and maintained for easy reference 3.3 Necessary information for re-ordering is informed to higher authorities

Range/Context

The work connected to this unit take place in a dental laboratory. Work related to this unit may be performed individually.

Critical Aspects

The assessment must confirm that the candidate is able to:

- Carryout stock verification timely
- Maintain records of laboratory equipment
- Carryout routine maintenance activities of equipment

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Personal Protective Equipment (PPE)
- Lab Coat
- Office equipment and accessories
- Relevant storage facilities

Materials

- lubricants
- Detergents and disinfectants

Documents/References/Standards

- Laboratory standards
- Dental Laboratory safety and hazards manual
- ISO Standards for dental laboratory materials
- Standard forms and formats
- Inventory register
- Stock cards/ consumable register
- Lending and borrowing register
- Material Safety Data Sheets (MSDS)

Section 2 – National Competency Standard

Underpinning Knowledge and Skills

Underpinning Knowledge

- Maintenance procedures
- Computer literacy
- Record keeping methods
- Hazardous materials (HAZMAT)
- Infection control procedures

Underpinning Skills

- Handling and maintaining of instruments and equipment
- Cleaning and disinfecting procedures
- Computer literacy
- Simple mathematical calculations
- Communication skills
- Record keeping skills

Worker behavior/Attitude/Soft skills

Attitude/Behavior

- Patience
- Punctuality
- Good listener
- Supportive
- Respect others
- Honestly
- Positive behavior
- Cleanliness of workplace

Section 2 – National Competency Standard

UNIT TITLE	Carryout workplace communication
UNIT DESCRIPTOR	This unit covers the competencies required to communicate with clients and co-workers clearly and politely face to face, over the phone, and in writing.
UNIT CODE	N85S030BU01
Element	Performance Criteria
1. Apply verbal communication at work place	<p>1.1 Verbal communication methods and media are used to gather and convey information as required</p> <p>1.2 Instructions and enquiries are responded promptly and in accordance with organisational requirements</p>
2. Apply non-verbal communication	<p>2.1 Non-verbal communication methods and media are used to gather and convey information as required</p> <p>2.2 Visual communication methods are used as per the situation</p>
3. Apply written communication and signage	<p>3.1 Written communication methods and media are used in clear and concise language to ensure the intended meaning of correspondence is understood by recipient</p> <p>3.2 Work place documentation and correspondence are interpreted to understand their intended meaning</p> <p>3.3 Documentation required to record and report are completed according to workplace procedures</p>
4. Respond positively to individual differences	<p>4.1 Cultural, ethnic and gender differences are taken into consideration in all verbal and non-verbal communication</p> <p>4.2 All individuals are treated with respect, courtesy and sensitively</p>

Range/Context

The work connected to this unit may take place in a workplace. Communication will include verbal, non-verbal, written, printed and electronic forms.

Elaboration of terms in Performance Criteria

- **Verbal communication methods and media** in PC 1.1 & 1.2 may include: phone calls, video chats, and face-to-face conversation.
- **Non-verbal communication methods and media** in PC 2.1 may include: Nonverbal communication strategies such as body language and signs.
- **Written communication methods and media** in PC 3.1 may include: emails, letters, forms, records, drawings, schedules, checklists, manuals.

Section 2 – National Competency Standard

Critical Aspects

The assessment must confirm that the candidate is able to;

- obtain accurate information from clients/superior/co-workers
- convey information to relevant parties accurately
- record information accurately
- interpret the written communication accurately

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Stationery
- Relevant communication devices submitted by organization management
- Computer with internet facilities

Documents/References/Standards

- Charts
- Memos
- Formats & Forms (Time Record sheets, Quality record sheets and material order sheets, inventories)
- Standard Organizational Procedures
- Accepted ethical standards and norms

Underpinning Knowledge and Skills

Underpinning Knowledge

- Communication methods and media
- Information and Communication Technology (ICT)
- Workplace terminology
- Workplace relevant reporting procedures
- Forms of address appropriate to clients and staff
- Workplace -relevant technology to support communication
- Basic knowledge of new trends
- Telephone etiquettes
- Presentation techniques
- General norms of polite conduct
- Customs of different ethnic and religious groups
- Basic understanding of gender issues
- Showing respect to persons
- Gender issues relevant to the communication

Underpinning Skills

- Verbal communication skills
- Visual communication Skills
- Written communication Skills
- Literacy skills to identify work requirements, and to understand and process basic workplace documentation
- Use Workplace terminology
- Apply different forms of address
- Use technology to support better communication
- Good telephone skills
- Presentation skills
- Practices customs of different ethnic and religious groups
- ICT skills

Section 2 – National Competency Standard

UNIT TITLE	Apply Workplace Literacy and Numeracy
UNIT DESCRIPTOR	This unit covers the competencies required to apply literacy and numeracy to participate effectively in activities in the workplace.
UNIT CODE	N85S030BU02
Element	Performance Criteria
1. Identify literacy and numeracy demands	<p>1.1 Literacy requirements of workplace tasks, related documents and procedures are identified</p> <p>1.2 Numeracy requirements of workplace tasks, documents and procedures are identified</p>
2. Apply a range of skills that support literacy and numeracy	<p>2.1 Identified literacy requirements are applied to workplace as and when required</p> <p>2.2 Identified numeracy requirements are applied to workplace as and when required</p>

Range/Context:

The work connected to this unit may take place in a workplace.

Elaboration of terms in performance criteria

- **Literacy requirements of workplace** in PC 1.1 may include:
 - reading skills to understand written information, such as signs, work instructions, policies, procedures, legislation, specifications, checklists and reports
 - writing skills to complete or produce written texts, such as emails, checklists, work record sheets, safety or risk identification assessment, reports and SMS
- **Numeracy requirements of workplace** in PC 1.2 may include:
 - add, subtract, multiply and divide
 - locate information in tables, use numbers, numbering systems and terms related to dentistry, read various scales and gauges, use calculations, cast surveying
 - measure, plan time, read and interpret tables and diagrams
 - read and interpret maps
 - record and interpret data, such as forms and checklists.

Critical Aspects:

The assessment must confirm that the candidate is able to;

- interpret written material
- convey ideas clearly and correctly in writing (in a given formats)
- adopt appropriate method in mathematical calculations

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Stationery
- Calculator
- Computer with internet facility

Documents/References/Standards

- Charts
- Manuals
- Formula
- Memos

Section 2 – National Competency Standard

- Forms (Time Record sheets, Quality record sheets, Colour codes and material order sheets)
- Fundamental principles of mathematics

Underpinning Knowledge and Skills

Underpinning Knowledge

- Literacy requirements of workplace
- Numeracy requirements of workplace
- Features of literacy and numeracy
- Literacy and numeracy demand of everyday workplace tasks, documents and procedures
- Benefits of literacy and numeracy skill development in the workplace

Underpinning Skills

- Learning skills to identify the broad literacy and numeracy skills that underpin workplace tasks
- Reading skills to read and interpret routine workplace documents
- Planning and organising skills to apply strategies to support workplace literacy and numeracy
- Self-management skills to apply strategies to support workplace literacy and numeracy

Section 2 – National Competency Standard

UNIT TITLE	Work in Teams
UNIT DESCRIPTOR	This unit covers the competencies required to work cooperatively with people identifying roles & responsibilities within team.
UNIT CODE	N85S030BU03
Element	Performance Criteria
1. Communicate with team members	<p>1.1 <i>Effective Communication strategies</i> are followed preventing misunderstanding & giving consideration to gender & culture</p> <p>1.2 Information & ideas are shared with team members to enhance work outcome</p>
2. Participate in team work activities	<p>2.1 Individual tasks are listed out according to the work plan</p> <p>2.2 Individual tasks are carried out as assigned by team leader</p> <p>2.3 Other team members are encouraged and supported in undertaking required roles and responsibilities</p>

Range/Context:

The performance of activities included in this unit may take place in a workplace.

Elaboration of terms in performance criteria

- *Effective Communication strategies* in PC 1.1 may include Active listening, questioning, observing, giving feedback, empathy.

Critical Aspects:

The assessment must confirm that the candidate is able to;

- achieve team goals and individual goals
- follow designated work plan for the job

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Depending on the job assigned to the team for the purpose of assessing this unit, required tools, equipment and material will be provided

Documents/References/Standards

- Work plans
- Manuals
- Handbooks
- General rules and norms guiding team behaviour

Underpinning Knowledge and Skills

Underpinning Knowledge

- Simple concepts of team behaviour
- Elementary group dynamics
- Basic knowledge in social and demographic structures
- Knowledge of organization standard

Underpinning Skills

- Encouraging team members
- Following instructions
- Demonstrating interpersonal skills
- Listening and using a variety of communication skills

Section 2 – National Competency Standard

procedures and work instructions and relevant regulatory requirements

- Providing suggestions and information
- Reporting information
- Contributing to the achievement of tasks consistent with agreed goals

Section 2 – National Competency Standard

UNIT TITLE	Practice Occupational Health and Safety Measures
UNIT DESCRIPTOR	This unit covers the competencies required to implement health and safety procedures and good environmental practices in the workplace.
UNIT CODE	N85S030BU04
Element	Performance Criteria
1. Follow health and safety procedures	<p>1.1 Unsafe situations and hazards are reported to superior according to workplace reporting procedures</p> <p>1.2 Machinery and equipment breakdowns are reported according to workplace reporting procedures</p> <p>1.3 Inflammable liquids and hazardous substances are handled following safety procedures</p> <p>1.4 Manual handling procedures and ergonomic parameters are followed</p> <p>1.5 Personal protective equipment are worn according to organization's requirements & manufacturer's instructions</p> <p>1.6 First aid procedures are performed as needed</p> <p>1.7 Daily and weekly safety & health check list are followed as per organization requirement</p> <p>1.8 Occupational diseases and prevention acknowledged to better health conditions</p> <p>1.9 Prevention of communicable diseases acknowledged with special reference to HIV / AIDS, Hepatitis B and viral infections</p>
2. Follow workplace emergency procedures	<p>2.1 Different fire protection equipment & material and their methods of use are identified as required for different types of fires</p> <p>2.2 Emergency procedures regarding illness and accidents are followed when necessary</p> <p>2.3 Safety warning alarms and workplace evacuation procedures are identified and followed</p> <p>2.4 Qualified persons are identified for contacting in the event of an incident, accident or sickness of self, co-workers, staff, clients and others</p> <p>2.5 Accident and incident documentation requirements are followed according to organizational procedures</p>
3. Adhere to good environmental	<p>3.1 Environmental sensitivities are identified to get the general overview of the environment</p>

Section 2 – National Competency Standard

practices	3.2	Environmental pollution issues are prevented to minimize the pollution related to the workplace
	3.3	Waste generation and management activities are identified to manage the waste
	3.4	Understanding of cleaner production concepts are demonstrated

Range/Context

The work connected to this unit may take place in a workplace, and will include but not be limited to identifying potential hazards, taking effective preventive action to control or minimise such hazards, using personal protective equipment, using fire extinguishers and maintaining records of safety related activities.

Elaboration of terms in Performance Criteria

- **Hazards** in PC 1.1 may include mechanical, electrical, chemical and biological hazards.
- **First aid procedures** in PC 1.6 may include but not be limited to treatment of minor cuts, bruises and burns, applying bandages and tourniquets, and neutralising the effects of corrosive substances.
- **Qualified persons** in PC 2.4 may include:
 - occupational or work health and safety representative. (safety officer)
 - superiors / higher authorities
- **Environmental sensitivities** in PC 3.1 may include: polluted Air and Water, Noise/Vibration, Sediment/soil, Energy (renewable & non-renewable), invasive plants and Animals, Natural habitats, Built environment (residential/business)

Critical Aspects

The assessment must confirm that the candidate is able to;

- identify potential hazards
- adhere to safety procedures
- use most appropriate tools for a task

The following tools, equipment & material are included within this unit.

Tools, equipment and materials

- Safety signs and symbols
- Posters
- Coloured tape and paint
- Personal Protective Equipment
- First aid box with essential items
- Fire protection equipment

Documents/References/Standards

- Organisation's health & safety procedure manual
- Relevant sections of Factories' Ordinance No.45 of 1942 and its amendments
- Material Safety Data Sheets (MSDS)
- Relevant sections of Environment Act (Act No.)

Section 2 – National Competency Standard

Underpinning Knowledge and Skills

Underpinning Knowledge

- Common workplace hazards
- Organization's procedures and safety check lists with regard to health and safety
- Methods of minimizing health risks and preventing accidents and dangerous occurrences
- Proper waste segregation and disposal methods
- Faulty equipment tagging and isolation procedures
- Dangers of using electrical tools
- First aid
- Personal protective equipment for use in different situations
- Types of fire extinguishers
- Identify symptoms of communicable diseases / occupational diseases
- Safety signs and symbols
- Unsafe actions and unsafe conditions
- Safety devices
- Emergency response
- Awareness and sensitivity about the environment and environmental quality
- Availability of valid certificates for pressure vessels

Underpinning Skills

- Identify potential hazards in the workplace
- Provide first aid when required
- Use appropriate personal protective equipment
- Dispose waste safely in accordance with environmental and industrial consideration

Section 2

CBT CURRICULUM

FOR THE OCCUPATION OF

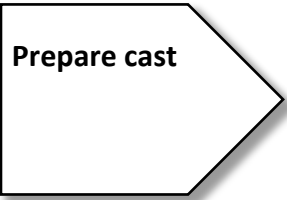



DENTAL TECHNICIAN

Section 2: Competency Based Curriculum		Module Code No	Duration (Hours)		Total
List of Curriculum Modules			Theory	Practical	
1.	Introduction to Dental Laboratory Technology	N85S030M01	06	03	09
2.	Instruments, Equipment, Materials and Safety in Dental Laboratory	N85S030M02	15	45	60
3.	Basics of Dental Anatomy	N85S030M03	12	48	60
4.	Impressions and Casting of Impressions	N85S030M04	15	30	45
5.	Record Blocks and Articulators	N85S030M05	18	36	54
6.	Construction of Complete Dentures	N85S030M06	30	72	102
7.	Construction of Partial Dentures	N85S030M07	15	36	51
8.	Denture Copying	N85S030M08	06	18	24
9.	Miscellaneous Techniques of Denture Construction	N85S030M09	12	60	72
10.	Orthodontic Appliances	N85S030M10	24	120	144
11.	Fabrication of Occlusal Splints	N85S030M11	06	18	24
12.	Fabrication of Temporary Acrylic Crowns and Bridges	N85S030M12	06	24	30
13.	Communication skills for workplace	N85S030BM01	06	06	12
14.	Laboratory Calculations and Science	N85S030BM02	12	18	30
15.	Team work	N85S030BM03	03	09	12
16.	Occupational Safety & Health and Environmental Aspects	N85S030BM04	06	12	18
		Total Duration	192	555	738


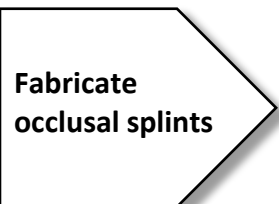
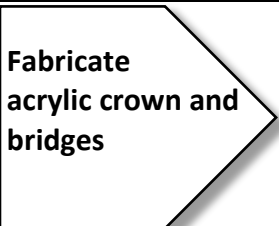

**Competency Profile
Dental Technician**

**COMPETENCY
AREAS**

COMPETENCIES

A.		A1. Interpret job card	A2. Disinfect impression	A3. Cast impression	A4. Prepare working cast	A5. Prepare special tray
B.		B1. Construct base plate	B2. Construct record block	B3. Carryout denture trial	B4. Finish partial dentures	B5. Finish complete dentures
C.		C1. Duplicate dentures	C2. Carryout teeth setting	C3. Finish duplicate denture		
D.		D1. Repair broken teeth	D2. Carryout teeth addition	D3. Perform rebasing	D4. Perform relining	

Section 3 - Competency Based Training Curriculum

E.	 <p>Fabricate orthodontic appliances</p>	E1. Cast impression	E2. Prepare orthodontic study model	E3. Prepare orthodontic plate		
F.	 <p>Fabricate occlusal splints</p>	F1. Fabricate mouth guards	F2. Fabricate bleaching tray	F3. Fabricate retainers		
G.	 <p>Fabricate acrylic crown and bridges</p>	G1. Prepare working cast	G2. Prepare temporary crown	G3. Prepare temporary bridge		
H.	 <p>Maintain dental laboratory</p>	H1. Clean dental laboratory working area	H2. Clean instruments and equipment	H3. Handle instruments and equipment	H4. Carryout maintenance of instruments and equipment	H5. Maintain dental laboratory stocks

Section 3 - Competency Based Training Curriculum

Programme Structure

Competency Area		Module		Competencies	Time	
		No.	Title		Institutional	
					Theory	Practical
	Basic Module	M 01	Introduction to Dental Laboratory Technology		06	03
	Basic Module	M03	Basics of Dental Anatomy		12	48
A	Prepare Cast	M04	Impressions and Casting of Impressions	A01, A02, A03, A04, A05	15	30
B	Fabricate Removable Dentures	M05	Record Blocks and Articulators	B01, B02	18	36
		M06	Construction of Complete Dentures	B01, B02, B03, B05	30	72
		M07	Construction of Partial Dentures	B01, B02, B03, B04	15	36
C	Perform Denture Copying	M08	Denture Copying	C01, C02, C03	06	18
D	Repair Dentures	M09	Miscellaneous Techniques of Denture Construction	D01, D02, D03, D04	12	60
E	Fabricate Orthodontic Appliances	M10	Orthodontic Appliances	E01, E02, E03	24	120
F	Fabricate Occlusal Splints	M11	Fabrication of Occlusal Splints	F01, F02, F03	06	18
G	Fabricate Acrylic Crowns and Bridges	M12	Fabrication of Temporary Crowns and Bridges	G01, G02, G03	06	24
H	Maintain Dental Laboratory	M02	Instruments, Equipment, Materials and Safety in Dental Laboratory	H01, H02, H03, H04, H05	15	45

Mapping Table

Qualification	Relevant Units	Relevant Modules	Relevant Tasks
Q1L4	U01 U02 U03 U04 U05 U06 U07 U08	M01 M02 M03 M04 M05 M06 M07 M08 M09 M10 M11 M12	A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 C1 C2 C3 D1 D2 D3 D4 E1 E2 E3 F1 F2 F3 G1 G2 G3 H1 H2 H3 H4 H5

Section 3 - Competency Based Training Curriculum

Module Title	Introduction to Dental Laboratory Technology
Module Code	N85S030M01
Module Type	Core Module
Duration (Hrs)	09 Hours (Theory 06 – & Practical - 03)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Define dental laboratory technology • Explain functions of dental laboratory • Explain the duties of dental technician • Discuss fields of dentistry
Learning Content	<p>Theory</p> <ul style="list-style-type: none"> • Definition of Dental Laboratory Technology • Dental Technician occupation • Fields of Dentistry <ul style="list-style-type: none"> ○ Prosthodontic ○ Orthodontic ○ Restorative ○ Other fields • Dental Laboratory Technology - Situation in local & global • Dental Ethics • Basics of CAD/CAM system
	<p>Practical</p> <ul style="list-style-type: none"> • Visit to Dental Laboratory and write a report on Dental Laboratory Technology • Prepare and present a presentation on Fields of Dentistry
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations • Field visits
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Instruments, Equipment, Materials and Safety in Dental Laboratory
Module Code	N85S030M02
Module Type	Core Module
Duration (Hrs)	60 Hours (Theory 15 - & Practical - 45)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • State the different types of protection • Explain the importance of safety precautions in dental laboratory • Discuss features and uses of dental laboratory equipment and instruments • Handle main laboratory equipment and instruments • Carryout maintenance of laboratory equipment and instruments • Classify and prepare dental laboratory materials
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Safety and hazards in dental laboratory <ul style="list-style-type: none"> ○ Types of protection (Inhalation, eye, protective clothing, PPE, fire protection, control of infection) ○ Symbols of safety (physical safety, hazard, fire safety, first aid, radiation and other) ○ Categories in disinfection ○ Laboratory safety precaution methods • Dental Laboratory equipment and instruments and their maintenance <ul style="list-style-type: none"> ○ Basic dental instruments ○ Prosthodontic instruments ○ Orthodontic instruments ○ Enamel hand cutting instruments ○ Crown and bridge instruments and equipment ○ Sharpening instruments ○ Main laboratory equipment ○ Sterilization equipment • Dental laboratory materials and their manipulation <ul style="list-style-type: none"> ○ Gypsum materials ○ Impression materials ○ Special tray materials ○ Dental waxes ○ Denture base materials ○ Base plate materials ○ Acrylic teeth and teeth materials ○ Separating media ○ Trimming and polishing agents ○ Abrasive materials <p>Practical:</p> <ul style="list-style-type: none"> • Identify safety symbols and signs used in dental laboratory • Identify dental laboratory equipment and instruments • Prepare given dental laboratory materials

Section 3 - Competency Based Training Curriculum

	<ul style="list-style-type: none">• Prepare presentation on laboratory materials and present it.
Teaching-Learning Activities	<ul style="list-style-type: none">• Lectures• Assignments• Discussions• Presentations• Field visits
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Basics of Dental Anatomy
Module Code	N85S030M03
Module Type	Core Module
Duration (Hrs)	60 Hours (Theory - 12 & Practical - 48)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Interpret job card • Explain anatomical land marks of upper and lower jaws • List and draw different types of teeth • List the functions of teeth • Perform tooth drawing and carving • Familiarize dental terminology
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Terminology • Primary and permanent teeth • Surfaces and ridges of teeth, other land marks • Tooth morphology <ul style="list-style-type: none"> ○ Maxillary dentition ○ Mandibular dentition • Jaw relationship and function • Functions of teeth • Dental formula <ul style="list-style-type: none"> ○ FDI system ○ Palmar notation • Anatomical land marks • Denture bearing area • Tooth drawing and carving • Job card reading
	<p>Practical:</p> <ul style="list-style-type: none"> • Draw and name parts of maxilla and mandible • Draw sketches of teeth and name parts • Practice tooth carving • Interpret given job cards • Identify artificial teeth
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations • Field Visit
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Impressions and Casting of Impressions
Module Code	N85S030M04
Module Type	Core Module
Duration (Hrs)	45 Hours (Theory 15 - & Practical - 30)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Carryout cast the impression • Prepare master cast • Construct special trays • Carryout boxing and duplicating impressions • Select suitable disinfectants for different impressions
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Introduction to impression • Types of impression trays • Primary impression • Pouring of primary impression • Preparation of special trays • Border moulding • Wash impression • Beading and boxing of secondary impression • Pouring of secondary impression • Master cast preparation • Duplicating materials and Duplication of casts • Disinfection procedures <p>Practical:</p> <ul style="list-style-type: none"> • Perform casting of impression • Disinfect the impression • Carryout adding bases and trimming casts • Construct special trays to given job cards • Duplicate casts • Carryout beading and boxing impressions
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Demonstrations • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Record Blocks and Articulators
Module Code	N85S030M05
Module Type	Core Module
Duration (Hrs)	54 Hours (Theory - 18 & Practical – 36)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • List the special points in preparing record block • Construct record block with base plates • Select articulators • Carryout mounting procedure with any type of articulator and face bow
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Introduction to record blocks and articulators • Different types of record blocks • Main parts of a record block • Uses of record block • Standard dimensions of record blocks • Guidelines of record blocks • Preparation of record block • Classification / types of articulators <ul style="list-style-type: none"> ○ Non-adjustable (simple) articulators ○ Adjustable articulators <ul style="list-style-type: none"> - Semi adjustable - Fully adjustable • Using Face bow for jaw relation • Articulating procedures <p>Practical:</p> <ul style="list-style-type: none"> • Construct upper and lower base plate • Construct upper and lower bite/ record block • Identify types of articulators and their parts • Practice mounting cast on <ul style="list-style-type: none"> ○ Non-adjustable articulators ○ Adjustable articulators • Mount cast with face bow recordings
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Demonstrations • Assignments • Discussions • Presentations • Field visits
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Construction of Complete Dentures
Module Code	N85S030M06
Module Type	Core Module
Duration (Hrs)	102 Hours (Theory 30– & Practical – 72)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Indicate objectives and factors to be considered for selection of teeth • Describe the principles of teeth arrangements in both arches • Describe preparation procedure of denture trial • Construct complete denture • Explain construction errors, causes and precautions
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Teeth selection <ul style="list-style-type: none"> ○ Objectives ○ Facts to be considered in selection of teeth (pre-extraction records, shade, mould, size) • Teeth setting <ul style="list-style-type: none"> ○ Guidelines of teeth setting <ul style="list-style-type: none"> - Over jet - Over bite - Compensating curves (curve of Spee, curve of Wilson, curve of Monson) - Principles of teeth arrangements in maxillary and mandibular arch ○ Waxed up and festooning of wax denture ○ Occlusal adjustments • Flasking and finishing procedures <ul style="list-style-type: none"> ○ Flasking ○ De-waxing ○ Packing ○ Curing and polymerization ○ De-flasking ○ Remounting and occlusal adjustments ○ Trimming ○ Polishing and finishing ○ Denture delivery <p>Practical:</p> <ul style="list-style-type: none"> • Select teeth for given job cards and guidelines • Practice teeth setting and mounting • Practice below procedures <ul style="list-style-type: none"> ○ Flasking ○ De-waxing ○ Packing ○ Curing and polymerization ○ De-flasking

Section 3 - Competency Based Training Curriculum

	<ul style="list-style-type: none">○ Remounting and occlusal adjustments○ Trimming○ Polishing and finishing
Teaching-Learning Activities	<ul style="list-style-type: none">● Lectures● Assignments● Discussions● Presentations● Field visit
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Construction of Partial Dentures
Module Code	N85S030M07
Module Type	Core Module
Duration (Hrs)	51 Hours (Theory –15 & Practical – 36)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Explain partial denture classification and modification • Describe the theory behind retention and support of partial dentures • Carryout cast surveying • Draw design of partial denture • Describe preparation procedure of partial denture trial • Construct partial dentures
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> ○ Partial denture definition ○ Types of partial dentures <ul style="list-style-type: none"> - Fixed partial dentures - Removable partial dentures (Acrylic, Nylon, Metal) • Partial denture classification (Kennedy and Applegate modification) • Cast surveying <ul style="list-style-type: none"> ○ Objectives of cast surveying ○ Parts of surveyor and tools • Retention and support of partial dentures (Direct and indirect retainers) • Undercuts • Path of insertion and removal • Nylon denture constructing procedure • Injection moulding technique <p>Practical:</p> <ul style="list-style-type: none"> • Identify the class and modification of partial denture casts • Practice cast surveying • Draw design of partial dentures • Practice blocking out undercuts • Practice construction of base plate and record block • Practice clasp and lingual and palatal bar bending • Practice construction of partial dentures • Practice construction of nylon dentures • Practice trimming, polishing and finishing of nylon dentures
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Demonstrations • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Denture Copying
Module Code	N85S030M08
Module Type	Core Module
Duration (Hrs)	24 Hours (Theory – 06 & Practical – 18)
Learning Outcomes	After completion of this module the trainee will be able to: <ul style="list-style-type: none"> • Explain indications for denture copying • Copy existing dentures
Learning Content	Theory: <ul style="list-style-type: none"> • Denture copying <ul style="list-style-type: none"> ○ Introduction ○ Definition ○ Indications • Basic principles of Denture Copying • Duplicating procedure • Teeth setting techniques of denture copying
	Practical: <ul style="list-style-type: none"> • Practice duplicate existing denture • Carryout replica wax denture • Practice teeth setting and mounting procedures
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Demonstrations • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Miscellaneous Techniques of Denture Construction
Module Code	N85S030M09
Module Type	Core Module
Duration (Hrs)	72 Hours (Theory – 12 & Practical – 60)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Explain fractures • Repair dentures and teeth additions to the existing dentures • Carry out relining and rebasing of existing dentures • Construct immediate dentures and over dentures
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Type of fractures and their causes • Methods of Denture repairing • Indications for relining and rebasing • Methods and comparison of denture relining and rebasing • Different Techniques of Teeth additions • Immediate dentures and over dentures <ul style="list-style-type: none"> ○ Indications of immediate and over dentures ○ Advantages of immediate and over dentures ○ Immediate and over dentures construction procedures
	<p>Practical:</p> <ul style="list-style-type: none"> • Practice denture repairing methods • Practice relining and rebasing • Practice teeth additions to given dentures • Practice construction of <ul style="list-style-type: none"> ○ Immediate dentures ○ Over dentures
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Orthodontic Appliances
Module Code	N85S030M10
Module Type	Core Module
Duration (Hrs)	144 Hours (Theory – 24 & Practical –120)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Explain primary, mixed and permanent dentitions • Describe features and types of malocclusions • Explain indications for orthodontic treatment • Construct orthodontic study models • Construct removable appliances • Repair of removable appliances • Care and maintain of orthodontic laboratory equipment and instruments
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Introduction to orthodontic appliances • Development of the occlusion of primary dentition • Transition from primary dentition to permanent dentition • Ideal occlusal in primary dentition and common variation • Features of normal occlusal in primary dentition and common variations • Classification of malocclusion <ul style="list-style-type: none"> ○ occlusal features of Class-I malocclusion ○ occlusal features of class-II malocclusion ○ occlusal features of class-III malocclusion • Angles classification of British Standard Incisor classification • Indication of orthodontic treatment • Types of Orthodontic appliances • Introduction to orthodontic laboratory techniques • General principles of wire bending • Basic principles of appliances • Basic design of removable appliances • Main components and principals of removable appliances <ul style="list-style-type: none"> ○ Retentive components ○ Active components ○ Acrylic base plate ○ Anchorage • Modification of base plate • Use and maintenance of orthodontic laboratory equipment and instruments • Repair of removable appliances • Construct retainer appliances <p>Practical:</p> <ul style="list-style-type: none"> • Practice Impression casting • Prepare study model • Practice wire bending exercises

Section 3 - Competency Based Training Curriculum

	<ul style="list-style-type: none"> • Practice cast preparation for construction appliances • Practice construction of retentive component's <ul style="list-style-type: none"> ○ Adam's clasp ○ C clasp ○ Cleats ○ Ball clasp • Practice construction of active component's <ul style="list-style-type: none"> ○ Labial bows (short labial bow, long labial bow, flexible labial bow) ○ Spring (finger spring, T spring, Z spring, canine retractor) ○ Expansion Screw • Practice construction of acrylic base plate • Practice construction of anterior bite plane • Practice construction of posterior bite plane • Practice construction of tongue guard • Practice construction of orthodontic appliances (waxing up, finishing procedures and practice spray techniques) • Practice construction of retainer appliances • Practice maintenance activities of orthodontic laboratory equipment and instruments • Repair of removable appliances
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Fabrication of Occlusal Splints
Module Code	N85S030M11
Module Type	Core Module
Duration (Hrs)	24 Hours (Theory – 06 & Practical – 18)
Learning Outcomes	After completion of this module the trainee will be able to: <ul style="list-style-type: none"> • Construct mouth guard • Construct retainer • Construct bleaching trays
Learning Content	Theory: <ul style="list-style-type: none"> • Occlusal splints • Types of mouth guard • Types of retainers • Types of bleaching trays • Thermoplastic vacuum forming stages • Different types of thermoplastic sheets • Construction techniques of mouth guard, retainer and bleaching trays
	Practical: <ul style="list-style-type: none"> • Practice construction of <ul style="list-style-type: none"> ○ Mouth guard ○ Retainer ○ Bleaching tray
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Fabrication of Temporary Acrylic Crowns and Bridges
Module Code	N85S030M12
Module Type	Core Module
Duration (Hrs)	30 Hours (Theory – 06 & Practical -24)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Describe types and different parts of acrylic crowns and bridges • Fabricate acrylic crown and bridge using different techniques • Describe different fabricating techniques
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Types of temporary acrylic crowns and bridges • Parts of a temporary bridge • Temporary crown and bridge materials • Fabrication of acrylic crown and bridge <ul style="list-style-type: none"> ○ Direct method ○ Indirect method <ul style="list-style-type: none"> - Brush technique - Poring technique - Injection technique • Requirements for the temporary crowns and bridges <p>Practical:</p> <ul style="list-style-type: none"> • Practice to prepare casts for crown and bridges • Practice to construct acrylic post crown, jacket crown and bridge using following techniques <ul style="list-style-type: none"> ○ brush technique ○ pouring technique ○ injection technique • Practice trimming, polishing and finishing of crown and bridges
Teaching-Learning Activities	<ul style="list-style-type: none"> • Lectures • Assignments • Discussions • Presentations
Forms of Assessment	Formative Assessment & Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Communication Skills for Workplace
Module Code	N85S030BM01
Module Type	Basic module
Duration (Hrs.)	12 Hours (Theory - 06 & Practical - 06)
Learning Outcomes	After completion of this module the trainee will be able to: <ul style="list-style-type: none"> • Communicate ideas and information at the workplace effectively
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Listening skills • Telephone etiquettes • Presentation skills • Verbal and non-verbal communication • Safety symbols & procedures • Basic English relevant to workplace and type of work • Organization’s rules, regulations and procedures • General norms of polite conduct • Forms of Different manner of address appropriately to clients, superior and subordinates and persons in different positions • Customs and practices of different ethnic and religious groups • Gender issues relevant to the communications • Trends in related technology • Dental laboratory terminology • Friendliness through a friendly tone, a personal question, or simply a smile, encourage coworkers to engage in open and honest communication • Respect – convey respect for others and their ideas <p>Practical:</p> <ul style="list-style-type: none"> • Role plays and dramas • Assignments 01 - Provide opportunities to trainees to present learned content • Assignments 02 – Prepare list of 250 – 300 technical / vocational terms in English used in relevant industry during the course period • Assignment 03 – Collect manufacturers guidelines/ operational instructions / specifications / catalogues in relevant field, prepare a file and interpret the information
Teaching-Learning Activities	<ul style="list-style-type: none"> • Assignments • Illustrated talk • Demonstrations • Role play & Drama
Forms of Assessment	Formative Assessment + Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Laboratory Calculations & Science
Module Code	N85S030BM02
Module Type	Basic Module
Duration (Hrs)	30 Hours (Theory – 12 & Practical - 18)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Perform basic mathematics operations in the laboratory when and where required • Prepare development of surfaces by drawings • Describe physical and chemical properties of dental laboratory materials • Draw sketches
Learning Content	<p>Theory</p> <ul style="list-style-type: none"> • Basic mathematics • Ratios, Formula, Area, Volume • Units and Measurements (Length, Volume, Speed, Time, temperature, pressure, weight, liquid flow) • Conversion from metric to BS and vice versa • Properties of dental laboratory Materials (Thermal properties, mechanical properties, Strength, Viscosity, shelf life, etc...) • Description, Care and use of - Wax gauges, Vernier caliper, spring caliper, dividers • Basic electricity, Introduction to voltage, Current • Technical Drawings: Geometric Construction, preparing development of surface, Concept of true length - Principal methods of development, Development of simple solids like cubes, prisms, cylinders, pyramids, cones
	<p>Practical</p> <ul style="list-style-type: none"> • Practice mathematic operations • Measuring Practice • Drawing practice
Teaching-Learning Activities	<ul style="list-style-type: none"> • Illustrated talk • Demonstrations • Group and individual practices • Use video clips • Assignments
Forms of Assessment	Formative Assessment + Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Team Work
Module Code	N85S030BM03
Module Type	Basic Module
Duration (Hrs)	12 Hours (Theory - 03 & Practical - 09)
Learning Outcomes	At the end of this module student should be able to; <ul style="list-style-type: none"> • Contribute positively to the work in team environment • Work effectively with others in a socially and culturally diverse environment • Respect and understand the views of others • Give, receive and act upon feedback • Identify and describe own roles and roles of others
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Simple concepts of team behaviour • Elementary group dynamics • Basic knowledge in social and demographic structures <p>Practical:</p> <ul style="list-style-type: none"> • Identify and establish team purpose, team member's roles and responsibilities. • Coach and motivate team. • Assignment 01- Form a group for laboratory cleaning, instruments, equipment and materials maintenance, waste management and give the feedback on group effort • Assignment 02 - Arrange sports activities / social events
Teaching-Learning Activities	<ul style="list-style-type: none"> • Assignments • Lecturers • Role plays • Case studies • Team building activities • Coaching and mentoring
Forms of Assessment	Formative Assessment + Summative Assessment

Section 3 - Competency Based Training Curriculum

Module Title	Occupational Safety, Health and Environmental Aspects
Module Code	N85S030BM04
Module Type	Basic Module
Duration (Hrs)	18 Hours (Theory - 06 & Practical - 12)
Learning Outcomes	<p>After completion of this module the trainee will be able to:</p> <ul style="list-style-type: none"> • Describe importance of safety • Use personal protective equipment • Arrange the place to minimize health risk • Give first aid • Recognize and apply environmental aspects
Learning Content	<p>Theory:</p> <ul style="list-style-type: none"> • Importance of Safety and general Precautions to be observed in the laboratory • Personal protective equipment • safety signs - for danger, warning, caution & personal safety message • Fire protection and safe handling of Fire extinguishers used for Different types of fire • Conservation (Water, electricity) • Types of waste materials • Environmental rules and regulations on disposal of waste (solid & gases) and noise into environment • Standard treatment and disposal methods of waste (solid & gases) and noise • Method of reuse of waste (solid & gases) and scraps • Potential health hazards (radiation, heat, burns, noise, inhalation, electrical, chemical, physical and biological) • Hazard controls (substitution, ventilation, PPE) <p>Practical:</p> <ul style="list-style-type: none"> • Importance of maintenance and cleanliness of dental laboratory • Demonstration on First aid • Demonstration on Fire safety • Use personal protective equipment • Arrange the place of work to minimize the health risks • Arrange the place of work in order to make it possible to work in the most ergonomic way • Arrange exhaust system • Energy saving Tips • Collect details of waste (solid & gases) and scraps and prepare a brief report with proposal of appropriate disposing/ reusing methods of them
Teaching-Learning Activities	<ul style="list-style-type: none"> • Illustrated talk • Use video clips • Demonstrations • Assignments
Forms of Assessment	Formative Assessment + Summative Assessment

Section 4 – Assessment Guide

Assessment Guide:

Forms of assessment

Assessment shall be based on evidence collected through workplace performance or a combination of evidence collected through training and work place performance.

Assessment context

This unit may be assessed on the job, off the job or a combination of on and off the job. The unit may be assessed individually.

Assessment conditions

The candidate will have access to:

- all tools, equipment, material and documentation required.

The candidate will be permitted to refer the following documents:

- material data sheets
- health and safety regulations
- product data sheet (PDS)
- company specification sheets
- manufacturer's instructional brochures and manuals

The candidate will be required to:

- orally or by other methods of communication, answer questions asked by the assessor.
- Identify superiors and clients who can be approached for the collection of competency evidence where appropriate.
- present evidence of credit for any off job training related to this unit.

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria and that he/she possess the required underpinning knowledge.

Special notes

During assessment, the candidate will;

- Demonstrate safe work practices at all times
- Communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment.
- Perform all tasks in accordance with standard operating procedures.
- perform all tasks to specifications
- take responsibility for the accuracy of his/her own work
- use accepted methods for calculation.

Tasks involved will be completed within reasonable time frames relating to typical workplace activities.

Resources required for assessment

These include material, tools and equipment listed within this unit.

Section 4 – Assessment Guide

Tools, material and equipment require for the training program (Approximately 15 students)

Item	Quantity
• Acrylic mixing bowl/ vessel	2
• Mixing bowl and spatula	15
• Acrylic burs (tapered shaped, round shaped, fisser, oval, pear, polishing, silicon, rubber)	one item for each
• Simple Articulator (3 point)	15
• Semi adjustable articulator	2
• Base formers	2 sets
• Blow torch	one for each
• Blow pipe	one for each
• CMS Brush	one for each
• Bunsen burner	one for two students
• Carborundum burs and wheel	one set
• Cast surveyor	1
• Single Clamps and Double clamps	one for each
• Cotton wool buff	2
• Cutting plier	one for each
• Dental lab light curing unit	1
• Dental laboratory dust collector	one for two students
• Design knife	one for each
• De-waxing unit	1
• Duplicating Flasks	2
• Electric furnace	1
• Felt cone	5
• Flasks	30
• Hack saw	2
• Hack saw blades	one for each
• Hot plate spatula	one for each
• Hot water unit	1
• Hydraulic flask press	2
• Injecting moulding machine	1
• Injection moulding flasks	2
• Measuring devices	one for each
• Micromotor with hand piece	one for two students
• Model arch trimmer	1
• Model trimmer	1
• Orthodontic pliers	one set for each
• Personal Protective Equipment (PPE)	one for each
• Lab Coats	one for each

Section 4 – Assessment Guide

• Plaster cutting pliers / forcep	2
• Plaster knife	one for each
• Polishing lathe	2
• Dental laboratory Lathe	1
• Polymerization unit	1
• Pressure curing unit	1
• Ruler and divider	one for each
• Scissor	one for each
• Silicone points	one set
• Soldering jigs	2 sets
• Soldering tweezer	2
• Suction Unit	2
• Thermoplastic vacuum former	1
• Tray holders	2
• Vacuum mixing unit	1
• Vibrator	1
• Wax carver	one for each
• Wax knife	one for each
• Air gun	1
• Air compressor	1
• Working table (including adjustable chair, table lamp, gas and electricity outlets)	one for each

Material

- Artificial teeth
- Dental waxes
- Denture base material
- Disinfectants
- Duplicating materials
- Expansion screw
- Flexible cartridge
- Gypsum materials
- Impression materials
- Special tray materials
- Lab putty (laboratory silicone)
- Dental waxes
- Polishing materials
- Sand paper and mandrels
- Separating material
- Soldering wires/ flux
- Stainless Steel (SS) Wires

Section 4 – Assessment Guide

- Vacuum former sheets
- Polishing stones
- Surface tension reducing agents
- Marker / pencil / Stationery
- Office equipment and accessories
- Relevant storage facilities

Section 5

NATIONAL COMPETENCY STANDARD & COMPETENCY BASED TRAINING CURRICULUM	
For	
DENTAL TECHNICIAN	
(Code: N85S030)	
NATIONAL CERTIFICATE LEVEL 04 IN THE OCCUPATION OF DENTAL TECHNICIAN	
1. Endorsement Date:05.10.2021	2. Date of Review:05.10.2024
3. Validation Date: 18.08.2021	
4. Qualification Code	N85S030Q1L4
5. Purpose of the Qualification	To certify that the holder of this qualification has acquired the competencies contained in the units listed in section 6 below.
6. Regulations for the Qualification/s	The holder should have been assessed by a licensed assessor and found competent in the units listed in section 7 and certified by the TVEC
7. Qualification Packages	N85S030U01 + N85S030U02 + N85S030U03 + N85S030U04 + N85S030U05 + N85S030U06 + N85S030U07+ N85S030U08 + N85S030BU01 + N85S030BU02 + N85S030BU03 + N85S030BU04 – N85S030Q1L4
8. Prerequisites	None
9. Accreditation Requirement	The qualifications shall be offered in compliance with the accreditation requirements of the TVEC as stipulated in the National Vocational Qualifications framework of Sri Lanka.
10. Certification	TVEC shall certify the qualifications in terms of the regulation at section 6 above.
11. Transition arrangements	The competency based assessments shall be undertaken by the registered assessors until TVEC arranges to issue licenses to the assessors
12. Requirement of conducting Knowledge Assessment	Required
13. Transition arrangements	The competency based assessments shall be undertaken by the registered assessors until TVEC arranges to issue licenses to the assessors
14. Contact for Comments	Chairman, National Apprentice & Industrial Training Authority, 971, Sri Jayewardenepura Mawatha, Welikada, Rajagiriya. Director General, Tertiary & Vocational Education Commission, 354/2, NipunathaPiyasa, ElvitigalaMawatha, Colombo 05.