



Automotive Sustainability Engineer

QP Code: ASC/Q8316

Version: 1.0

NSQF Level: 6

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ASC/Q8316: Automotive Sustainability Engineer

Brief Job Description

The individual at this job review, plan & implement vehicle manufacturing processes using green power and personnel training on green issues, reduction, and recycling initiatives. He/she also plans all energy conservative process events that impact people, communities and environment, design and develop the interior of vehicle which is influenced by the three pillars of sustainability (economical, ecological, and social issues) and supports and implements program that focus on improving the environment, saving money for the organisation & supporting society

Personal Attributes

The person should be result oriented with good technical and analytical skills, keen observer, should have Excellent Interpersonal Skills, communication and presentation skills and a good team player. They should have the ability to manage projects, prioritize work and mentor budding engineers

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ASC/N9810: Manage work and resources \(Manufacturing\)](#)
2. [DGT/VSQ/N0103: Employability Skills \(90 Hours\)](#)
3. [ASC/N8348: Review existing Organizational Processes, Product Development Cycle & current market trends suitable](#)
4. [ASC/N8349: Planning of Sustainable majors to improve current processes to meet organizational targets](#)
5. [ASC/N8350: Ensure implementation of action plan & reporting progress to managements](#)
6. [ASC/N8351: Maintain sustainability score for the organization to the level & strive to improve further](#)

Qualification Pack (QP) Parameters

Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Development
Country	India

NSQF Level	6
Credits	21
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3122.6502
Minimum Educational Qualification & Experience	<p>Completed 3 year diploma after 10th (Mechanical/Automobile/ Electrical / Electronics) with 3 Years of experience in relevant field OR B.E./B.Tech with 1 Year of experience in relevant field OR M.E. OR Certificate-NSQF (Automotive Prototype Manufacturing Lead Technician/ Electric Vehicle Product Design Engineer Level 5) with 3 Years of experience in relevant field</p>
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	22 Years
Last Reviewed On	5th January, 2023
Next Review Date	5th January, 2026
NSQC Approval Date	5th January, 2023
Version	1.0

ASC/N9810: Manage work and resources (Manufacturing)

Description

This NOS unit is about implementing safety, planning work, adopting sustainable practices for optimising the use of resources.

Scope

The scope covers the following :

- Maintain safe and secure working environment
- Maintain Health and Hygiene
- Effective waste management practices
- Material/energy conservation practices

Elements and Performance Criteria

Maintain safe and secure working environment

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

- PC1.** identify hazardous activities and the possible causes of risks or accidents in the workplace
- PC2.** implement safe working practices for dealing with hazards to ensure safety of self and others
- PC3.** conduct regular checks of the machines with support of the maintenance team to identify potential hazards
- PC4.** ensure that all the tools/equipment/fasteners/spare parts are arranged as per specifications/utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/work instructions
- PC5.** organise safety drills or training sessions to create awareness amongst others on the identified risks and safety practices
- PC6.** fill daily check sheet to report improvements done and risks identified
- PC7.** ensure that relevant safety boards/signs are placed on the shop floor for the safety of self and others
- PC8.** report any identified breaches in health, safety and security policies and procedures to the designated person

Maintain Health and Hygiene

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

- PC9.** ensure workplace, equipment, restrooms etc. are sanitized regularly
- PC10.** ensure team is aware about hygiene and sanitation regulations and following them on the shop floor
- PC11.** ensure availability of running water, hand wash and alcohol-based sanitizers at the workplace
- PC12.** report advanced hygiene and sanitation issues to appropriate authority
- PC13.** follow stress and anxiety management techniques and support employees to cope with stress, anxiety etc
- PC14.** wear and dispose PPEs regularly and appropriately

Effective waste management practices

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

PC15. ensure recyclable, non-recyclable and hazardous wastes are segregated as per SOP

PC16. ensure proper mechanism is followed while collecting and disposing of non-recyclable, recyclable and reusable waste

Material/energy conservation practices

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

PC17. ensure malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment are resolved effectively

PC18. prepare and analyze material and energy audit reports to decipher excessive consumption of material and water

PC19. identify possibilities of using renewable energy and environment friendly fuels

PC20. identify processes where material and energy/electricity utilization can be optimized

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation procedures for health, safety and security, individual role and responsibilities in this context

KU2. the organisation's emergency procedures for different emergency situations and the importance of following the same

KU3. evacuation procedures for workers and visitors

KU4. how and when to report hazards as well as the limits of responsibility for dealing with hazards

KU5. potential hazards, risks and threats based on the nature of work

KU6. various types of fire extinguisher

KU7. various types of safety signs and their meaning

KU8. appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.

KU9. relevant standards, procedures and policies related to 5S followed in the company

KU10. the various materials used and their storage norms

KU11. importance of efficient utilisation of material and water

KU12. basics of electricity and prevalent energy efficient devices

KU13. common practices of conserving electricity

KU14. common sources and ways to minimize pollution

KU15. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics

KU16. waste management techniques

KU17. significance of greening

Generic Skills (GS)

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

- GS1.** read safety instructions/guidelines
- GS2.** modify work practices to improve them
- GS3.** work with supervisors/team members to carry out work related tasks
- GS4.** complete tasks efficiently and accurately within stipulated time
- GS5.** inform/report to concerned person in case of any problem
- GS6.** make timely decisions for efficient utilization of resources
- GS7.** write reports such as accident report, in at least English/regional language

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain safe and secure working environment</i>	20	13	-	8
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	4	2	-	2
PC2. implement safe working practices for dealing with hazards to ensure safety of self and others	3	1	-	2
PC3. conduct regular checks of the machines with support of the maintenance team to identify potential hazards	2	2	-	1
PC4. ensure that all the tools/equipment/fasteners/spare parts are arranged as per specifications/utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/work instructions	3	2	-	1
PC5. organise safety drills or training sessions to create awareness amongst others on the identified risks and safety practices	2	-	-	-
PC6. fill daily check sheet to report improvements done and risks identified	2	2	-	-
PC7. ensure that relevant safety boards/signs are placed on the shop floor for the safety of self and others	2	2	-	1
PC8. report any identified breaches in health, safety and security policies and procedures to the designated person	2	2	-	1
<i>Maintain Health and Hygiene</i>	13	7	-	5
PC9. ensure workplace, equipment, restrooms etc. are sanitized regularly	3	2	-	1
PC10. ensure team is aware about hygiene and sanitation regulations and following them on the shop floor	2	1	-	-
PC11. ensure availability of running water, hand wash and alcohol-based sanitizers at the workplace	2	2	-	1
PC12. report advanced hygiene and sanitation issues to appropriate authority	1	1	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. follow stress and anxiety management techniques and support employees to cope with stress, anxiety etc	2	1	-	1
PC14. wear and dispose PPEs regularly and appropriately	3	-	-	1
<i>Effective waste management practices</i>	6	4	-	1
PC15. ensure recyclable, non-recyclable and hazardous wastes are segregated as per SOP	3	2	-	-
PC16. ensure proper mechanism is followed while collecting and disposing of non-recyclable, recyclable and reusable waste	3	2	-	1
<i>Material/energy conservation practices</i>	11	6	-	6
PC17. ensure malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment are resolved effectively	2	2	-	1
PC18. prepare and analyze material and energy audit reports to decipher excessive consumption of material and water	3	2	-	1
PC19. identify possibilities of using renewable energy and environment friendly fuels	3	1	-	2
PC20. identify processes where material and energy/electricity utilization can be optimized	3	1	-	2
NOS Total	50	30	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N9810
NOS Name	Manage work and resources (Manufacturing)
Sector	Automotive
Sub-Sector	Generic
Occupation	Generic
NSQF Level	5
Credits	2
Version	2.0
Last Reviewed Date	31/08/2021
Next Review Date	31/08/2024
NSQF Clearance Date	31/08/2021

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
<i>Introduction to Employability Skills</i>	1	1	-	-
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	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
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	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
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	-	-	-	-
<i>Basic English Skills</i>	3	4	-	-
PC9. 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
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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-
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	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
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	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
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	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-	-	-
<i>Essential Digital Skills</i>	3	5	-	-
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	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-
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	-	-	-	-
<i>Customer Service</i>	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
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	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
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	-	-	-	-
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	31/01/2024
Next Review Date	31/01/2027
NSQC Clearance Date	31/01/2024

ASC/N8348: Review existing Organizational Processes, Product Development Cycle & current market trends suitable

Description

This NOS unit is about performing tasks related to review existing organizational processes, Product Development Cycle & current market trends suitable.

Scope

The scope covers the following :

- Assessing organisational processes
- Assessing product development cycle for existing product range
- Review suitable market trends and best practices for sustainable solutions available for the same

Elements and Performance Criteria

Assessing organisational processes

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

- PC1.** Evaluate organisation processes considering operational requirements and working parameters, Vision, Mission statement and policies
- PC2.** Interpret the processes by obtaining information from layouts & discussion with the teams involved in various departments
- PC3.** Decide on the core and auxiliary support process as per specifications & drawings, mapping processes flows as per existing conditions
- PC4.** Identify gaps in the organisation processes and possible improvements options without affecting existing productivities
- PC5.** Identify and select required hardware & software changes for improvements with rough budgeting situation

Assessing product development cycle for existing product range

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

- PC6.** Prepare the outline of the development process and its requirements for both material and resources
- PC7.** Prepare a product development cycle layout where to apply improvements and to justify its cost

Review suitable market trends and best practices for sustainable solutions available for the same

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

- PC8.** Review similar product development cycles for applying the most suitable one
- PC9.** Review similar organisation market trends to benchmark
- PC10.** Analyse & prepare achievable sustainability target in line with organisational & global target
- PC11.** Discuss & get approval from management to proceed for accepting targets

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Organizational policies, procedures, and guidelines that relate to designing and maintaining networks
- KU2.** Sustainability Management, SDG-17 Goals vs Organisational status
- KU3.** Organizational policies and procedures for documenting network designs and fallback mechanisms
- KU4.** Who to involve while designing and developing products & Processes
- KU5.** The range of standard templates and tools available and how to use them
- KU6.** Process layouts, Drawings & other technical details
- KU7.** Energy consumptions & usages, electronics & networking protocol
- KU8.** Energy controlling & monitoring systems, its maintenance schedules & losses
- KU9.** The updated internal and external regulations
- KU10.** The impacts of organisational processes & products on the environment and human health

Generic Skills (GS)

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

- GS1.** Follow instructions, guidelines, procedures, rules, and service level agreements
- GS2.** Listen effectively and communicate information accurately
- GS3.** Follow rule-based decision-making processes
- GS4.** Make decisions on suitable courses
- GS5.** Plan and organize the work to achieve targets and meet deadlines
- GS6.** Apply problem-solving approaches to different situations
- GS7.** Analyse the business impact and disseminate relevant information to others
- GS8.** Apply balanced judgments to different situations
- GS9.** Check the work is complete and free from errors
- GS10.** Keen to Observe & analyse

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assessing organisational processes</i>	11	11	-	8
PC1. Evaluate organisation processes considering operational requirements and working parameters, Vision, Mission statement and policies	3	3	-	1
PC2. Interpret the processes by obtaining information from layouts & discussion with the teams involved in various departments	2	2	-	2
PC3. Decide on the core and auxiliary support process as per specifications & drawings, mapping processes flows as per existing conditions	2	2	-	2
PC4. Identify gaps in the organisation processes and possible improvements options without affecting existing productivities	2	2	-	2
PC5. Identify and select required hardware & software changes for improvements with rough budgeting situation	2	2	-	1
<i>Assessing product development cycle for existing product range</i>	7	7	-	4
PC6. Prepare the outline of the development process and its requirements for both material and resources	4	4	-	2
PC7. Prepare a product development cycle layout where to apply improvements and to justify its cost	3	3	-	2
<i>Review suitable market trends and best practices for sustainable solutions available for the same</i>	9	9	-	4
PC8. Review similar product development cycles for applying the most suitable one	2	2	-	1
PC9. Review similar organisation market trends to benchmark	3	3	-	1
PC10. Analyse & prepare achievable sustainability target in line with organisational & global target	2	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Discuss & get approval from management to proceed for accepting targets	2	2	-	1
NOS Total	27	27	-	16

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N8348
NOS Name	Review existing Organizational Processes, Product Development Cycle & current market trends suitable
Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Development
NSQF Level	6
Credits	4
Version	1.0
Next Review Date	NA

ASC/N8349: Planning of Sustainable majors to improve current processes to meet organizational targets

Description

This NOS unit is about performing task related to defining the strategies for planning of sustainable majors considering benchmarked market trends, current organisation processes, current products processes, organisational goals, budget planned, role of innovation, role of technology, creating an ecosystem for change.

Scope

The scope covers the following :

- Define the strategies for sustainability goals implementation
- Development of action plan, steps, timeline & costing
- Defines roles & responsibilities, steering committee & reporting structures
- Make & present impact assessment study, expected outcomes & budget approval for implementation

Elements and Performance Criteria

Define the strategies for sustainability goals implementation

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

- PC1.** Identify the gaps in existing Organisational Process where improvements are feasible
- PC2.** Identify most cost effective and efficient solutions available for improvements
- PC3.** Conduct workshops with teams involved and stakeholders to define boundaries for implementation
- PC4.** Define implementation strategies for achieving sustainability goals before finalising

Development of action plan, steps, timeline & costing

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

- PC5.** Prepare the various action plans of execution of the project for ease of implementation
- PC6.** Prepare the cost list to execute the project with selected hardware, materials, and resources
- PC7.** Prepare the timeline and resource requirements for the selected models of execution

Make & Present impact assessment study, expected outcomes & budget approval for implementation

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

- PC8.** Prepare and present impact assessment study based on study of current organisation processes, products, and proposed changes to achieve sustainability goals
- PC9.** Define clear outcomes from each improvements proposed to achieve sustainability goals
- PC10.** Prepare budget needed with outcomes expected by proposed improvements & get management approval to proceed for implementation

Defines roles & responsibilities, steering committee & reporting structures

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

- PC11.** Identify all departments involved based on process and product study selected for improvements

- PC12.** Define core team for implementation across organisation as per action plan with clear roles and responsibilities, authorities
- PC13.** Define steering committee with management representation to monitor, support & control core team activities during implementation plan
- PC14.** Define reporting structure & escalation mechanism to avoid miscommunication and on time delivery schedules for milestones

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Product portfolio of organization
- KU2.** Company manufacturing processes
- KU3.** Standard Operation Procedures (SOP) recommended by manufacturer for using equipment / machinery in use
- KU4.** Concept of Corporate Sustainability, Sustainable Business Models
- KU5.** Social Enterprises & integrating purpose with Profit
- KU6.** What is climate change, climate action and key role of automotives in achieving goals
- KU7.** Responsibility of Leadership & role of top management team
- KU8.** Planning of sustainability in automotive designs
- KU9.** Design feasibility and viability study, validation procedures
- KU10.** Integrating sustainability in Vision, Mission and organisation policies
- KU11.** Creating business model or revamping business model

Generic Skills (GS)

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

- GS1.** Communicate effectively at the workplace
- GS2.** Write observations and any work-related information in English/regional language
- GS3.** Recognize a workplace problem and take suitable action
- GS4.** Analyse and apply the information gathered from observation, experience, reasoning, or communication to act efficiently
- GS5.** Complete the assigned tasks in a timely and efficient manner
- GS6.** Coordinate with the team for installing the new systems efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Define the strategies for sustainability goals implementation</i>	11	11	-	8
PC1. Identify the gaps in existing Organisational Process where improvements are feasible	3	3	-	2
PC2. Identify most cost effective and efficient solutions available for improvements	3	3	-	2
PC3. Conduct workshops with teams involved and stakeholders to define boundaries for implementation	3	3	-	2
PC4. Define implementation strategies for achieving sustainability goals before finalising	2	2	-	2
<i>Development of action plan, steps, timeline & costing</i>	9	9	-	5
PC5. Prepare the various action plans of execution of the project for ease of implementation	3	3	-	2
PC6. Prepare the cost list to execute the project with selected hardware, materials, and resources	3	3	-	2
PC7. Prepare the timeline and resource requirements for the selected models of execution	3	3	-	1
<i>Make & Present impact assessment study, expected outcomes & budget approval for implementation</i>	7	7	-	3
PC8. Prepare and present impact assessment study based on study of current organisation processes, products, and proposed changes to achieve sustainability goals	3	3	-	1
PC9. Define clear outcomes from each improvements proposed to achieve sustainability goals	2	2	-	1
PC10. Prepare budget needed with outcomes expected by proposed improvements & get management approval to proceed for implementation	2	2	-	1
<i>Defines roles & responsibilities, steering committee & reporting structures</i>	8	8	-	4

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Identify all departments involved based on process and product study selected for improvements	2	2	-	1
PC12. Define core team for implementation across organisation as per action plan with clear roles and responsibilities, authorities	2	2	-	1
PC13. Define steering committee with management representation to monitor, support & control core team activities during implementation plan	2	2	-	1
PC14. Define reporting structure & escalation mechanism to avoid miscommunication and on time delivery schedules for milestones	2	2	-	1
NOS Total	35	35	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N8349
NOS Name	Planning of Sustainable majors to improve current processes to meet organizational targets
Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Development
NSQF Level	6
Credits	4
Version	1.0
Next Review Date	NA

ASC/N8350: Ensure implementation of action plan & reporting progress to managements

Description

This NOS unit is about performing task related to implementation of action plan to achieve sustainability goals planned, monitoring tasks, meeting & reviews with all team members, reporting of progress to management & all stakeholders, defining corrective actions, highlighting issues & defining solutions, reviewing impact of majors implemented and its outcomes, reporting improvements regularly with goals to be achieved.

Scope

The scope covers the following :

- Testing of majors implemented to the date & review its outcome
- Monitor goals achieved till date and review meeting with task force
- Highlight issues in implementation & define corrective actions
- Reporting progress report to Management & all stakeholders regularly

Elements and Performance Criteria

Testing of majors implemented to the date & review its outcome

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

- PC1.** Conduct testing of majors implemented till the date
- PC2.** Record outcomes and improvements due to implemented actions
- PC3.** Review results with respect to planned goals

Monitoring goals achieved till date and review meeting with task force

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

- PC4.** Ensure actions in line with agreed implementation plan
- PC5.** Monitor action status as per milestone plan with respect of cost & timeline targets
- PC6.** Record gaps with defined plan vs actual
- PC7.** Conduct review meeting with core team to discuss and review action points status as per cost and timeline
- PC8.** Record minutes of meeting in alignment with all team members

Highlight issues in implementation & define corrective actions

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

- PC9.** Generate the cold data to test the connectivity, latency, packet size, and bandwidth
- PC10.** Test the data processing tools with cold data and different sample sets to test its alarm and warnings, process output, processing time, command, and control latency
- PC11.** Generate and submit the report on these to concerned authority

Reporting progress to Management & all stakeholders regularly

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

- PC12.** Attend and present core team meeting report to Management Team
- PC13.** Circulate action point status & meeting decisions to all stakeholders

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Product portfolio of organization
- KU2.** Company manufacturing processes
- KU3.** Standard Operation Procedures (SOP) recommended by manufacturer for using equipment / machinery in use
- KU4.** Departments responsible for various organisational activities
- KU5.** The range of standard templates and tools available and how to use them
- KU6.** Role of Innovation & Role of technology in achieving sustainability targets
- KU7.** Scope of automotive supply chain & its targets to achieve sustainability goals
- KU8.** Management of Sustainable Production, usage of parts & parts supply chain inwards & outwards
- KU9.** Automotive processes and materials
- KU10.** About various vehicle testing methodologies and its expected results
- KU11.** Creating Ecosystem for Change Management, Stakeholder Mobilisation, Impact Assessment & Outcome measurement
- KU12.** Integrated Reporting to all stakeholders

Generic Skills (GS)

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

- GS1.** Follow instructions, guidelines, procedures, rules, and service level agreements
- GS2.** Listen effectively and communicate information accurately
- GS3.** Follow rule-based decision-making processes
- GS4.** Make decisions on suitable courses
- GS5.** Plan and organize the work to achieve targets and meet deadlines
- GS6.** Refer anomalies to the supervisor
- GS7.** Ask for clarification and advice from appropriate people
- GS8.** Analyse the business impact and disseminate relevant information to others
- GS9.** Apply balanced judgments to different situations
- GS10.** Check the work is complete and free from errors
- GS11.** Work independently and collaboratively

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Testing of majors implemented to the date & review its outcome</i>	7	7	-	4
PC1. Conduct testing of majors implemented till the date	3	3	-	2
PC2. Record outcomes and improvements due to implemented actions	2	2	-	1
PC3. Review results with respect to planned goals	2	2	-	1
<i>Monitoring goals achieved till date and review meeting with task force</i>	13	13	-	7
PC4. Ensure actions in line with agreed implementation plan	3	3	-	2
PC5. Monitor action status as per milestone plan with respect of cost & timeline targets	3	3	-	2
PC6. Record gaps with defined plan vs actual	3	3	-	1
PC7. Conduct review meeting with core team to discuss and review action points status as per cost and timeline	2	2	-	1
PC8. Record minutes of meeting in alignment with all team members	2	2	-	1
<i>Highlight issues in implementation & define corrective actions</i>	11	11	-	7
PC9. Generate the cold data to test the connectivity, latency, packet size, and bandwidth	3	3	-	2
PC10. Test the data processing tools with cold data and different sample sets to test its alarm and warnings, process output, processing time, command, and control latency	5	5	-	3
PC11. Generate and submit the report on these to concerned authority	3	3	-	2
<i>Reporting progress to Management & all stakeholders regularly</i>	4	4	-	2

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Attend and present core team meeting report to Management Team	2	2	-	1
PC13. Circulate action point status & meeting decisions to all stakeholders	2	2	-	1
NOS Total	35	35	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N8350
NOS Name	Ensure implementation of action plan & reporting progress to managements
Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Development
NSQF Level	6
Credits	4
Version	1.0
Next Review Date	NA

ASC/N8351: Maintain sustainability score for the organization to the level & strive to improve further

Description

This NOS unit is about performing task related to maintain sustainability score meeting organisational and global goals, continue studying new market trends, provide inputs to the team, regular workshops to generate ideas and implementation to improve score further, reporting status to management on regular basis

Scope

The scope covers the following :

- Monitor sustainability score on regular basis
- Create and maintain dashboard with all important information to the team
- Monitor market trends and participate in forums to align with industry practices
- Generate ideas conducting workshops regularly and upraising stakeholders about status

Elements and Performance Criteria

Monitor sustainability score on regular basis

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

- PC1.** Review sustainability score for all measures on regular basis
- PC2.** Evaluate sustainability score with organisational goals
- PC3.** Highlight difference to goal if any to all stakeholders

Create and maintain dashboard with all important information to the team

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

- PC4.** Create sustainability dashboard at prominent locations
- PC5.** Update sustainability score card with respect to organisational goals regularly on the dashboard
- PC6.** Promote awareness among teams about sustainability goals

Monitor market trends and participate in forums to align with industry practices

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

- PC7.** Regularly monitor market trends for best sustainability practices across the industry
- PC8.** Attend/ Participate in Sustainability forums to align internal goals with global trends

Generate ideas conducting workshops regularly and upraising stakeholders about status

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

- PC9.** Conduct workshops on regular basis to generate ideas on sustainability
- PC10.** Motivate team to follow sustainability practices among all work activities

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Organization Processes, Systems used, Automotive Processes in use
- KU2.** Electrical connection layout, energy maps, energy costs
- KU3.** The various materials used and their usage & storage norms
- KU4.** Importance of efficient utilisation of material and water
- KU5.** Basics of electricity and prevalent energy efficient devices
- KU6.** Common practices of conserving electricity
- KU7.** Common sources and ways to minimize pollution
- KU8.** Categorisation of waste into dry, wet, recyclable, non-recyclable, and items of single-use plastics
- KU9.** Waste management techniques
- KU10.** The updated internal and external regulations
- KU11.** Various forums involved in Sustainability targets preparation and monitoring
- KU12.** Integrating sustainability with organisation goals, actions, and products
- KU13.** How to arrange brainstorming workshops & generating feasible ideas
- KU14.** Motivating team and networking with internal and external stakeholders
- KU15.** Latest Automotive trends & development strategies

Generic Skills (GS)

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

- GS1.** Follow instructions, guidelines, procedures, rules, and service level agreements
- GS2.** Listen effectively and communicate information accurately
- GS3.** Follow rule-based decision-making processes
- GS4.** Make decisions on suitable courses
- GS5.** Plan and organize the work to achieve targets and meet deadlines
- GS6.** Refer anomalies to the supervisor
- GS7.** Ask for clarification and advice from appropriate people
- GS8.** Analyse the business impact and disseminate relevant information to others
- GS9.** Apply balanced judgments to different situations
- GS10.** Check the work is complete and free from errors
- GS11.** Work independently and collaboratively

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Monitor sustainability score on regular basis</i>	9	9	-	6
PC1. Review sustainability score for all measures on regular basis	3	3	-	2
PC2. Evaluate sustainability score with organisational goals	3	3	-	2
PC3. Highlight difference to goal if any to all stakeholders	3	3	-	2
<i>Create and maintain dashboard with all important information to the team</i>	9	9	-	6
PC4. Create sustainability dashboard at prominent locations	3	3	-	2
PC5. Update sustainability score card with respect to organisational goals regularly on the dashboard	3	3	-	2
PC6. Promote awareness among teams about sustainability goals	3	3	-	2
<i>Monitor market trends and participate in forums to align with industry practices</i>	5	5	-	2
PC7. Regularly monitor market trends for best sustainability practices across the industry	3	3	-	1
PC8. Attend/ Participate in Sustainability forums to align internal goals with global trends	2	2	-	1
<i>Generate ideas conducting workshops regularly and upraising stakeholders about status</i>	4	4	-	2
PC9. Conduct workshops on regular basis to generate ideas on sustainability	2	2	-	1
PC10. Motivate team to follow sustainability practices among all work activities	2	2	-	1
NOS Total	27	27	-	16

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N8351
NOS Name	Maintain sustainability score for the organization to the level & strive to improve further
Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Development
NSQF Level	6
Credits	4
Version	1.0
Next Review Date	NA

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 centre (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training centre based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment 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.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N9810.Manage work and resources (Manufacturing)	50	30	-	20	100	15
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	10
ASC/N8348.Review existing Organizational Processes, Product Development Cycle & current market trends suitable	27	27	-	16	70	15
ASC/N8349.Planning of Sustainable majors to improve current processes to meet organizational targets	35	35	-	20	90	20
ASC/N8350.Ensure implementation of action plan & reporting progress to managements	35	35	-	20	90	20
ASC/N8351.Maintain sustainability score for the organization to the level & strive to improve further	27	27	-	16	70	20
Total	194	184	-	92	470	100

Acronyms

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

Glossary

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

<p>Organisational Context</p>	<p>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.</p>
<p>Technical Knowledge</p>	<p>Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.</p>
<p>Core Skills/ Generic Skills (GS)</p>	<p>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.</p>
<p>Electives</p>	<p>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.</p>
<p>Options</p>	<p>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.</p>