









# Packaging Designer

Electives: Hazardous goods packaging/ Fragile goods packaging/ ODC

packaging

QP Code: LSC/Q0202

Version: 1.0

NSQF Level: 6

Logistics Sector Skill Council | No.476, Temple Tower, Ground Floor, Anna Salai, Nandhanam Chennai - 600035 || email:hari@lsc-india.com









## **Contents**

LSC/Q0202: Packaging Designer	3
Brief Job Description	
Applicable National Occupational Standards (NOS)	
Compulsory NOS	3
Elective 1: Hazardous goods packaging	3
Elective 2: Fragile goods packaging	3
Elective 3: ODC packaging	4
Qualification Pack (QP) Parameters	
LSC/N0202: Perform packaging analysis	6
LSC/N0203: Prepare for designing	11
LSC/N0204: Design sustainable tertiary packaging	16
LSC/N0205: Create a 3D design using CAD	21
LSC/N0206: Develop a working prototype	27
LSC/N9908: Maintain and monitor integrity and ethics in operations	32
LSC/N9910: Follow health, safety and security procedures at workplace	37
DGT/VSQ/N0103: Employability Skills (90 Hours)	42
LSC/N0207: Designing hazardous goods packaging	51
LSC/N0208: Designing Fragile goods packaging	56
LSC/N0209: Designing ODC packaging	61
Assessment Guidelines and Weightage	65
Assessment Guidelines	65
Assessment Weightage	66
Acronyms	68
Glossary	69









### LSC/Q0202: Packaging Designer

### **Brief Job Description**

The Packaging Designer is responsible for designing tertiary packaging - after considering the shape, size, weight, volume & orientation of the item to be packed - to safeguard the product post-manufacturing till delivery to the seller. The individual is responsible for conceptualizing, designing, and building a prototype with packaging materials, considering additional elements such as logistics cost, transit type, time, weather, client specifications etc., to create functional and sustainable packaging.

### **Personal Attributes**

The individual must have attention to detail and problem-solving skills. The person must be able to work collaboratively with diverse professionals to deliver projects successfully. The individual should have appropriate design, analytical and communication skills.

### **Applicable National Occupational Standards (NOS)**

### **Compulsory NOS:**

- 1. LSC/N0202: Perform packaging analysis
- 2. LSC/N0203: Prepare for designing
- 3. LSC/N0204: Design sustainable tertiary packaging
- 4. LSC/N0205: Create a 3D design using CAD
- 5. LSC/N0206: Develop a working prototype
- 6. LSC/N9908: Maintain and monitor integrity and ethics in operations
- 7. LSC/N9910: Follow health, safety and security procedures at workplace
- 8. DGT/VSQ/N0103: Employability Skills (90 Hours)

### **Electives**(mandatory to select at least one):

Elective 1: Hazardous goods packaging

This OS unit is about designing hazardous goods packaging

1. LSC/N0207: Designing hazardous goods packaging

Elective 2: Fragile goods packaging









This OS unit is about designing packaging for fragile goods

1. LSC/N0208: Designing Fragile goods packaging

Elective 3: ODC packaging

This OS unit is about designing ODC packaging

1. LSC/N0209: Designing ODC packaging

## **Qualification Pack (QP) Parameters**

Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
Country	India
NSQF Level	6
Credits	26
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2166,2163
Minimum Educational Qualification & Experience	Pursuing PG diploma after 3 year UG degree (in Mechanical/ Package Designing ) OR B.E. (Completed B.E. Mechanical Engineering/ B.DES) OR Diploma (Completed Diploma in Mechanical Engineering) with 2 Years of experience Mechanical designing OR 12th grade Pass with 4 Years of experience Mechanical designing
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	23 Years
Last Reviewed On	NA









Next Review Date	31/08/2026
NSQC Approval Date	31/08/2023
Version	1.0
Reference code on NQR	QG-06-TW-00866-2023-V1-LSC
NQR Version	1.0









## LSC/N0202: Perform packaging analysis

### **Description**

This unit is about performing analysis and feasibility studies for finalizing the elements to include in Package Designing

### Scope

The scope covers the following:

- Perform data collection
- · Perform feasibility studies

#### **Elements and Performance Criteria**

### Perform data collection

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

- **PC1.** collect data about the primary product, specifications like fragile, handling instructions etc.
- PC2. gather information regarding secondary packed items, e.g. weight, dimensions, etc.
- **PC3.** collate additional information about transportation, weather, storage conditions etc.
- **PC4.** procure feedback/ inputs from the warehouse in charge/ transportation in charge/ vendors/ service providers about the packing materials optimisation.
- **PC5.** record all relevant information in the appropriate information systems for future use.

### Perform feasibility studies

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

- **PC6.** do a market analysis about the available packing materials with their advantages and disadvantages.
- **PC7.** calculate the wastage created during the entire process from loading till delivery to the seller, considering factors like fuel, single-use plastic, void/ empty space etc.
- **PC8.** evaluate the feasibility of incorporating the customer's requirements in line with the sustainability factors.
- **PC9.** analyse if there is any overuse of packing materials (over wrapping/ re wrapping of pallets) this will increase waste & carbon footprint.
- **PC10.** forecast the cost savings from recycling/reusing packing materials and remodeled packaging design.
- **PC11.** compare and analyse the logistical cost for the return of packing materials to the origin station and cost reduction on reuse.
- **PC12.** identify any design constraints w.r.t component, material details, e.g. component material, shear strength, ultimate tensile strength, material behavior, cutting clearance etc.
- **PC13.** obtain functional and specific requirements of packing material components like die & punch material, die set material, type, parting line constraint, and ejection mark constraint.

### **Knowledge and Understanding (KU)**









The individual on the job needs to know and understand:

- **KU1.** detailed knowledge of different packing materials currently available in market
- **KU2.** stay current on the Latest and advanced innovations in the packing industry.
- KU3. the appropriate safety measures to follow while operating on the manufacturing floor
- **KU4.** in-depth knowledge of Sustainable packing materials
- KU5. analytical and research skills
- KU6. advanced computer knowledge and data analysis
- KU7. recycling methods of packing waste
- KU8. packaging design documentation

### **Generic Skills (GS)**

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

- **GS1.** existing packaging design document
- GS2. labelling of different workflows
- **GS3.** packing process flows
- **GS4.** package design documentation in a structured format
- **GS5.** coordination with various stakeholders and departments
- **GS6.** conduct advanced checks and verify the accuracy of the data provided
- **GS7.** identify errors in packing, make the corrections and document the changes
- **GS8.** draw inferences and conclusions based on the analysis
- **GS9.** maintain punctuality and adhere to timelines
- GS10. plan for timely collection of data
- **GS11.** address the urgency of package and customer needs
- **GS12.** speak politely and take feedback constructively
- **GS13.** identify common trends as per analysis and implement the same in designing
- **GS14.** implement possible solutions for the common issues in daily operations based on information
- **GS15.** identify the flaws in existing workflow and planning process to mitigate possible future failures
- **GS16.** analyse trends to identify defaults for corrective action as needed
- **GS17.** observe the shipment packing process and accordingly make future changes
- GS18. cross-check the data at various master data levels and ensure the sanity









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform data collection	12	24	-	5
<b>PC1.</b> collect data about the primary product, specifications like fragile, handling instructions etc.	3	6	-	1
<b>PC2.</b> gather information regarding secondary packed items, e.g. weight, dimensions, etc.	2	4	-	1
<b>PC3.</b> collate additional information about transportation, weather, storage conditions etc.	2	4	-	1
<b>PC4.</b> procure feedback/ inputs from the warehouse in charge/ transportation in charge/ vendors/ service providers about the packing materials optimisation.	3	6	-	1
<b>PC5.</b> record all relevant information in the appropriate information systems for future use.	2	4	-	1
Perform feasibility studies	18	36	-	5
<b>PC6.</b> do a market analysis about the available packing materials with their advantages and disadvantages.	2	4	-	-
<b>PC7.</b> calculate the wastage created during the entire process from loading till delivery to the seller, considering factors like fuel, single-use plastic, void/ empty space etc.	2	4	-	1
<b>PC8.</b> evaluate the feasibility of incorporating the customer's requirements in line with the sustainability factors.	2	4	-	-
<b>PC9.</b> analyse if there is any overuse of packing materials (over wrapping/ re wrapping of pallets) this will increase waste & carbon footprint.	2	4	-	1
<b>PC10.</b> forecast the cost savings from recycling/reusing packing materials and remodeled packaging design.	3	6	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> compare and analyse the logistical cost for the return of packing materials to the origin station and cost reduction on reuse.	2	4	-	-
<b>PC12.</b> identify any design constraints w.r.t component, material details, e.g. component material, shear strength, ultimate tensile strength, material behavior, cutting clearance etc.	3	6	-	1
<b>PC13.</b> obtain functional and specific requirements of packing material components like die & punch material, die set material, type, parting line constraint, and ejection mark constraint.	2	4	-	1
NOS Total	30	60	-	10









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0202
NOS Name	Perform packaging analysis
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### LSC/N0203: Prepare for designing

### **Description**

This unit is about the preparation made post-analysis and for creating a Conceptual Packaging Design

### Scope

The scope covers the following:

- Develop a plan for the design process
- Evaluate the design options with eco-friendly materials

### **Elements and Performance Criteria**

### Develop a plan for the design process

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

- **PC1.** plan the design activities and build a schedule for each task involved in the design process.
- **PC2.** collate the specifications collected from various sources and inputs to incorporate into the design.
- **PC3.** list down the various factors included
- **PC4.** evaluate the packing material density according to the product's weight by applying the standard formula.
- **PC5.** design and develop various activities with plan date and actual work date by including conceptual design & review, design review/approval from internal and external customers, presentation, verification, preparation, trial and rectification, and Validations.

### Evaluate the design options with eco-friendly materials

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

- **PC6.** obtain and review existing information concerning the specified design requirement, like 2D drawings and 3D models, existing samples, etc.
- **PC7.** shortlist the eco-friendly materials suitable for the type of packing.
- **PC8.** evaluate the design against the established criteria using appropriate evaluation methods.
- **PC9.** recommend various design options with multiple packing materials and communicate the evaluation results to the relevant personnel.
- **PC10.** include recycling instructions in the package.
- **PC11.** create a scorecard with the checkpoints and evaluate the design using the same.

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- **KU1.** detailed knowledge of different packing materials currently available in market
- **KU2.** stay current on the Latest and advanced innovations in the packing industry.
- **KU3.** the appropriate safety measures to follow while operating on the manufacturing floor









- **KU4.** in-depth knowledge of Sustainable packing materials
- KU5. analytical and research skills
- KU6. advanced computer knowledge and data analysis
- KU7. recycling methods of packing waste
- KU8. packaging design documentation
- KU9. presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** existing packaging design document
- **GS2.** different workflows
- **GS3.** packing process flows
- **GS4.** package design documentation in a structured format
- **GS5.** collect information from the warehouse in charge/ transportation in charge/ vendors/ service providers
- GS6. conduct advanced checks and verify the accuracy of the data provided
- **GS7.** identify errors in packing, make the corrections and document the changes
- **GS8.** draw inferences and conclusions based on the analysis
- **GS9.** maintain punctuality and adhere to timelines
- GS10. plan for timely collection of data
- **GS11.** address the urgency of package and customer needs
- **GS12.** speak politely and take feedback constructively
- **GS13.** identify common trends as per analysis and implement the same in designing
- **GS14.** implement possible solutions for the common issues in daily operations based on information
- **GS15.** identify the flaws in existing workflow and planning process to mitigate possible future failures
- **GS16.** analyse trends to identify defaults for corrective action as needed
- **GS17.** observe the shipment packing process and accordingly make future changes
- **GS18.** cross-check the data at various master data levels and ensure the sanity









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Develop a plan for the design process	14	28	-	5
<b>PC1.</b> plan the design activities and build a schedule for each task involved in the design process.	3	6	-	1
<b>PC2.</b> collate the specifications collected from various sources and inputs to incorporate into the design.	3	6	-	1
PC3. list down the various factors included	2	4	-	1
<b>PC4.</b> evaluate the packing material density according to the product's weight by applying the standard formula.	3	6	-	1
PC5. design and develop various activities with plan date and actual work date by including conceptual design & review, design review/approval from internal and external customers, presentation, verification, preparation, trial and rectification, and Validations.	3	6	-	1
Evaluate the design options with eco-friendly materials	16	32	-	5
<b>PC6.</b> obtain and review existing information concerning the specified design requirement, like 2D drawings and 3D models, existing samples, etc.	3	6	-	1
<b>PC7.</b> shortlist the eco-friendly materials suitable for the type of packing.	3	6	-	1
<b>PC8.</b> evaluate the design against the established criteria using appropriate evaluation methods.	2	4	-	1
<b>PC9.</b> recommend various design options with multiple packing materials and communicate the evaluation results to the relevant personnel.	2	4	-	-
<b>PC10.</b> include recycling instructions in the package.	3	6	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> create a scorecard with the checkpoints and evaluate the design using the same.	3	4	-	1
NOS Total	30	60	-	10









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0203
NOS Name	Prepare for designing
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### LSC/N0204: Design sustainable tertiary packaging

### **Description**

This OS unit is about designing sustainable tertiary packaging.

### Scope

The scope covers the following:

- Design the outline of tertiary packing
- Draw the production drawing

### **Elements and Performance Criteria**

### Design the outline of tertiary packing

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

- **PC1.** prepare outline ideas for the designs using conceptual design work or collect similar information.
- **PC2.** virtualise designs that meet the customer's requirements, as specified in the design brief for the engineering product or process.
- **PC3.** compare the designs with a competitor and improvise.
- **PC4.** select suitable sustainable materials, e.g. paper honeycomb core, mycelium fillers, paper tapes, corrugated boards etc., according to the packing design.
- **PC5.** design optional die lines and add prepress for multifunctional packing material.
- **PC6.** conceptualise the layers of sustainable packing material for different products and transportation.

### Draw the production drawing

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

- **PC7.** select a design template, e.g. ASTM, DIN, and ISO, that specifies the coordinates, protection angle, and title block characteristics.
- **PC8.** draw a 2D engineering design with die lines for various models finalized
- **PC9.** add the isometric view and dimensions to the layout.
- **PC10.** specify the location, length and size of all lines and folds for prepress cast
- **PC11.** add do's & don'ts, handling & storage instructions/ symbols as print content.
- PC12. include all notes and additional instructions to the manufacturer

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- **KU1.** concept of Circular designing of recycling materials.
- **KU2.** the primary packaging steps from manufacturing till delivery to the customer.
- **KU3.** knowledge of handling various packing materials and tools.









- **KU4.** ability to do engineering drawings
- **KU5.** detailed knowledge of different packing materials currently available in market
- **KU6.** stay current on the Latest and advanced innovations in the packing industry.
- **KU7.** the appropriate safety measures to follow while operating on the manufacturing floor
- **KU8.** in-depth knowledge of Sustainable packing materials
- KU9. analytical and research skills
- **KU10.** advanced computer knowledge and data analysis
- **KU11.** recycling methods of packing waste
- **KU12.** packaging design documentation
- **KU13.** presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** maintain work-related notes and records
- **GS2.** ability to draw engineering designs and multitask
- **GS3.** communicate politely and professionally
- **GS4.** read the relevant materials to learn about the latest developments in the field of work
- **GS5.** perform work-related calculations
- **GS6.** listen attentively to understand the information/ instructions shared
- **GS7.** plan and prioritize tasks to ensure timely completion
- **GS8.** coordinate with co-workers to achieve the work objectives
- **GS9.** evaluate all possible solutions to a problem to select the best one
- **GS10.** identify potential disruptions to work and take appropriate preventive measures









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Design the outline of tertiary packing	15	30	-	5
<b>PC1.</b> prepare outline ideas for the designs using conceptual design work or collect similar information.	3	6	-	1
<b>PC2.</b> virtualise designs that meet the customer's requirements, as specified in the design brief for the engineering product or process.	2	4	-	1
<b>PC3.</b> compare the designs with a competitor and improvise.	3	6	-	-
<b>PC4.</b> select suitable sustainable materials, e.g. paper honeycomb core, mycelium fillers, paper tapes, corrugated boards etc., according to the packing design.	2	4	-	1
<b>PC5.</b> design optional die lines and add prepress for multifunctional packing material.	2	4	-	1
<b>PC6.</b> conceptualise the layers of sustainable packing material for different products and transportation.	3	6	-	1
Draw the production drawing	15	30	-	5
<b>PC7.</b> select a design template, e.g. ASTM, DIN, and ISO, that specifies the coordinates, protection angle, and title block characteristics.	2	4	-	1
<b>PC8.</b> draw a 2D engineering design with die lines for various models finalized	3	6	-	1
<b>PC9.</b> add the isometric view and dimensions to the layout.	2	4	-	-
<b>PC10.</b> specify the location, length and size of all lines and folds for prepress cast	3	6	-	1
<b>PC11.</b> add do's & don'ts, handling & storage instructions/ symbols as print content.	2	4	-	1
PC12. include all notes and additional instructions to the manufacturer	3	6	-	1









Assessment Criteria for Outcomes	Theory	Practical	Project	Viva
	Marks	Marks	Marks	Marks
NOS Total	30	60	-	10









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0204
NOS Name	Design sustainable tertiary packaging
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









## LSC/N0205: Create a 3D design using CAD

### **Description**

This OS unit is about creating a 3D production drawing and developing package design using CAD software.

### Scope

The scope covers the following:

• Create a 3D production drawing and Develop package design using CAD software.

### **Elements and Performance Criteria**

### Create 3D production drawings and package designs using CAD software.

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

- **PC1.** analyse and finalize the correct modelling software tool of use.
- **PC2.** set up the modelling environment and select a suitable template/folder
- **PC3.** set the drawing datum at a convenient point to create a modelling template with title, file number, material, date
- **PC4.** establish a coordinate system, orientation and views as per the job
- **PC5.** create and modify entities in 3D space as per job requirement
- **PC6.** create 3-D views on the screen by manipulating drawing planes and inserting 3-D geometric shapes
- **PC7.** create swept, extruded and revolved solids in 3-D space
- **PC8.** produce sectioned models (cutting planes and crosshatching)
- **PC9.** use pre-drawn library files and primitives to build a 3-D model
- **PC10.** extract mass and area properties from a solid model
- **PC11.** identify and use key features of solid modelling software package to produce models
- **PC12.** perform drawing for solid modelling
- **PC13.** extract physical properties as per job requirement, including volume, mass and centre of gravity
- **PC14.** identify and use key features of the solid modelling software package to produce models. Key features: extrude, extrude cut, solid model, mirror, revolve, wireframe, radius/chamfer, hide, rib, rectangular pattern, fillet, cut/remove, circular pattern, shell, development view, motion analysis, animation, defining material property, exploded views
- **PC15.** consider the following factors as appropriate to the model produced. Factors: function, cost, physical space, quality, the product's lifetime, operating environment, manufacturing method, tolerances, interfaces, ergonomics, clearance, safety, materials, aesthetics, and applying rendering techniques.
- **PC16.** use the pan, isometric and zoom CAD operations to highlight design areas in the modelling environment.
- **PC17.** include the printing matter, e.g. labels, branding, specifications, handling, assembling / recycling instructions etc., to be printed on the packing material.









- **PC18.** modify parts in the package assembly environment using the following features: constrained parts and assemblies, straight lines, insertion of standard components, hidden detail, dimensions, symbols and abbreviations, hatching and shading, angular surfaces, curved surfaces, parts lists, text, circles or ellipses, material colour, surface texture
- **PC19.** create 3-D drawings incorporating section views with all necessary annotation
- **PC20.** build a model for export to the following manufacturing systems. Manufacturing systems: DNC (Direct Numerically controlled) /CNC (Computer Numerically Controlled) machines; 3D printer; other specific systems
- **PC21.** construct models which comply with organisational guidelines; statutory regulations and codes of practice; CAD software standards; national and international standards
- **PC22.** reconfirm with relevant personnel that the model is as per job specifications and contains all relevant information
- **PC23.** save the models in the appropriate file type and location
- PC24. generate hard copies of the finished models with sufficient detail to allow production

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- **KU1.** should know various CAD software like CREO PARAMETRIC, SOLIDWORKS, CATIA, AUTOCAD etc.
- **KU2.** analytical and research skills
- KU3. advanced computer knowledge and data analysis
- **KU4.** packaging design documentation
- **KU5.** presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** maintain work-related notes and records
- GS2. ability to draw engineering designs and multitask
- **GS3.** skill in designing using CAD software like CREO PARAMETRIC, SOLIDWORKS, CATIA, AUTOCAD etc
- **GS4.** communicate politely and professionally
- **GS5.** read the relevant materials to learn about the latest developments in the field of work
- **GS6.** perform work-related calculations
- **GS7.** listen attentively to understand the information/ instructions shared
- **GS8.** plan and prioritise tasks to ensure timely completion
- **GS9.** coordinate with co-workers to achieve the work objectives
- **GS10.** evaluate all possible solutions to a problem to select the best one
- **GS11.** identify potential disruptions to work and take appropriate preventive measures
- **GS12.** maintain work-related notes and records









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Create 3D production drawings and package designs using CAD software.	30	60	-	10
<b>PC1.</b> analyse and finalize the correct modelling software tool of use.	1	2	-	1
<b>PC2.</b> set up the modelling environment and select a suitable template/folder	2	4	-	-
<b>PC3.</b> set the drawing datum at a convenient point to create a modelling template with title, file number, material, date	1	2	-	1
<b>PC4.</b> establish a coordinate system, orientation and views as per the job	1	2	-	1
<b>PC5.</b> create and modify entities in 3D space as per job requirement	2	3	-	-
<b>PC6.</b> create 3-D views on the screen by manipulating drawing planes and inserting 3-D geometric shapes	1	3	-	-
<b>PC7.</b> create swept, extruded and revolved solids in 3-D space	2	3	-	1
<b>PC8.</b> produce sectioned models (cutting planes and crosshatching)	1	3	-	-
<b>PC9.</b> use pre-drawn library files and primitives to build a 3-D model	2	2	-	-
<b>PC10.</b> extract mass and area properties from a solid model	1	3	-	-
<b>PC11.</b> identify and use key features of solid modelling software package to produce models	2	4	-	-
PC12. perform drawing for solid modelling	1	3	-	-
<b>PC13.</b> extract physical properties as per job requirement, including volume, mass and centre of gravity	2	3	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. identify and use key features of the solid modelling software package to produce models. Key features: extrude, extrude cut, solid model, mirror, revolve, wireframe, radius/chamfer, hide, rib, rectangular pattern, fillet, cut/remove, circular pattern, shell, development view, motion analysis, animation, defining material property, exploded views	1	3	-	-
<b>PC15.</b> consider the following factors as appropriate to the model produced. Factors: function, cost, physical space, quality, the product's lifetime, operating environment, manufacturing method, tolerances, interfaces, ergonomics, clearance, safety, materials, aesthetics, and applying rendering techniques.	1	2	-	1
<b>PC16.</b> use the pan, isometric and zoom CAD operations to highlight design areas in the modelling environment.	1	2	-	-
<b>PC17.</b> include the printing matter, e.g. labels, branding, specifications, handling, assembling / recycling instructions etc., to be printed on the packing material.	1	2	-	1
PC18. modify parts in the package assembly environment using the following features: constrained parts and assemblies, straight lines, insertion of standard components, hidden detail, dimensions, symbols and abbreviations, hatching and shading, angular surfaces, curved surfaces, parts lists, text, circles or ellipses, material colour, surface texture	1	2	-	-
<b>PC19.</b> create 3-D drawings incorporating section views with all necessary annotation	1	2	-	-
PC20. build a model for export to the following manufacturing systems. Manufacturing systems: DNC (Direct Numerically controlled) /CNC (Computer Numerically Controlled) machines; 3D printer; other specific systems	1	2	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC21.</b> construct models which comply with organisational guidelines; statutory regulations and codes of practice; CAD software standards; national and international standards	1	2	-	1
<b>PC22.</b> reconfirm with relevant personnel that the model is as per job specifications and contains all relevant information	1	2	-	-
<b>PC23.</b> save the models in the appropriate file type and location	1	2	-	-
<b>PC24.</b> generate hard copies of the finished models with sufficient detail to allow production	1	2	-	1
NOS Total	30	60	-	10









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0205
NOS Name	Create a 3D design using CAD
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### LSC/N0206: Develop a working prototype

### **Description**

This OS unit is about creating a functional prototype from the sketch through the final product, including material sourcing and sampling using eco-friendly, biodegradable/ reusable materials.

### Scope

The scope covers the following:

- Perform testing of CAD Model using CAE Software
- Construct a prototype
- Get design approval

### **Elements and Performance Criteria**

### Perform testing using CAE Software

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

- **PC1.** analyse and finalise the correct CAE software tool to use.
- PC2. export and Import files as per the required format in CAE
- **PC3.** collate the different parameters for analysis like transport, weight, height, pressure, weather etc.
- **PC4.** design the mesh files according to different parameter combinations
- **PC5.** identify the load and boundary parameters for the CAD model
- **PC6.** simulate, validate and optimise the result.
- **PC7.** create a macro file and different types of graphs for the analysis
- **PC8.** generate the report and publish the graphs

### Construct a prototype

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

- **PC9.** source the materials required for constructing the prototype
- **PC10.** procure the testing product with actual weight and dimensions
- **PC11.** follow the step-by-step process for assembling the packing material
- **PC12.** pack the product with the planned layers according to the quality assessment plan.
- **PC13.** create multiple prototypes to use for various testing.
- **PC14.** devise an SOP with the steps and procedures to follow during packing.
- **PC15.** get the prototype and SOP QA validated by the relevant department and authorities.
- **PC16.** record all the proceedings of the validations for future use.

#### Get design approval

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

- **PC17.** prepare the documents required for UN CERTIFICATION
- PC18. collate the QA results and simulation test results
- **PC19.** discuss and confirm the type of certification needed for the packaging.









- **PC20.** visit https://www.iip-in.com/research-and-development/un-certification.aspx
- **PC21.** register for UN CERTIFICATION under the relevant category
- PC22. submit the documents requested

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1. knowledge of various CAE software like HYPERMESH.
- **KU2.** ability to devise a Standard operating procedure
- KU3. analytical and research skills
- KU4. advanced computer knowledge and data analysis
- KU5. packaging design documentation
- **KU6.** presentation skills for submitting designs for approval.

### **Generic Skills (GS)**

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

- **GS1.** maintain work-related notes and records
- **GS2.** ability to draw engineering designs and multitask
- **GS3.** skill to use CAE software
- **GS4.** communicate politely and professionally
- **GS5.** read the relevant materials to learn about the latest developments in the field of work
- **GS6.** perform work-related calculations
- **GS7.** listen attentively to understand the information/ instructions shared
- **GS8.** plan and prioritise tasks to ensure timely completion
- **GS9.** coordinate with co-workers to achieve the work objectives
- **GS10.** evaluate all possible solutions to a problem to select the best one
- **GS11.** identify potential disruptions to work and take appropriate preventive measures
- **GS12.** maintain work-related notes, records and checklists









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform testing using CAE Software	10	20	-	4
PC1. analyse and finalise the correct CAE software tool to use.	1	2	-	1
PC2. export and Import files as per the required format in CAE	1	2	-	-
<b>PC3.</b> collate the different parameters for analysis like transport, weight, height, pressure, weather etc.	1	2	-	1
<b>PC4.</b> design the mesh files according to different parameter combinations	2	4	-	<u>-</u>
PC5. identify the load and boundary parameters for the CAD model	1	2	-	1
PC6. simulate, validate and optimise the result.	1	2	-	-
PC7. create a macro file and different types of graphs for the analysis	1	2	-	1
PC8. generate the report and publish the graphs	2	4	-	-
Construct a prototype	11	22	-	3
PC9. source the materials required for constructing the prototype	1	3	-	1
PC10. procure the testing product with actual weight and dimensions	1	2	-	-
<b>PC11.</b> follow the step-by-step process for assembling the packing material	1	3	<u>-</u>	1
<b>PC12.</b> pack the product with the planned layers according to the quality assessment plan.	2	2	-	-
PC13. create multiple prototypes to use for various testing.	1	2	-	-
<b>PC14.</b> devise an SOP with the steps and procedures to follow during packing.	1	2	-	1
<b>PC15.</b> get the prototype and SOP QA validated by the relevant department and authorities.	2	4	-	-
PC16. record all the proceedings of the validations for future use.	2	4	-	-
Get design approval	9	18	-	3
PC17. prepare the documents required for UN CERTIFICATION	2	2	-	1
PC18. collate the QA results and simulation test results	1	3	-	-
<b>PC19.</b> discuss and confirm the type of certification needed for the packaging.	1	3	-	1
PC20. visit https://www.iip-in.com/research-and-development/un-certification.aspx	2	4	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. register for UN CERTIFICATION under the relevant category	2	4	-	-
PC22. submit the documents requested	1	2	-	1
NOS Total	30	60	-	10









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0206
NOS Name	Develop a working prototype
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### LSC/N9908: Maintain and monitor integrity and ethics in operations

### **Description**

This unit is about maintaining integrity, ensuring data security, and professional and ethical practice

### Scope

The scope covers the following:

- Maintain integrity and ensure data security
- Professional and ethical practice
- Ensure regulatory compliance

#### **Elements and Performance Criteria**

### Maintain integrity ensuring data security

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

- **PC1.** refrain from indulging in corrupt practices
- **PC2.** protect customers information and ensure acquired information is not used for personal advantage
- PC3. protect data and information related to business or commercial decisions

### Professional and ethical practice

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

- **PC4.** sensitise the work force towards ethical behaviour in work place and performing job with integrity
- **PC5.** conduct regular reviews and check reports for unethical behaviour and corrupt practices
- **PC6.** consult senior management when in an ethical dilemma
- **PC7.** report promptly all violations of code of ethics
- **PC8.** dress up and conduct in a professional manner
- **PC9.** communicate with clients and stakeholders in a soft and polite manner
- **PC10.** follow etiquettes

### Ensure regulatory compliance

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

- **PC11.** check that that documentation with respect to operations is up to date and in accordance to the regulations
- PC12. coordinate with regulatory authorities and assist in inspections and clearances
- **PC13.** report any issues with regulatory compliance

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

**KU1.** companys policies on use of language









- **KU2.** companys Human Resources policies
- **KU3.** companys code of ethics and business
- **KU4.** companys whistle blower policy
- KU5. companys rules related to sexual harassment
- KU6. companys reporting structure
- **KU7.** companys documentation policy
- **KU8.** principles of code of ethics and business ethics
- **KU9.** different regulations and acts that are applicable for the sub-sector and logistics sector as a whole
- **KU10.** understand the documentary compliance required for different type of products

### **Generic Skills (GS)**

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

- **GS1.** read policy documents and work related documents
- **GS2.** read emails letters and communications
- **GS3.** read acts and regulations
- **GS4.** write instructions, communications to internal staff
- **GS5.** write emails and letters
- **GS6.** write reports
- **GS7.** interact with internal and external stakeholders
- GS8. communicate with peers and subordinates
- **GS9.** take appropriate action in a vulnerable situation
- **GS10.** identify breaches and take necessary actions
- **GS11.** identify documentary requirement for a specific product or regulation and take necessary action
- **GS12.** plan and organise steps/ actions as per companys guidelines, if any violation of code of ethics is noticed in the company
- GS13. plan and organise training sessions, sensitization sessions for work force
- **GS14.** plan review meetings to monitor compliance with ethics and regulations
- **GS15.** prevent company and customer information leakage
- **GS16.** provide proper advice or guidance to colleagues to deal with sensitive issue
- **GS17.** suggest solutions to managers and workers when in an ethical dilemma
- **GS18.** identify conflict of interests and take necessary actions
- **GS19.** review reports to identify common trends of defaults
- **GS20.** conduct review to analyse the reasons for default
- **GS21.** check that all regulatory compliances are adhered to
- **GS22.** check that any unethical behaviour gets captured before a damage or negative impact happens









## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain integrity ensuring data security	7	16	-	-
PC1. refrain from indulging in corrupt practices	2	5	-	-
<b>PC2.</b> protect customers information and ensure acquired information is not used for personal advantage	3	6	-	-
<b>PC3.</b> protect data and information related to business or commercial decisions	2	5	-	-
Professional and ethical practice	16	38	-	-
<b>PC4.</b> sensitise the work force towards ethical behaviour in work place and performing job with integrity	3	6	-	-
<b>PC5.</b> conduct regular reviews and check reports for unethical behaviour and corrupt practices	2	5	-	-
<b>PC6.</b> consult senior management when in an ethical dilemma	2	6	-	-
<b>PC7.</b> report promptly all violations of code of ethics	2	5	-	-
PC8. dress up and conduct in a professional manner	2	5	-	-
<b>PC9.</b> communicate with clients and stakeholders in a soft and polite manner	3	6	-	-
PC10. follow etiquettes	2	5	-	-
Ensure regulatory compliance	7	16	-	-
<b>PC11.</b> check that that documentation with respect to operations is up to date and in accordance to the regulations	2	5	-	-
<b>PC12.</b> coordinate with regulatory authorities and assist in inspections and clearances	3	6	-	-
PC13. report any issues with regulatory compliance	2	5	-	-









Assessment Criteria for Outcomes	Theory	Practical	Project	Viva
	Marks	Marks	Marks	Marks
NOS Total	30	70	-	-









## **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N9908
NOS Name	Maintain and monitor integrity and ethics in operations
Sector	Logistics
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	1
Version	2.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### LSC/N9910: Follow health, safety and security procedures at workplace

### **Description**

This unit deals in detail with application of health, safety and security procedures in the workplace

### Scope

The scope covers the following:

- Follow health, safety and security measures during all activities
- Maintain a healthy and hygienic workplace
- Handle emergency situations

### **Elements and Performance Criteria**

### Follow health, safety and security measures during all activities

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

- **PC1.** Comply with safety regulations and procedures to avoid fire hazards, biohazards, etc.
- **PC2.** Wear all safety equipment including protective gear, helmets etc., at relevant bay areas.
- **PC3.** Follow organization procedures with respect to documentation.
- **PC4.** Recognise unsafe conditions and safety practices at the workplace and report it to concerned authority.

### Maintain a healthy and hygienic workplace

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

- **PC5.** Keep the workplace organized.
- **PC6.** Ensure that the work area and supplies are cleaned regularly.
- **PC7.** Comply with data safety regulations of the organisation.
- PC8. Maintain clear worktable area.
- **PC9.** Maintain personal hygiene and wash hands regularly using soap and water or alcohol-based sanitiser
- **PC10.** Undertake periodical preventive health check ups.
- **PC11.** Participate in fire drills.
- **PC12.** Follow 5S at workplace.

#### Handle emergency situations

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

- **PC13.** Act immediately during emergency situations and move to safety.
- **PC14.** Perform rescue activity according to instructions received and assist those in need.
- **PC15.** Provide first aid to affected victims e.g., in case of bleeding, burns, choking, electric shock, poisoning etc.
- **PC16.** In case of fire, follow fire safety practices
- **PC17.** Perform the steps involved in fire safety drill.
- **PC18.** Follow procedures to rescue victim of fire without endangering self.









### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- **KU1.** Health Safety and Environment (HSE) practices
- KU2. Relevant Occupational Health and Safety (OHS) regulations
- **KU3.** Enterprise /site emergency procedures and techniques
- **KU4.** Procedures for recording, reporting and maintenance of workplace safety and hygiene
- **KU5.** Meaning of hazards and risks
- **KU6.** Health and safety hazards commonly present in the work environment and related precautions
- **KU7.** Possible causes of risk, hazard or accident in the workplace
- KU8. Where to find all the general health and safety equipment in the workplace
- **KU9.** Various dangers associated with the use of electrical equipment
- KU10. Preventative and remedial actions to be taken in the case of exposure to toxic materials
- **KU11.** Importance of using protective clothing/equipment while working
- **KU12.** Precautionary activities to prevent the fire accident
- KU13. Various causes of fire
- **KU14.** Techniques of using the different fire extinguishers
- KU15. Different methods of extinguishing fire
- **KU16.** Different materials used for extinguishing fire
- **KU17.** Rescue techniques applied during a fire hazard
- **KU18.** Various types of safety signs and their meaning
- **KU19.** Appropriate basic first aid treatment relevant to the condition e.g. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries
- **KU20.** Safe lifting and carrying practices

### **Generic Skills (GS)**

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

- **GS1.** Write Health and safety compliance report
- **GS2.** Interpret general health and safety guidelines
- GS3. Communicate general health and safety guidelines to co workers
- **GS4.** Take decision about the corrective action to be taken in case of any potential hazards









### **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Follow health, safety and security measures during all activities	8	15	-	-
<b>PC1.</b> Comply with safety regulations and procedures to avoid fire hazards, biohazards, etc.	2	4	-	-
<b>PC2.</b> Wear all safety equipment including protective gear, helmets etc., at relevant bay areas.	2	4	-	-
<b>PC3.</b> Follow organization procedures with respect to documentation.	2	3	-	-
<b>PC4.</b> Recognise unsafe conditions and safety practices at the workplace and report it to concerned authority.	2	4	-	-
Maintain a healthy and hygienic workplace	12	33	-	-
PC5. Keep the workplace organized.	1	4	-	-
<b>PC6.</b> Ensure that the work area and supplies are cleaned regularly.	2	4	-	-
<b>PC7.</b> Comply with data safety regulations of the organisation.	2	4	-	-
PC8. Maintain clear worktable area.	1	4	-	-
<b>PC9.</b> Maintain personal hygiene and wash hands regularly using soap and water or alcohol-based sanitiser.	2	5	-	-
<b>PC10.</b> Undertake periodical preventive health check ups.	1	4	-	-
PC11. Participate in fire drills.	2	4	-	-
PC12. Follow 5S at workplace.	1	4	-	-
Handle emergency situations	10	22	-	-
<b>PC13.</b> Act immediately during emergency situations and move to safety.	2	3	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> Perform rescue activity according to instructions received and assist those in need.	2	4	-	-
<b>PC15.</b> Provide first aid to affected victims e.g., in case of bleeding, burns, choking, electric shock, poisoning etc.	2	4	-	-
PC16. In case of fire, follow fire safety practices	1	3	-	-
<b>PC17.</b> Perform the steps involved in fire safety drill.	2	4	-	-
<b>PC18.</b> Follow procedures to rescue victim of fire without endangering self.	1	4	-	-
NOS Total	30	70	-	-









# **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N9910
NOS Name	Follow health, safety and security procedures at workplace
Sector	Logistics
Sub-Sector	Generic
Occupation	Generic
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









### **DGT/VSQ/N0103: Employability Skills (90 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.** understand the significance of employability skills in meeting the current job market requirement and future of work
- **PC2.** identify and explore learning and employability relevant portals
- **PC3.** research about the different industries, job market trends, latest skills required and the available opportunities

#### Constitutional values - Citizenship

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

- **PC4.** 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.
- **PC5.** follow environmentally sustainable practices

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

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

**PC6.** recognize the significance of 21st Century Skills for employment









- **PC7.** 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
- **PC8.** adopt a continuous learning mindset for personal and professional development Basic English Skills

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

- **PC9.** use basic English for everyday conversation in different contexts, in person and over the telephone
- **PC10.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- **PC11.** 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:

- **PC12.** identify career goals based on the skills, interests, knowledge, and personal attributes
- PC13. prepare a career development plan with short- and long-term goals

#### Communication Skills

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

- **PC14.** follow verbal and non-verbal communication etiquette while communicating in professional and public settings
- **PC15.** use active listening techniques for effective communication
- **PC16.** communicate in writing using appropriate style and format based on formal or informal requirements
- **PC17.** work collaboratively with others in a team

#### Diversity & Inclusion

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

- PC18. communicate and behave appropriately with all genders and PwD
- **PC19.** 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:

- **PC20.** identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.
- **PC21.** carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook
- **PC22.** identify common components of salary and compute income, expenses, taxes, investments etc
- **PC23.** 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:

- **PC24.** operate digital devices and use their features and applications securely and safely
- **PC25.** carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.
- **PC26.** display responsible online behaviour while using various social media platforms









- PC27. create a personal email account, send and process received messages as per requirement
- **PC28.** carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications
- **PC29.** utilize virtual collaboration tools to work effectively

#### Entrepreneurship

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

- **PC30.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- **PC31.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- **PC32.** 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:

- PC33. identify different types of customers and ways to communicate with them
- PC34. identify and respond to customer requests and needs in a professional manner
- **PC35.** use appropriate tools to collect customer feedback
- **PC36.** follow appropriate hygiene and grooming standards

#### Getting ready for apprenticeship & Jobs

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

- **PC37.** create a professional Curriculum vitae (Résumé)
- **PC38.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- **PC39.** apply to identified job openings using offline /online methods as per requirement
- **PC40.** answer questions politely, with clarity and confidence, during recruitment and selection
- **PC41.** 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.** components of salary and 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
- **KU16.** use applications such as word processors, spreadsheets etc.
- **KU17.** how to identify business opportunities
- **KU18.** types and needs of customers
- **KU19.** how to apply for a job and prepare for an interview
- **KU20.** 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 in English and other languages
- GS2. communicate effectively using appropriate language in formal and informal settings
- **GS3.** behave politely and appropriately with all to maintain effective work relationship
- **GS4.** how to work in a virtual mode, using various technological platforms
- **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









### **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	1	1	-	-
<b>PC1.</b> understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
<b>PC3.</b> research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
Constitutional values - Citizenship	1	1	-	-
<b>PC4.</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.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	1	3	-	-
<b>PC6.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC7.</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	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
Basic English Skills	3	4	-	-
<b>PC9.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC11.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	1	2	-	-
<b>PC12.</b> identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
<b>PC13.</b> prepare a career development plan with short- and long-term goals	-	-	-	-
Communication Skills	2	2	-	-
<b>PC14.</b> follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
<b>PC15.</b> use active listening techniques for effective communication	-	-	-	-
<b>PC16.</b> communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	1	1	-	-
<b>PC18.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC19.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	2	3	-	-
<b>PC20.</b> identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
<b>PC21.</b> carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC22.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	3	5	-	-
PC24. operate digital devices and use their features and applications securely and safely	-	-	-	-
<b>PC25.</b> carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
<b>PC26.</b> display responsible online behaviour while using various social media platforms	-	-	-	-
<b>PC27.</b> create a personal email account, send and process received messages as per requirement	-	-	-	-
<b>PC28.</b> carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
<b>PC29.</b> utilize virtual collaboration tools to work effectively	-	-	-	-
Entrepreneurship	2	3	-	-
<b>PC30.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC31.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC32.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	1	2	-	-
PC33. identify different types of customers and ways to communicate with them	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC34.</b> identify and respond to customer requests and needs in a professional manner	-	-	-	-
<b>PC35.</b> use appropriate tools to collect customer feedback	-	-	-	-
<b>PC36.</b> follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	2	3	-	-
<b>PC37.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC38.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC39.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC40.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC41.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-









# **National Occupational Standards (NOS) Parameters**

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	28/07/2022
Next Review Date	28/07/2027
NSQC Clearance Date	28/07/2022









### LSC/N0207: Designing hazardous goods packaging

### **Description**

This OS unit is about designing hazardous goods packaging.

### Scope

The scope covers the following:

- Perform pre-designing analysis
- Design the outline of hazardous goods packing

#### **Elements and Performance Criteria**

#### Perform data analysis

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

- **PC1.** gather full product specifications and handling instructions, including type, class, packing group of product, and quantity of dangerous goods with MSDS.
- **PC2.** collect details of primary/ secondary packaging done and the protective measures used, if any. Also, get transport details like the destination, mode of transport, route, duration of transit, weather, packing requirements from the consignee/ carrier etc.
- **PC3.** in case of export, check if the destination country has any packaging restrictions like fumigation certificate, UN certification, IATA certification, etc., according to the packing group into which the product falls.
- **PC4.** do detailed research about the obstacles often faced by these goods during transit.
- **PC5.** perform analysis about possible damage scenarios and methods to overcome them.
- **PC6.** evaluate solutions for impediments by adding precautionary, protective elements, e.g. Desiccants, to protect from container rain.
- **PC7.** list down the non-reactive, sustainable packing materials which are allowed according to the packing group and classification of the product.

#### Design the hazardous goods packaging

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

- **PC8.** prepare design outlines considering the collated data.
- **PC9.** avoid empty space and voids to a maximum to prevent a collision.
- **PC10.** design the layers of packing needed.
- **PC11.** evaluate the options and select suitable and approved sustainable cushioning and tertiary packing materials attending to the analysis factors.
- **PC12.** draw the production drawing using a standard template.
- **PC13.** add dos & don'ts, handling instructions/ symbols to the printing content.
- **PC14.** follow the Package ID Table and add UN markings according to Hazardous Materials Table (HMT) to the print content.
- **PC15.** create a 3D model using CAD and test the model using CAE software.
- **PC16.** build the prototype and perform trial runs under various parameters.









**PC17.** get QA validation/ certification from the relevant department and authorities as applicable.

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- **KU1.** handling hazardous goods and restrictions involved in carrying.
- **KU2.** detailed knowledge of different packing materials currently available in the market for DG goods packing
- **KU3.** knowledge of various computer applications like CAE and CAD.
- **KU4.** stay up to date on the Latest and advanced innovations in the packing industry.
- **KU5.** in-depth knowledge of Sustainable packing materials.
- **KU6.** analytical and research skills.
- KU7. advanced computer knowledge and data analysis.
- KU8. packaging design documentation
- **KU9.** presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** packing process flows
- **GS2.** package design documentation in a structured format
- GS3. conduct advanced checks and verify the accuracy of the data provided
- **GS4.** identify errors in packing, make the corrections and document the changes
- **GS5.** draw inferences and conclusions based on the analysis
- **GS6.** maintain punctuality and adhere to timelines
- **GS7.** plan for timely collection of data
- **GS8.** address the urgency of package and customer needs
- **GS9.** speak politely and take feedback constructively
- **GS10.** identify common trends as per analysis and implement the same in designing
- **GS11.** implement possible solutions for the common issues in daily operations based on information
- **GS12.** identify the flaws in existing workflow and planning process to mitigate possible future failures
- **GS13.** analyse trends to identify defaults for corrective action as needed
- **GS14.** observe the shipment packing process and accordingly make future changes
- **GS15.** cross-check the data at various master data levels and ensure the sanity









### **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform data analysis	13	26	-	4
<b>PC1.</b> gather full product specifications and handling instructions, including type, class, packing group of product, and quantity of dangerous goods with MSDS.	2	3	-	-
PC2. collect details of primary/ secondary packaging done and the protective measures used, if any. Also, get transport details like the destination, mode of transport, route, duration of transit, weather, packing requirements from the consignee/ carrier etc.	2	4	-	1
<b>PC3.</b> in case of export, check if the destination country has any packaging restrictions like fumigation certificate, UN certification, IATA certification, etc., according to the packing group into which the product falls.	2	4	-	-
<b>PC4.</b> do detailed research about the obstacles often faced by these goods during transit.	1	3	-	1
<b>PC5.</b> perform analysis about possible damage scenarios and methods to overcome them.	2	4	-	-
<b>PC6.</b> evaluate solutions for impediments by adding precautionary, protective elements, e.g. Desiccants, to protect from container rain.	2	4	-	1
<b>PC7.</b> list down the non-reactive, sustainable packing materials which are allowed according to the packing group and classification of the product.	2	4	-	1
Design the hazardous goods packaging	17	34	-	6
<b>PC8.</b> prepare design outlines considering the collated data.	2	4	-	1
<b>PC9.</b> avoid empty space and voids to a maximum to prevent a collision.	2	4	-	1
PC10. design the layers of packing needed.	2	4	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> evaluate the options and select suitable and approved sustainable cushioning and tertiary packing materials attending to the analysis factors.	2	4	-	1
<b>PC12.</b> draw the production drawing using a standard template.	1	3	-	1
<b>PC13.</b> add dos & don'ts, handling instructions/ symbols to the printing content.	1	3	-	1
<b>PC14.</b> follow the Package ID Table and add UN markings according to Hazardous Materials Table (HMT) to the print content.	2	2	-	-
<b>PC15.</b> create a 3D model using CAD and test the model using CAE software.	2	3	-	-
<b>PC16.</b> build the prototype and perform trial runs under various parameters.	1	3	-	1
<b>PC17.</b> get QA validation/ certification from the relevant department and authorities as applicable.	2	4	-	-
NOS Total	30	60	-	10









# **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0207
NOS Name	Designing hazardous goods packaging
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









## LSC/N0208: Designing Fragile goods packaging

### **Description**

This OS unit is about designing packaging for fragile goods.

### Scope

The scope covers the following:

- Perform transit analysis
- Design the outline of Fragile goods packing

#### **Elements and Performance Criteria**

#### Perform predesigning analysis

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

- **PC1.** gather full product specifications and handling instructions.
- **PC2.** collect details of primary/ secondary packaging like the weight, dimensions etc. and the transport details like the destination, mode of transport, route, dimensions of the vehicle intended, duration of transit, weather, and packing requirements from the insurance company/ carrier/ consignee etc. like adding tilt meter, shock meter.
- **PC3.** in case of export, check if the destination country has any packaging restrictions like fumigation requirements.
- **PC4.** do a detailed analysis of the obstacles often faced by goods during transit.
- **PC5.** perform analysis about possible damage circumstances and preventive measures.
- **PC6.** evaluate solutions to overcome impediments by adding precautionary, protective elements, e.g. Desiccants to protect from container rain.
- **PC7.** list down the layers of sustainable packing materials required.

### Design Fragile goods packaging

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

- **PC8.** prepare design outlines considering the collated data.
- **PC9.** avoid empty space and voids to the maximum to prevent a collision.
- PC10. design the layers of packing needed.
- **PC11.** evaluate the options and select suitable sustainable cushioning and tertiary packing materials attending to the factors of analysis.
- **PC12.** draw the production drawing using a standard template.
- PC13. add dos & don'ts, handling instructions/ symbols to the printing content.
- **PC14.** create a 3D model using CAD and test the model layer-wise using CAE software.
- **PC15.** build the prototype and perform trial runs under various parameters.
- **PC16.** get QA validation from the relevant department and authorities as applicable.

### **Knowledge and Understanding (KU)**









The individual on the job needs to know and understand:

- **KU1.** detailed knowledge of different packing materials currently available in the market for ODC packing
- **KU2.** knowledge of various computer applications like CAE and CAD.
- **KU3.** stay up to date on the Latest and advanced innovations in the packing industry.
- **KU4.** in-depth knowledge of Sustainable packing materials
- KU5. analytical and research skills
- KU6. advanced computer knowledge and data analysis
- KU7. packaging design documentation
- KU8. presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** packing process flows
- **GS2.** package design documentation in a structured format
- GS3. conduct advanced checks and verify the accuracy of the data provided
- **GS4.** identify errors in packing, make the corrections and document the changes
- **GS5.** draw inferences and conclusions based on the analysis
- **GS6.** maintain punctuality and adhere to timelines
- **GS7.** plan for timely collection of data
- **GS8.** address the urgency of package and customer needs
- **GS9.** speak politely and take feedback constructively
- **GS10.** identify common trends as per analysis and implement the same in designing
- **GS11.** implement possible solutions for the common issues in daily operations based on information
- **GS12.** identify the flaws in existing workflow and planning process to mitigate possible future failures
- **GS13.** analyse trends to identify defaults for corrective action as needed
- **GS14.** observe the shipment packing process and accordingly make future changes
- **GS15.** cross-check the data at various master data levels and ensure the sanity









### **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform predesigning analysis	14	27	-	4
<b>PC1.</b> gather full product specifications and handling instructions.	2	4	-	-
PC2. collect details of primary/ secondary packaging like the weight, dimensions etc. and the transport details like the destination, mode of transport, route, dimensions of the vehicle intended, duration of transit, weather, and packing requirements from the insurance company/ carrier/ consignee etc. like adding tilt meter, shock meter.	2	4	-	-
<b>PC3.</b> in case of export, check if the destination country has any packaging restrictions like fumigation requirements.	2	4	-	1
<b>PC4.</b> do a detailed analysis of the obstacles often faced by goods during transit.	2	3	-	1
<b>PC5.</b> perform analysis about possible damage circumstances and preventive measures.	2	4	-	1
<b>PC6.</b> evaluate solutions to overcome impediments by adding precautionary, protective elements, e.g. Desiccants to protect from container rain.	2	4	-	-
<b>PC7.</b> list down the layers of sustainable packing materials required.	2	4	-	1
Design Fragile goods packaging	16	33	-	6
<b>PC8.</b> prepare design outlines considering the collated data.	2	4	-	-
<b>PC9.</b> avoid empty space and voids to the maximum to prevent a collision.	2	4	-	1
PC10. design the layers of packing needed.	2	4	-	-
<b>PC11.</b> evaluate the options and select suitable sustainable cushioning and tertiary packing materials attending to the factors of analysis.	2	4	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> draw the production drawing using a standard template.	2	4	-	-
<b>PC13.</b> add dos & don'ts, handling instructions/ symbols to the printing content.	2	4	-	1
<b>PC14.</b> create a 3D model using CAD and test the model layer-wise using CAE software.	2	4	-	-
<b>PC15.</b> build the prototype and perform trial runs under various parameters.	1	3	-	2
<b>PC16.</b> get QA validation from the relevant department and authorities as applicable.	1	2	-	1
NOS Total	30	60	-	10









# **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0208
NOS Name	Designing Fragile goods packaging
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023









## LSC/N0209: Designing ODC packaging

### **Description**

This OS unit is about designing ODC packaging.

### Scope

The scope covers the following:

- Perform transit analysis
- Design the outline of the ODC packing

#### **Elements and Performance Criteria**

#### Perform transit analysis

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

- **PC1.** collate complete information about the shipment to be transported like the weight, dimensions, product type, packing requirements from consignee/ carrier etc.
- **PC2.** collect the transport details like the origin, destination, mode of transport, route, dimensions of the vehicle intended, duration of transit, weather etc.
- **PC3.** in case of export, check if the destination country has any packaging restrictions like fumigation requirements.
- **PC4.** do a detailed analysis of the obstacles often faced by goods during transit.
- **PC5.** evaluate solutions to overcome impediments by adding precautionary, protective materials, e.g. lashing and strapping.
- **PC6.** list down the layers of sustainable packing materials required.

### Design the ODC packaging

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

- **PC7.** prepare design outlines considering the collated data.
- **PC8.** evaluate the options and select suitable sustainable materials attending to the factors collected.
- **PC9.** draw the production drawing using a standard template.
- **PC10.** create a 3D model using CAD and test the model using CAE software.
- **PC11.** build the prototype and perform trial runs under various parameters.
- **PC12.** add dos & don'ts, handling instructions/ symbols to the printing content.
- **PC13.** get QA validation from the relevant department and authorities.

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

**KU1.** detailed knowledge of different packing materials currently available in the market for ODC packing









- **KU2.** knowledge of various computer applications like CAE and CAD.
- **KU3.** stay up to date on the Latest and advanced innovations in the packing industry.
- **KU4.** in-depth understanding of sustainable packing materials
- **KU5.** analytical and research skills
- KU6. advanced computer knowledge and data analysis
- **KU7.** packaging design documentation
- **KU8.** presentation skills for submitting designs for review.

### **Generic Skills (GS)**

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

- **GS1.** packing process flows
- **GS2.** package design documentation in a structured format
- GS3. conduct advanced checks and verify the accuracy of the data provided
- **GS4.** identify errors in packing, make the corrections and document the changes
- **GS5.** draw inferences and conclusions based on the analysis
- **GS6.** maintain punctuality and adhere to timelines
- **GS7.** plan for timely collection of data
- **GS8.** address the urgency of package and customer needs
- **GS9.** speak politely and take feedback constructively
- **GS10.** identify common trends as per analysis and implement the same in designing
- **GS11.** implement possible solutions for the common issues in daily operations based on information
- **GS12.** identify the flaws in existing workflow and planning process to mitigate possible future failures
- **GS13.** analyse trends to identify defaults for corrective action as needed
- **GS14.** observe the shipment packing process and accordingly make future changes
- **GS15.** cross-check the data at various master data levels and ensure the sanity









### **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform transit analysis	14	28	-	4
<b>PC1.</b> collate complete information about the shipment to be transported like the weight, dimensions, product type, packing requirements from consignee/ carrier etc.	3	5	-	1
<b>PC2.</b> collect the transport details like the origin, destination, mode of transport, route, dimensions of the vehicle intended, duration of transit, weather etc.	2	5	-	-
<b>PC3.</b> in case of export, check if the destination country has any packaging restrictions like fumigation requirements.	2	4	-	1
<b>PC4.</b> do a detailed analysis of the obstacles often faced by goods during transit.	2	4	-	-
<b>PC5.</b> evaluate solutions to overcome impediments by adding precautionary, protective materials, e.g. lashing and strapping.	3	6	-	1
<b>PC6.</b> list down the layers of sustainable packing materials required.	2	4	-	1
Design the ODC packaging	16	32	-	6
<b>PC7.</b> prepare design outlines considering the collated data.	2	4	-	1
<b>PC8.</b> evaluate the options and select suitable sustainable materials attending to the factors collected.	3	6	-	1
<b>PC9.</b> draw the production drawing using a standard template.	2	4	-	1
<b>PC10.</b> create a 3D model using CAD and test the model using CAE software.	3	6	-	1
<b>PC11.</b> build the prototype and perform trial runs under various parameters.	2	4	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> add dos & don'ts, handling instructions/ symbols to the printing content.	2	4	-	-
<b>PC13.</b> get QA validation from the relevant department and authorities.	2	4	-	1
NOS Total	30	60	-	10









### **National Occupational Standards (NOS) Parameters**

NOS Code	LSC/N0209
NOS Name	Designing ODC packaging
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Packaging, Engineering, Technology
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

### Assessment Guidelines and Assessment Weightage

### **Assessment Guidelines**

- 1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
- 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
- 3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
- 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
- 5. To pass the Qualification Pack, every trainee should score a minimum of 70% for NSQF level 4 & above job roles and 50% for NSQF level 1 to 3 job roles
- 6. In case of unsuccessful completion, the trainee may seek re-assessment on the Qualification Pack









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.)

Minimum Passing % at NOS Level: 70

(**Please note**: A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

### **Assessment Weightage**

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0202.Perform packaging analysis	30	60	-	10	100	20
LSC/N0203.Prepare for designing	30	60	-	10	100	10
LSC/N0204.Design sustainable tertiary packaging	30	60	-	10	100	10
LSC/N0205.Create a 3D design using CAD	30	60	-	10	100	10
LSC/N0206.Develop a working prototype	30	60	-	10	100	10
LSC/N9908.Maintain and monitor integrity and ethics in operations	30	70	-	-	100	10
LSC/N9910.Follow health, safety and security procedures at workplace	30	70	-	-	100	10
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	10
Total	230	470	-	50	750	90

Elective: 1 Hazardous goods packaging









National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0207.Designing hazardous goods packaging	30	60	-	10	100	10
Total	30	60	-	10	100	10

Elective: 2 Fragile goods packaging

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0208.Designing Fragile goods packaging	30	60	-	10	100	10
Total	30	60	-	10	100	10

Elective: 3 ODC packaging

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0209.Designing ODC packaging	30	60	-	10	100	10
Total	30	60	-	10	100	10









# **Acronyms**

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









# Glossary

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.
Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
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.
Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
NOS are occupational standards which apply uniquely in the Indian context.
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.
Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit title gives a clear overall statement about what the incumbent should be able to do.
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.
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.









Knowledge and Understanding (KU)	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.
Organisational Context	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.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	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.
Electives	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.
Options	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.