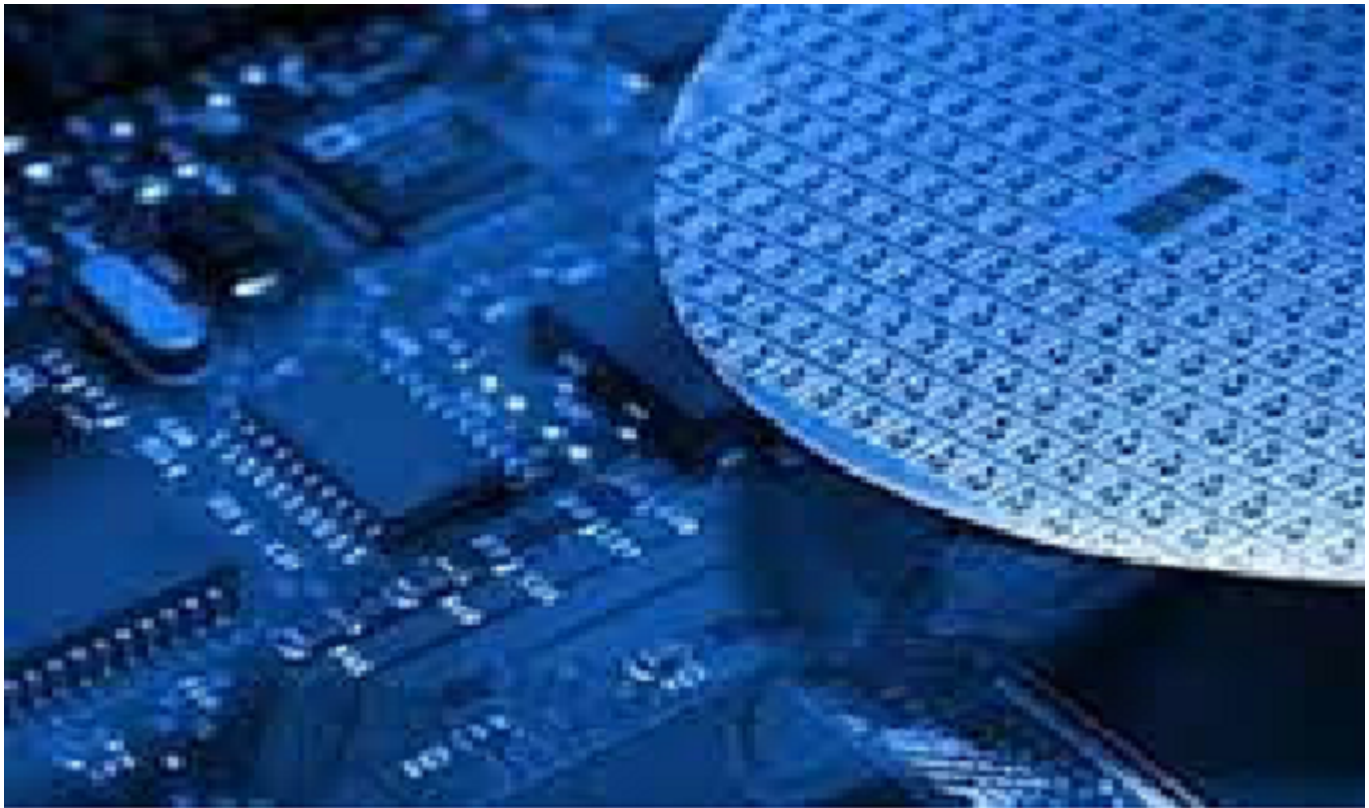




## Qualification Pack



# SEMICONDUCTOR PROCESS TECHNOLOGY ENGINEER-UPSKILLING

QP Code: ELE/Q1406

Version: 1.0

NSQF Level: 6

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## Qualification Pack

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## Qualification Pack

# ELE/Q1406: SEMICONDUCTOR PROCESS TECHNOLOGY ENGINEER- UPSKILLING

### Brief Job Description

In This qualification a person would attend the knowledge of Semiconductor High-End research and development, Nano electronics, Microelectronics, Micro-systems, smart materials technologies, smart sensors technologies, and related areas responsible for the fabrication and characterization and feasibility testing of the micro/ Nano scale semiconductor devices.

### Personal Attributes

The individual must have attention to detail, logical thinking, and ability to execute the Maintenance, Troubleshoots as per client's requirement.

### Applicable National Occupational Standards (NOS)

#### Compulsory NOS:

1. [ELE/N1412: Advanced Hands- on Training on Semiconductor Process Technologies](#)
2. [ELE/N1413: Design & Packaging Techniques -Semiconductor Process Technologies](#)
3. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Semiconductor & Components
<b>Occupation</b>	Product Design-S&C
<b>Country</b>	India
<b>NSQF Level</b>	6
<b>Credits</b>	10
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/3119.1100



## Qualification Pack

<b>Minimum Educational Qualification &amp; Experience</b>	Pursuing 4th year UG (in case of 4-year UG with honours/ honours with research) (ECE/EEE/EE/CS/Allied Field) OR Pursuing 1st year of PG- Eng (M.Sc/VLSI) OR Pursuing PhD ( in relevant Field)
<b>Minimum Level of Education for Training in School</b>	Not Applicable
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	21 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	31/08/2026
<b>NSQC Approval Date</b>	31/08/2023
<b>Version</b>	1.0
<b>Reference code on NQR</b>	QG-06-EH-00817-2023-V1-ESSC
<b>NQR Version</b>	1.0

## Qualification Pack

# ELE/N1412: Advanced Hands- on Training on Semiconductor Process Technologies

## Description

This unit covers the skills and knowledge related to the basics of Semiconductor process Technology.

## Scope

The scope covers the following :

- General
- Hands-on Device fabrication

## Elements and Performance Criteria

### General

To be competent, the user/individual on the job must be able to:

- PC1.** Basic concepts of Semiconductor technology
- PC2.** Complete training on Lab safety (NFPA, Fire protection drill etc.)
- PC3.** Device Physics
- PC4.** Basics of MEMS/ NEMS Technology
- PC5.** Knowledge of materials
- PC6.** Knowledge of semiconductor sensors
- PC7.** Knowledge of state-of-the-art R&D
- PC8.** Semiconductor Physics (an Introduction)

### Hands-on Device fabrication

To be competent, the user/individual on the job must be able to:

- PC9.** Working knowledge in a clean room
- PC10.** Knowledge of wafer handling
- PC11.** Knowledge of wafer cleaning
- PC12.** Hands-on on various process steps for semiconductor device fabrication
- PC13.** Capabilities of error diagnosis and basic troubleshooting

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** How to fabricate a Semiconductor device
- KU2.** How to do the measurement of various characterization tool
- KU3.** Details regarding each unit process flow
- KU4.** Procedure of setting up all process parameters
- KU5.** Measurements to ensure dimensions are within specification



## Qualification Pack

- KU6.** Preparation of the full Standard Operating Procedure (SOP)
- KU7.** Importance of identifying the parameters for the new product verification process
- KU8.** Run dummy samples/measurements, Calculate Process Capability (CPK), Process Performance- (PPK) and other quality parameters

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Maintain work-related notes and records
- GS2.** Read the relevant literature to get the latest updates about the field of work
- GS3.** Communicate politely and professionally
- GS4.** Listen attentively to understand the information being shared
- GS5.** Take quick decisions to deal with work emergencies or accidents
- GS6.** Identify possible disruptions to work and take appropriate preventive measures
- GS7.** Evaluate all possible solutions to a problem to select the best one

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>General</i>	<b>20</b>	-	<b>10</b>	<b>10</b>
<b>PC1.</b> Basic concepts of Semiconductor technology	2	-	2	2
<b>PC2.</b> Complete training on Lab safety (NFPA, Fire protection drill etc.)	4	-	2	2
<b>PC3.</b> Device Physics	2	-	-	-
<b>PC4.</b> Basics of MEMS/ NEMS Technology	2	-	-	-
<b>PC5.</b> Knowledge of materials	2	-	-	-
<b>PC6.</b> Knowledge of semiconductor sensors	2	-	-	-
<b>PC7.</b> Knowledge of state-of-the-art R&D	2	-	-	-
<b>PC8.</b> Semiconductor Physics (an Introduction)	4	-	6	6
<i>Hands-on Device fabrication</i>	-	<b>60</b>	-	-
<b>PC9.</b> Working knowledge in a clean room	-	6	-	-
<b>PC10.</b> Knowledge of wafer handling	-	12	-	-
<b>PC11.</b> Knowledge of wafer cleaning	-	12	-	-
<b>PC12.</b> Hands-on on various process steps for semiconductor device fabrication	-	12	-	-
<b>PC13.</b> Capabilities of error diagnosis and basic troubleshooting	-	18	-	-
<b>NOS Total</b>	<b>20</b>	<b>60</b>	<b>10</b>	<b>10</b>



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ELE/N1412
<b>NOS Name</b>	Advanced Hands- on Training on Semiconductor Process Technologies
<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Semiconductor & Components
<b>Occupation</b>	Product Design-S&C
<b>NSQF Level</b>	6
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



## Qualification Pack

# ELE/N1413: Design & Packaging Techniques -Semiconductor Process Technologies

## Description

This unit covers the skills and knowledge required for Semiconductor Technology related to the Various Design, Fabrication & Packaging process

## Scope

The scope covers the following :

- Lithography
- Metallization
- Device Characterization
- Packaging
- Report writing

## Elements and Performance Criteria

### *Lithography*

To be competent, the user/individual on the job must be able to:

- PC1.** Hands-on on various aspects of mask design
- PC2.** Hands-on training on Photo- lithography
- PC3.** Hands-on Training on Spin Coater
- PC4.** Knowledge of process optimization

### *Metallization*

To be competent, the user/individual on the job must be able to:

- PC5.** Hands-on sputtering tools
- PC6.** Basic knowledge of operation and process parameter
- PC7.** Basic knowledge of lift-off process

### *Device Characterization*

To be competent, the user/individual on the job must be able to:

- PC8.** Electrical Characterization
- PC9.** Profile study
- PC10.** Device Characteristics study
- PC11.** Other characterization studies (RAMAN, XRD, SEM, FT-IR, AFM etc.)
- PC12.** Knowledge of analysis of the device after characterization
- PC13.** Device feasibility mapping

### *Packaging*

To be competent, the user/individual on the job must be able to:

- PC14.** Knowledge of the selection of packages based on the devices and their application
- PC15.** Knowledge of essential software used for packaging-related simulations study

## Qualification Pack

**PC16.** Hands-on training on device packaging

*Report writing*

To be competent, the user/individual on the job must be able to:

**PC17.** Writing a Report

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Process of verifying the real product using various quality and reliability checks
- KU2.** The design flow involved in design stages
- KU3.** End-product application
- KU4.** Improving the understanding of the possible translation of the chips and prototypes
- KU5.** Introduction to the understanding of quantum technologies
- KU6.** Improving the understanding of the applications of the basic semiconductor technologies
- KU7.** Hands on use of the clean room, fabrication, characterization, and testing facilities
- KU8.** Understanding concepts, writing, and building a good patent document.
- KU9.** Understanding concepts, writing, and building a good research proposal.

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** maintain work-related notes and records
- GS2.** Read the relevant literature to get the latest updates about the field of work
- GS3.** communicate politely and professionally
- GS4.** Listen attentively to understand the information being shared
- GS5.** Take quick decisions to deal with work emergencies or accidents
- GS6.** Identify possible disruptions to work and take appropriate preventive measures
- GS7.** Evaluate all possible solutions to a problem to select the best one

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Lithography</i>	-	<b>25</b>	-	-
<b>PC1.</b> Hands-on on various aspects of mask design	-	6	-	-
<b>PC2.</b> Hands-on training on Photo- lithography	-	6	-	-
<b>PC3.</b> Hands-on Training on Spin Coater	-	5	-	-
<b>PC4.</b> Knowledge of process optimization	-	8	-	-
<i>Metallization</i>	-	<b>15</b>	-	-
<b>PC5.</b> Hands-on sputtering tools	-	3	-	-
<b>PC6.</b> Basic knowledge of operation and process parameter	-	9	-	-
<b>PC7.</b> Basic knowledge of lift-off process	-	3	-	-
<i>Device Characterization</i>	-	<b>10</b>	-	-
<b>PC8.</b> Electrical Characterization	-	1	-	-
<b>PC9.</b> Profile study	-	1	-	-
<b>PC10.</b> Device Characteristics study	-	2	-	-
<b>PC11.</b> Other characterization studies (RAMAN, XRD, SEM, FT-IR, AFM etc.)	-	2	-	-
<b>PC12.</b> Knowledge of analysis of the device after characterization	-	2	-	-
<b>PC13.</b> Device feasibility mapping	-	2	-	-
<i>Packaging</i>	<b>10</b>	<b>10</b>	-	-
<b>PC14.</b> Knowledge of the selection of packages based on the devices and their application	4	3	-	-
<b>PC15.</b> Knowledge of essential software used for packaging-related simulations study	6	3	-	-



### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. Hands-on training on device packaging	-	4	-	-
<i>Report writing</i>	<b>10</b>	-	<b>10</b>	<b>10</b>
PC17. Writing a Report	10	-	10	10
<b>NOS Total</b>	<b>20</b>	<b>60</b>	<b>10</b>	<b>10</b>



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ELE/N1413
<b>NOS Name</b>	Design & Packaging Techniques -Semiconductor Process Technologies
<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Semiconductor & Components
<b>Occupation</b>	Product Design-S&C
<b>NSQF Level</b>	6
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



## Qualification Pack

### DGT/VSQ/N0102: Employability Skills (60 Hours)

#### Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

#### Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

#### Elements and Performance Criteria

##### *Introduction to Employability Skills*

To be competent, the user/individual on the job must be able to:

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

##### *Constitutional values - Citizenship*

To be competent, the user/individual on the job must be able to:

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

##### *Becoming a Professional in the 21st Century*

To be competent, the user/individual on the job must be able to:

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

##### *Basic English Skills*

To be competent, the user/individual on the job must be able to:

## Qualification Pack

- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

### *Career Development & Goal Setting*

To be competent, the user/individual on the job must be able to:

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

### *Communication Skills*

To be competent, the user/individual on the job must be able to:

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

### *Diversity & Inclusion*

To be competent, the user/individual on the job must be able to:

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

### *Financial and Legal Literacy*

To be competent, the user/individual on the job must be able to:

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

### *Essential Digital Skills*

To be competent, the user/individual on the job must be able to:

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

### *Entrepreneurship*

To be competent, the user/individual on the job must be able to:

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

### *Customer Service*

To be competent, the user/individual on the job must be able to:

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

## Qualification Pack

**PC28.** follow appropriate hygiene and grooming standards

*Getting ready for apprenticeship & Jobs*

To be competent, the user/individual on the job must be able to:

**PC29.** create a professional Curriculum vitae (Résumé)

**PC30.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

**PC31.** apply to identified job openings using offline /online methods as per requirement

**PC32.** answer questions politely, with clarity and confidence, during recruitment and selection

**PC33.** identify apprenticeship opportunities and register for it as per guidelines and requirements

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** need for employability skills and different learning and employability related portals

**KU2.** various constitutional and personal values

**KU3.** different environmentally sustainable practices and their importance

**KU4.** Twenty first (21st) century skills and their importance

**KU5.** how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

**KU6.** importance of career development and setting long- and short-term goals

**KU7.** about effective communication

**KU8.** POSH Act

**KU9.** Gender sensitivity and inclusivity

**KU10.** different types of financial institutes, products, and services

**KU11.** how to compute income and expenditure

**KU12.** importance of maintaining safety and security in offline and online financial transactions

**KU13.** different legal rights and laws

**KU14.** different types of digital devices and the procedure to operate them safely and securely

**KU15.** how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

**KU16.** how to identify business opportunities

**KU17.** types and needs of customers

**KU18.** how to apply for a job and prepare for an interview

**KU19.** apprenticeship scheme and the process of registering on apprenticeship portal

## Generic Skills (GS)

User/individual on the job needs to know how to:

**GS1.** read and write different types of documents/instructions/correspondence

**GS2.** communicate effectively using appropriate language in formal and informal settings





## Qualification Pack

- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> use basic features of word processor, spreadsheets, and presentations	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	<b>2</b>	<b>3</b>	-	-
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/12/2021
<b>Next Review Date</b>	31/12/2024
<b>NSQC Clearance Date</b>	31/12/2021

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

Same as per the Qualification

### Minimum Aggregate Passing % at QP Level : 70

**(Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

### Assessment Weightage

Compulsory NOS

### Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ELE/N1412.Advanced Hands-on Training on Semiconductor Process Technologies	20	60	10	10	100	40
ELE/N1413.Design & Packaging Techniques -Semiconductor Process Technologies	20	60	10	10	100	40
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	20
<b>Total</b>	<b>60</b>	<b>150</b>	<b>20</b>	<b>20</b>	<b>250</b>	<b>100</b>



## Qualification Pack

### Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training

## Qualification Pack

### Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.



## Qualification Pack

<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.