Designer - Plastic Product including toys

QP Code: RSC/Q8004

QP Version: 2.0

NSQF Level: 4

Rubber, Chemical & Petrochemical Skill Development Council (RCPSDC)217, 2nd Floor, Rectangle One, Saket District Center, New Delhi – 110017, Tel: +91 11 41009347- 48

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RSC/Q8004: Designer - Plastic Product including toys

Brief Job Description

The individual at work is responsible for preparing the drawing for various plastic products using applicable software.

Personal Attributes

The job requires the individual to have good observational skills, with an eye to detail, creativity, and innovative.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. RSC/N8004: Prepare technical drawing for plastic product
2. RSC/N5610: Coordinate and communicate effectively at the workplace
3. RSC/N5001: Carry out housekeeping
4. RSC/N5007: Carry out health and safety
5. RSC/N5603: Follow ethical and sustainable practices at the workplace

Elective NOS:

Elective 1: Plastic toy designing

The individual at work responsible for designing plastic toys.

1. RSC/N8010: Design plastic toys

Qualification Pack (QP) Parameters

Sector	Rubber, Chemical and Petrochemical
Sub-Sector	Plastic Manufacturing
Occupation	Production/Manufacturing Plastic Processing
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

Minimum Educational Qualification & Experience	12th Class (Science) with 6 months of experience relevant OR I.T.I ((two years after Class 10th) in relevant trade) with 3 Years of experience relevant OR Diploma ((3 years) after class 10th in relevant field) OR Certificate-NSQF (Level 3 - Jr. Designer-Plastic Product) with 2 Years of experience relevant
Minimum Level of Education for Training in School	NA
Pre-Requisite License or Training	Operational knowledge of design software
Minimum Job Entry Age	18 Years
Last Reviewed On	30/12/2021
Next Review Date	30/06/2025
NSQC Approval Date	30/06/2022
Version	2.0

RSC/N8004: Prepare technical drawing for plastic product

Description

This OS unit is about preparing technical drawing and designing various plastic products using applicable technical software.

Scope

The scope covers the following:

- Prepare for product designing
- Design plastic product
- Release tool drawings
- Record and report

Elements and Performance Criteria

Prepare for product designing

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

PC1. obtain and interpret the work order to understand dimensions and properties of the required work output

PC2. determine the manufacturing methods and end-use specifications and properties for the product to be designed like required strength, exposure to chemicals or harsh environments, appearance requirements, dimensional tolerances, processing method, assembly method, specific service temperature ranges, recyclability considerations, etc.

PC3. finalize the required dimensions with tolerance of shrinkage and other design requirements with the authorized person

Design plastic product

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

PC4. prepare a design brief considering design requirements

PC5. test and seek feedback on design ideas from the authorized personnel

PC6. draw rough sketches and perform mathematical computations to develop product design

PC7. generate final product specifications and production plans

PC8. evaluate feasibility of design ideas, based on factors such as appearance, safety, function, serviceability, budget, production costs/methods, and market characteristics

PC9. prepare drawings for the required plastics product using drafting instruments or computer-aided engineering

PC10. direct and coordinate the fabrication of models or samples and the drafting of working drawings and specification sheets from sketches

PC11. lay out and draw schematic, orthographic, or angle views to depict functional relationships of components and assemblies

PC12. produce three-dimensional models, using computer-aided design (CAD) software

PC13. modify and refine designs, using working models, to conform with customer specifications, production limitations, or changes in design trends

PC14. preview the proposed product through CAD modeling and 3D printing

PC15. verify the design and functionality of the product through engineering and computer simulation

PC16. present designs and reports to customers or design committees for approval and discuss need for modification

PC17. submit finalized plastic product tool mould drawing to supervisor for approval

PC18. make changes in the drawing as per the feedback received from supervisor, if any and resubmit drawing again for final approval

Release tool drawings

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

PC19. release approved drawings of the plastic product to production department/user along with model of the core & cavity
PC20. modify and revise designs to correct operating deficiencies or to reduce production problems, if any
PC21. monitor product development as per machining process for any revisions, clarity required, etc.
PC22. modify the drawing as per supervisor's feedback, if any
PC23. release new sub drawing after getting written confirmation from the customer as per SOP

Record and report

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

PC24. maintain records of the plastic product drawing development and modification of the drawing
PC25. report problem/concerns to the supervisor

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. SOP to obtain specification/outline dimensions and other details for selected product
KU2. various types of thermoplastics and the additives (if any) to be used
KU3. techniques to analyze mould material specifications, sketches, engineering drawings, idea, etc.
KU4. manufacturing and processing methods such as Injection moulding, compression moulding, etc.
KU5. dos and don'ts of the work area
KU6. design techniques, tools, and principles involved in preparing design of plastic product
KU7. methods to draw rough sketch and perform mathematical computations
KU8. how to use CAE and CAD software for preparing the plastic product drawings
KU9. stages involved in the product design process
KU10. SOP to coordinate with supervisor and team members
KU11. type of documents to be maintained while designing a product
KU12. organization's escalation matrix
KU13. fundamentals of engineering drawing

Generic Skills (GS)

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

GS1. read and interpret job related documents
GS2. note down the information communicated by the supervisor
GS3. communicate effectively with supervisor and team members

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for product designing	**5**	**10**	-	-
PC1. obtain and interpret the work order to understand dimensions and properties of the required work output	1	4	-	-
PC2. determine the manufacturing methods and end-use specifications and properties for the product to be designed like required strength, exposure to chemicals or harsh environments, appearance requirements, dimensional tolerances, processing method, assembly method, specific service temperature ranges, recyclability considerations, etc.	2	3	-	-
PC3. finalize the required dimensions with tolerance of shrinkage and other design requirements with the authorized person	2	3	-	-
Design plastic product	**15**	**20**	-	-
PC4. prepare a design brief considering design requirements	1	1	-	-
PC5. test and seek feedback on design ideas from the authorized personnel	1	2	-	-
PC6. draw rough sketches and perform mathematical computations to develop product design	1	1	-	-
PC7. generate final product specifications and production plans	1	1	-	-
PC8. evaluate feasibility of design ideas, based on factors such as appearance, safety, function, serviceability, budget, production costs/methods, and market characteristics	1	1	-	-
PC9. prepare drawings for the required plastics product using drafting instruments or computer-aided engineering	1	2	-	-
PC10. direct and coordinate the fabrication of models or samples and the drafting of working drawings and specification sheets from sketches	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. lay out and draw schematic, orthographic, or angle views to depict functional relationships of components and assemblies	1	2	-	-
PC12. produce three-dimensional models, using computer-aided design (CAD) software	1	1	-	-
PC13. modify and refine designs, using working models, to conform with customer specifications, production limitations, or changes in design trends	1	1	-	-
PC14. preview the proposed product through CAD modeling and 3D printing	1	1	-	-
PC15. verify the design and functionality of the product through engineering and computer simulation	1	2	-	-
PC16. present designs and reports to customers or design committees for approval and discuss need for modification	1	1	-	-
PC17. submit finalized plastic product tool mould drawing to supervisor for approval	1	2	-	-
PC18. make changes in the drawing as per the feedback received from supervisor, if any and resubmit drawing again for final approval	1	1	-	-
Release tool drawings	**15**	**20**	**-**	**-**
PC19. release approved drawings of the plastic product to production department/user along with model of the core & cavity	3	4	-	-
PC20. modify and revise designs to correct operating deficiencies or to reduce production problems, if any	3	4	-	-
PC21. monitor product development as per machining process for any revisions, clarity required, etc.	3	4	-	-
PC22. modify the drawing as per supervisor's feedback, if any	3	4	-	-
PC23. release new sub drawing after getting written confirmation from the customer as per SOP	3	4	-	-
Record and report	**5**	**10**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. maintain records of the plastic product drawing development and modification of the drawing	3	5	-	-
PC25. report problem/concerns to the supervisor	2	5	-	-
NOS Total	**40**	**60**	-	-

National Occupational Standards (NOS) Parameters

NOS Code	RSC/8004
NOS Name	Prepare technical drawing for plastic product
Sector	Rubber, Chemical and Petrochemical
Sub-Sector	Plastic Manufacturing
Occupation	Production/Manufacturing Plastic Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2021
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

RSC/N5610: Coordinate and communicate effectively at the workplace

Description

This OS unit is about communicating effectively with seniors, colleagues and others, coordinating with cross-functional teams at workplace as per standards.

Scope

The scope covers the following:

- Communicate effectively with colleagues and seniors
- Coordinate with cross-functional teams

Elements and Performance Criteria

Communicate effectively with colleagues and seniors

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

PC1. interact with colleagues and senior in a polite and professional manner
PC2. listen actively to the issues or requirements of colleagues and respond timely and appropriately
PC3. exhibit trust, support and respect to all colleagues and seniors
PC4. pass on essential information to the colleagues timely
PC5. maintain clarity, honesty and transparency while communicating with the seniors and colleagues
PC6. coordinate with seniors on work-related and behavioral feedback
PC7. comply with organization's policies and procedures for team work
PC8. seek clarification on the information provided by seniors, if needed
PC9. respect the personal and professional space of colleagues and superiors
PC10. report status of work as per the schedule to seniors and inform about any deviations or anomalies
PC11. provide information in the desired format and frequency

Coordinate with cross-functional teams

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

PC12. support colleagues of other departments for smooth work process, as required
PC13. coordinate with maintenance/engineering team for preventive and corrective maintenance, break down and calibration errors
PC14. provide inputs to the concerned stakeholders in periodic fence line review to detect non-compliance
PC15. coordinate with health and safety team for incident or authorized personnel, accident and emergency, if any

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational policies on behavioural etiquette and professionalism
KU2. organizational policies on gender sensitive service practices at workplace
KU3. organizational hierarchy and reporting structure
KU4. importance of communicating clearly with other
KU5. effective ways of team coordination
KU6. key helpline numbers

Generic Skills (GS)

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

GS1. note down instructions received from the seniors
GS2. read and interpret written instructions

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Communicate effectively with colleagues and seniors	**28**	**44**	-	-
PC1. interact with colleagues and senior in a polite and professional manner	2	4	-	-
PC2. listen actively to the issues or requirements of colleagues and respond timely	2	4	-	-
PC3. exhibit trust, support and respect to all colleagues and seniors	2	4	-	-
PC4. pass on essential information to the colleagues timely	2	4	-	-
PC5. maintain clarity, honesty and transparency while communicating with the seniors and colleagues	2	4	-	-
PC6. coordinate with seniors on work-related and behavioral feedback	3	4	-	-
PC7. comply with organization's policies and procedures for team work	3	4	-	-
PC8. seek clarification on the information provided by seniors, if needed	3	4	-	-
PC9. respect the personal and professional space of colleagues and superiors	3	4	-	-
PC10. report status of work as per the schedule to seniors and inform about any deviations or anomalies	3	4	-	-
PC11. provide information in the desired format and frequency	3	4	-	-
Coordinate with cross-functional teams	**12**	**16**	-	-
PC12. support colleagues of other departments for smooth work process, as required	3	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. coordinate with maintenance /engineering team for preventive and corrective maintenance, break down and calibration errors	3	4	-	-
PC14. provide inputs to the concerned stakeholders in periodic fence line review to detect non-compliance	3	4	-	-
PC15. coordinate with health and safety team for incident or authorized personnel, accident and emergency, if any	3	4	-	-
NOS Total	**40**	**60**	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	RSC/N5610
NOS Name	Coordinate and communicate effectively at the workplace
Sector	Rubber, Chemical and Petrochemical
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2021
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

Qualification Pack

RSC/N5001: Carry out housekeeping

Description

This NOS unit is about implementing housekeeping practices

Scope

The scope covers the following:

- Prepare for housekeeping practices
- Carry out housekeeping operations
- Perform post housekeeping activities

Elements and Performance Criteria

Prepare for housekeeping activities

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

PC1. inspect the area/s to identify the different types of surfaces that require cleaning
PC2. determine the material requirements for cleaning the areas inspected considering risk, time, efficiency and type of stain
PC3. ensure that cleaning equipment is in proper working condition
PC4. ensure that the suitable alternatives are selected for cleaning the areas, in case the appropriate equipment and materials are not available
PC5. ensure that the correct sequence/steps are followed for cleaning the area to avoid re-soiling clean areas and surfaces
PC6. ensure the usage of appropriate signage to inform about the cleaning activity being carried out
PC7. ensure adequate ventilation for the work being carried out
PC8. wear personal protective equipment suitable for the cleaning method and cleaning materials being used

Carry out housekeeping operations

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

PC9. ensure that the cleaning activity is carried out as per SOP
PC10. manage accidental damage, as per the workplace procedure, caused while carrying out the work
PC11. report to the appropriate person regarding difficulties in carrying out the work
PC12. identify and report to the appropriate person if any additional cleaning required that is outside one's responsibility or skill

Perform post housekeeping activities

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

PC13. ensure that housekeeping equipment and supplies are stored and maintained as per company standards
PC14. ensure that, on completion of the work, the area is left clean and dry as per the requirements
PC15. ensure that the equipment, materials and personal protective equipment that were used, are returned to their repsective places in appropriate manner

PC16. ensure appropriate disposal of the waste garnered from the cleaning activity
PC17. ensure that all necessary supplies or consumables are replenished as per the requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the different factors to determine what type of cleaning is required as per the surface
KU2. the level of hygiene required by workplace and why it is important to maintain them during your work
KU3. the methods and materials used for cleaning variety of surfaces
KU4. the types of cleansing agents that are not advisable to be mixed together
KU5. the importance of following manufacturer's instructions on cleaning agents
KU6. the most appropriate place to carry out test cleaning and why this should be done before using any new cleaning agents
KU7. the importance of attending trouble shooting
KU8. the importance of learning proper procedures and techniques
KU9. the correct sequence of cleaning activities for the work area
KU10. the implications of not following the organizational requirement of prior approval for undertaking the specific task
KU11. the importance of team work
KU12. knowledge of do's and don'ts (company's HR instructions)
KU13. health, safety and environment guidelines, legislation and regulations as applicable
KU14. the importance of Personal Protective Equipment (PPE)
KU15. the appropriate PPE for the work area, cleaning equipment, tools, materials and chemicals used
KU16. the implications of not following the defined procedures/work instructions
KU17. interpret coding/signage used in the organisation
KU18. the importance of optimal utilization of resources
KU19. the process of cleaning the surfaces without causing injury or damage
KU20. the importance of providing feedback for improvement
KU21. the escalation procedures for soils or stains that could not be removed
KU22. the rectification/solution of problems/conflicts for the smooth functioning of the organization
KU23. the procedures for reporting any unidentified soiling
KU24. the impact of poor practices on the individual's and organization's performance
KU25. the method to check the treated surface and equipment on completion of the cleaning process
KU26. the importance of completing the activities as per the schedule
KU27. the time taken in the cleaning activities
KU28. the procedures for disposing off or storing personal protective equipment
KU29. the procedures for disposing off waste
KU30. the correct method for cleaning equipment and/or machinery used for the cleaning activities

Generic Skills (GS)

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

GS1. read and understand documentation clearly
GS2. apply problem-solving approach prior to resolve difficulties
GS3. communicate with all stakeholders in a polite and courteous manner using effective communication skills
GS4. write in English or any regional language

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for housekeeping activities	**22**	**31**	-	-
PC1. inspect the area/s to identify the different types of surfaces that require cleaning	2	4	-	-
PC2. determine the material requirements for cleaning the areas inspected considering risk, time, efficiency and type of stain	4	4	-	-
PC3. ensure that cleaning equipment is in proper working condition	2	4	-	-
PC4. ensure that the suitable alternatives are selected for cleaning the areas, in case the appropriate equipment and materials are not available	3	4	-	-
PC5. ensure that the correct sequence/steps are followed for cleaning the area to avoid re-soiling clean areas and surfaces	4	5	-	-
PC6. ensure the usage of appropriate signage to inform about the cleaning activity being carried out	2	3	-	-
PC7. ensure adequate ventilation for the work being carried out	2	3	-	-
PC8. wear personal protective equipment suitable for the cleaning method and cleaning materials being used	3	4	-	-
Carry out housekeeping operations	**9**	**13**	-	-
PC9. ensure that the cleaning activity is carried out as per SOP	3	4	-	-
PC10. manage accidental damage, as per the workplace procedure, caused while carrying out the work	2	3	-	-
PC11. report to the appropriate person regarding difficulties in carrying out the work	2	3	-	-
PC12. identify and report to the appropriate person if any additional cleaning required that is outside one's responsibility or skill	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform post housekeeping activities	**9**	**16**	**-**	**-**
PC13. ensure that housekeeping equipment and supplies are stored and maintained as per company standards	2	3	-	-
PC14. ensure that, on completion of the work, the area is left clean and dry as per the requirements	2	4	-	-
PC15. ensure that the equipment, materials and personal protective equipment that were used, are returned to their repsective places in appropriate manner	2	4	-	-
PC16. ensure appropriate disposal of the waste garnered from the cleaning activity	1	3	-	-
PC17. ensure that all necessary supplies or consumables are replenished as per the requirement	2	2	-	-
NOS Total	**40**	**60**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	RSC/N5001
NOS Name	Carry out housekeeping
Sector	Rubber
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	3.0
Last Reviewed Date	30/12/2021
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

RSC/N5007: Carry out health and safety

Description

This unit is about maintaining health and safety of self and others at workplace.

Scope

The scope covers the following:

- Maintain safe and efficient workplace
- Follow appropriate emergency procedures
- Comply with standard safety procedures
- Participate in safety awareness campaigns

Elements and Performance Criteria

Maintain safe and efficient workplace

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

PC1. perform basic safety checks before operation of all machinery and equipment
PC2. report hazards identified during safety checks to the appropriate supervisor
PC3. use appropriate protective clothing/equipment/safety gear to carry out the related duties in accordance with the workplace policy
PC4. assess the risk prior to performing the jobs which involve manual handling
PC5. carry out work according to the recommended safe practices while ensuring minimum environmental damage
PC6. return the equipment and materials to the designated storage after every use
PC7. dispose off the waste safely as per the procedure in the designated area
PC8. plan and implement actions to reduce the risk to bystanders
PC9. monitor all the procedures and work instructions for controlling the risk

Follow appropriate emergency procedures

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

PC10. report accidents, incidents or problems, if any, without delay to an appropriate person
PC11. perform immediate necessary action as required to reduce the damage
PC12. follow procedures for dealing with accidents, fires and emergencies as per the company standards and workplace requirements
PC13. operate emergency equipment in accordance with manufacturers' specifications and workplace requirements
PC14. provide appropriate treatment to the patient's injuries in accordance with approved first aid techniques
PC15. clean, inspect/ test, refurbish, replace and store the first aid equipment as appropriate
PC16. report details of first aid administered in accordance with the workplace procedures

Comply with standard safety procedures

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

PC17. comply with standard safety procedures while handling heavy/hazardous material, chemicals, machine, equipment, or sharp tool to avoid accidents

PC18. perform preventive actions to protect from leakages, water logging, pests, fire, pollution, etc.
PC19. ensure zero accidents, damages, or breach of company safety procedure
PC20. maintain the workplace organized, clean and hazard free

Participate in safety awareness campaigns

To be competent, the user/individual on the job must be able to:
PC21. participate in the fire drills and other safety related workshops organized at the workplace
PC22. create awareness about first aid, evacuation and emergency procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. which personal protective equipment and clothing should be worn and how it is maintained
KU2. the methods for minimizing environmental damage during work
KU3. how to use machines as per standard operating procedure
KU4. the correct and safe way to use materials and equipment required for work
KU5. the risks to health and safety and the measures to be taken to control those risks at workplace
KU6. how to contact local emergency services
KU7. the process of reporting accidents, incidents and problems to appropriate authorities
KU8. the emergency evacuation process and first aid procedures to be followed
KU9. the workplace procedures and requirements for the handling of workplace injuries/ illnesses
KU10. basic emergency first aid procedure
KU11. safe disposal methods for waste
KU12. how to handle hazardous materials, tools and equipment
KU13. importance of good housekeeping at the workplace
KU14. how to maintain work area safe and secure
KU15. general duties under the relevant health and safety legislation

Generic Skills (GS)

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

GS1. communicate with all stakeholders in a polite and courteous manner
GS2. read and understand documentation clearly
GS3. adopt problem-solving approach
GS4. suggest solutions to improve work processes
GS5. write in English/regional language
GS6. seek clarification as and when required

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain safe and efficient workplace	**9**	**32**	-	-
PC1. perform basic safety checks before operation of all machinery and equipment	1	4	-	-
PC2. report hazards identified during safety checks to the appropriate supervisor	1	4	-	-
PC3. use appropriate protective clothing/equipment/safety gear to carry out the related duties in accordance with the workplace policy	1	3	-	-
PC4. assess the risk prior to performing the jobs which involve manual handling	1	4	-	-
PC5. carry out work according to the recommended safe practices while ensuring minimum environmental damage	1	4	-	-
PC6. return the equipment and materials to the designated storage after every use	1	4	-	-
PC7. dispose off the waste safely as per the procedure in the designated area	1	3	-	-
PC8. plan and implement actions to reduce the risk to bystanders	1	3	-	-
PC9. monitor all the procedures and work instructions for controlling the risk	1	3	-	-
Follow appropriate emergency procedures	**12**	**22**	-	-
PC10. report accidents, incidents or problems, if any, without delay to an appropriate person	2	4	-	-
PC11. perform immediate necessary action as required to reduce the damage	2	4	-	-
PC12. follow procedures for dealing with accidents, fires and emergencies as per the company standards and workplace requirements	2	4	-	-
PC13. operate emergency equipment in accordance with manufacturers' specifications and workplace requirements	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. provide appropriate treatment to the patient's injuries in accordance with approved first aid techniques	1	2	-	-
PC15. clean, inspect/ test, refurbish, replace and store the first aid equipment as appropriate	2	3	-	-
PC16. report details of first aid administered in accordance with the workplace procedures	1	2	-	-
Comply with standard safety procedures	**5**	**12**	-	-
PC17. comply with standard safety procedures while handling heavy/hazardous material, chemicals, machine, equipment, or sharp tool to avoid accidents	1	3	-	-
PC18. perform preventive actions to protect from leakages, water logging, pests, fire, pollution, etc.	2	3	-	-
PC19. ensure zero accidents, damages, or breach of company safety procedure	1	3	-	-
PC20. maintain the workplace organized, clean and hazard free	1	3	-	-
Participate in safety awareness campaigns	**4**	**4**	-	-
PC21. participate in the fire drills and other safety related workshops organized at the workplace	2	2	-	-
PC22. create awareness about first aid, evacuation and emergency procedures	2	2	-	-
NOS Total	**30**	**70**	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	RSC/N5007
NOS Name	Carry out health and safety
Sector	Rubber
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	3.0
Last Reviewed Date	30/12/2021
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

Qualification Pack

RSC/N5603: Follow ethical and sustainable practices at the workplace

Description

This unit is about Greening of Jobs, PwD, and Behavioural Skills.

Scope

The scope covers the following :

- Adopt resource conservation practices (Greening)
- Follow effective waste management practices
- Display behavioural Skills at workplace
- Adopt workplace practices and policies respecting gender and ability differences

Elements and Performance Criteria

Adopt resource conservation practices (Greening)

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

PC1. follow organizational policies for usage of alternate energy source, such as solar energy, for the site
PC2. ensure proper usage of fuels (such as diesel) to minimise pollution and conserve energy
PC3. use resources in a responsible manner
PC4. ensure zero wastage of water and follow water conservation practices at the workplace
PC5. carry out processes to prevent soil erosion during plantation and other related activities

Follow effective waste management practices

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

PC6. identify and segregate different types of waste such as recyclable, non-recyclable, and hazardous waste generated
PC7. store waste into different types of bins/containers or appropriate areas based on their categorisation
PC8. undertake disposal of non-recyclable waste appropriately as per the prescribed procedure
PC9. organise storage of recyclable and reusable material at identified location
PC10. ensure proper disposal of hazardous waste as per specified processes

Display behavioural Skills at workplace

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

PC11. ensure timely execution of the assigned tasks
PC12. exhibit proper etiquette and emotional behaviour at workplace and among team members

Adopt workplace practices and policies respecting gender and ability differences

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

PC13. follow appropriate non verbal communications taking gender and disability of the person into consideration
PC14. communicate in a polite and appropriate manner irrespective of the ability and gender of the person
PC15. ensure to provide work assistance/support to PwD team members and coordinate with them if needed or requested

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. alternate energy sources (such as solar and wind energy) and their advantages
KU2. alternate fuels (such as bio-fuel), their production and consumption for cluster sites
KU3. harmful effect (such as pollution) of using fuel such as diesel on the environment and ways to prevent it
KU4. efficient utilisation of resources
KU5. water harvesting techniques and common practices of conserving water
KU6. what is soil erosion and how to prevent it
KU7. different types of waste and the ways to categorize waste into dry, wet, recyclable, non- recyclable and items of single-use plastics
KU8. usage of different colours of dustbins for proper waste management and waste disposal methods
KU9. feedback from supervisor and deal in constructive manner
KU10. gender based and PwD concepts, issues and legislation and statutory laws, acts, and provisions defined for PwD
KU11. various medical conditions associated with PwD and rights and duties at the workplace with respect to PwD

Generic Skills (GS)

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

GS1. make timely decisions for efficient utilization of resources
GS2. write in English/regional language and complete written work with attention to detail
GS3. communicate effectively with colleagues
GS4. identify cause and effect of greening of jobs
GS5. maintain data on waste disposal at workplace
GS6. ensure punctuality, proper utilization of time and management workload efficiently
GS7. interact with all stakeholders in a polite and courteous manner
GS8. provide support in dealing with stress and anxiety help colleagues to work efficiently
GS9. create awareness about maintaining hygiene at workplace

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Adopt resource conservation practices (Greening)	**11**	**26**	-	-
PC1. follow organizational policies for usage of alternate energy source, such as solar energy, for the site	3	3	-	-
PC2. ensure proper usage of fuels (such as diesel) to minimise pollution and conserve energy	2	6	-	-
PC3. use resources in a responsible manner	2	6	-	-
PC4. ensure zero wastage of water and follow water conservation practices at the workplace	2	5	-	-
PC5. carry out processes to prevent soil erosion during plantation and other related activities	2	6	-	-
Follow effective waste management practices	**13**	**17**	-	-
PC6. identify and segregate different types of waste such as recyclable, non-recyclable, and hazardous waste generated	3	4	-	-
PC7. store waste into different types of bins/containers or appropriate areas based on their categorisation	3	4	-	-
PC8. undertake disposal of non-recyclable waste appropriately as per the prescribed procedure	3	4	-	-
PC9. organise storage of recyclable and reusable material at identified location	2	3	-	-
PC10. ensure proper disposal of hazardous waste as per specified processes	2	2	-	-
Display behavioural Skills at workplace	**5**	**3**	-	-
PC11. ensure timely execution of the assigned tasks.	4	-	-	-
PC12. exhibit proper etiquette and emotional behaviour at workplace and among team members	1	3	-	-
Adopt workplace practices and policies respecting gender and ability differences	**11**	**14**	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. follow appropriate non verbal communications taking gender and disability of the person into consideration	4	5	-	-
PC14. communicate in a polite and appropriate manner irrespective of the ability and gender of the person	3	5	-	-
PC15. ensure to provide work assistance/support to PwD team members and coordinate with them if needed or requested	4	4	-	-
NOS Total	**40**	**60**	**-**	**-**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	RSC/N5603
NOS Name	Follow ethical and sustainable practices at the workplace
Sector	Rubber
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2021
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

Qualification Pack

RSC/N8010: Design plastic toys

Description

This OS unit is about preparing the designs for toys, preparing the 3-D model for toys and completing the CAD operations for toy designing as per specifications following safety and security guidelines.

Scope

The scope covers the following:

- Prepare designs for plastic toys
- Prepare the 3-D model for plastic toys
- Complete the CAD operations for toy designing
- Follow safety guidelines for toys

Elements and Performance Criteria

Prepare design for plastic toys

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

PC1. obtain and interpret job specification and blueprint
PC2. determine the required design, detailed drawings, modelling and layouts for job specifications
PC3. review toy design briefs and parameters like materials, shapes, colours and texture and other child safety measures, etc. to determine the drawing and documentation requirements
PC4. ensure the materials used are eco-friendly, safe and secure for manufacturing toys for kids
PC5. identify and prepare the equipment and CAD software required to complete the work
PC6. apply workplace procedures to retrieve and manipulate required information and navigate CAD technology
PC7. examine sketches, drawings and other information and confirm calculations and measurements
PC8. select and prepare computing equipment and suitable software for plastic toy designs
PC9. prepare drawings for toys as per requirement, including solid modelling
PC10. ensure the drawings comply with relevant tests and standards for toy products
PC11. review and validate CAD files generated out of reverse engineering
PC12. calculate and validate the strength analysis of plastic product (toys)
PC13. record application and testing requirements of plastic product toys in consideration with the end use application

Prepare 3-D model for plastic toys

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

PC14. set up a 3-D environment on the screen to allow multiple viewing
PC15. manipulate drawing planes and insert 3-D geometric shapes to create the 3-D view
PC16. draw on any plane of the 3-D view
PC17. use editing functions to modify 3-D geometric shapes in creating 3-D view
PC18. produce displays in isometric, perspective and orthographic projections
PC19. establish the coordinating system and orientation according to job specifications
PC20. extract physical properties for job requirements, including volume, mass and center of gravity
PC21. edit solid models of toy components as per requirement
PC22. use perspective principles to enhance the spatial illusion of toys in space
PC23. produce 3-D drawings incorporating section views with all necessary annotations

PC24. simulate the toy design using CAD for appropriate requirements and smooth movements
PC25. perform stress analysis using CAD to determine the parts in the assembly that are subjected to maximum stress
PC26. alter the design to reduce any breakages in the prototype

Complete CAD operations for plastic toy designing

To be competent, the user/individual on the job must be able to:
PC27. ensure the toy model accurately reflects specifications, contains all relevant information, and is presented according to work requirements
PC28. evaluate work and identify areas for improvement
PC29. save and file drawings to allow easy access according to organizational documentation system
PC30. submit the drawing for approval and modify, as required

Follow safety guidelines for toys

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

PC31. ensure that all materials used for packaging and decoration are safe as per the prescribed guidelines
PC32. make sure that individual substances/materials do not pose an inherent hazard to a child during play
PC33. ensure total content analysis to ensure that no substances are present in excess of national safety limits or internally (company) adopted limits
PC34. make certain that all electric and non-electric toys bear the ISI mark, as required by BIS

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. fundamentals of CAD software
KU2. toy design briefs and parameters like child-friendly material, design, safety, etc.
KU3. purpose for which the 3-D toy model is to be developed
KU4. toy modelling techniques
KU5. appropriate coordinating system for the job
KU6. orientation of the model with respect to the coordinate system
KU7. procedures for creating and manipulating entities in 3-D space
KU8. rendering types and preferences, render lighting techniques, views and scenes
KU9. procedures for saving drawing files
KU10. various formats in which drawing files can be saved
KU11. physical properties of shapes created in 3-D space that can be extracted from the drawing file
KU12. procedure to create simulations and perform stress analysis using CAD
KU13. hazards and control measures associated with using CAD system, including housekeeping
KU14. national and international standards for child toy manufacturing
KU15. methods for design calculations to meet end use application (shrinkage calculation)
KU16. properties and application of various plastic materials and plastic processing
KU17. manufacturing and processing of plastic product toys
KU18. process of reverse engineering and prototyping
KU19. feasibility of tool design from constraints view point and manufacturability of the products
KU20. solid model execution techniques to set specific criteria

Generic Skills (GS)

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

GS1. read and interpret job related documents
GS2. note down the information communicated by the supervisor
GS3. communicate effectively with supervisor and team members

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare design for plastic toys	**15**	**20**	-	-
PC1. obtain and interpret job specification and blueprint	1	1	-	-
PC2. determine the required design, detailed drawings, modelling and layouts from job specifications	2	1	-	-
PC3. review toy design briefs and parameters like materials, shapes, colours and texture and other child safety measures, etc. to determine the drawing and documentation requirements	1	2	-	-
PC4. ensure the materials used are eco-friendly, safe and secure for manufacturing toys for kids	1	1		
PC5. identify and prepare equipment and CAD software required to complete the work	1	1	-	-
PC6. apply workplace procedures to retrieve and manipulate required information and navigate CAD technology	1	1	-	-
PC7. examine sketches, drawings and other information and confirm calculations and measurements	2	1	-	-
PC8. select and prepare computing equipment and suitable software for plastic toy designs	1	2	-	-
PC9. prepare toy drawings as per requirement, including solid modelling	1	2	-	-
PC10. ensure the drawings comply with relevant tests and standards for toy products	1	2	-	-
PC11. review and validate CAD files generated out of reverse engineering	1	2	-	-
PC12. calculate and validate strength analysis of plastic product (toys)	1	2	-	-
PC13. record application and testing requirements of plastic product in consideration with in end use application	1	2	-	-
Prepare 3-D model for plastic toys	**15**	**26**	-	-
PC14. set up a 3-D environment on the screen to allow multiple viewing	1	2	-	-
PC15. manipulate drawing planes and insert 3-D geometric shapes to create the 3-D view	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. draw on any plane of the 3-D view	2	2	-	-
PC17. use editing functions to modify 3-D geometric shapes in creating 3-D view	1	2	-	-
PC18. produce displays in isometric, perspective and orthographic projections	1	2	-	-
PC19. establish the coordinating system and orientation according to job specifications	1	2	-	-
PC20. extract physical properties for job requirement, including volume, mass and center of gravity	1	2	-	-
PC21. edit solid models of toy components as per requirement	2	2	-	-
PC22. use perspective principles of perspective to enhance the spatial illusion of toy in space	1	2	-	-
PC23. produce 3-D drawings incorporating section views with all necessary annotations	1	2	-	-
PC24. simulate the toy design using CAD for appropriate requirements and smooth movements	1	2	-	-
PC25. perform stress analysis using CAD to determine the parts in the assembly that are subjected to maximum amount of stress	1	2	-	-
PC26. alter the design to reduce any breakages in the prototype	1	2	-	-
Complete CAD operations for toy designing	**6**	**10**	**-**	**-**
PC27. ensure the toy model accurately reflects specifications, contains all relevant information, and is presented according to work requirements	1	3	-	-
PC28. evaluate work and identify areas for improvement	2	3	-	-
PC29. save and file drawings to allow easy access according to organizational documentation system	1	2	-	-
PC30. submit the drawing for approval and modify, as required	2	2	-	-
Follow safety guidelines for toys	**4**	**4**	**-**	**-**
PC31. ensure that all materials used for packaging and decoration are safe as per the prescribed guidelines	1	1		
PC32. make sure that individual substances/materials do not pose an inherent hazard to a child during play	1	1		

PC33. ensure total content analysis to ensure that no substances are present in excess of national safety limits or internally (company) adopted limits	1	1		
PC34. make certain that all electric and non-electric toys bear the ISI mark, as required by BIS	1	1		
NOS Total	**40**	**60**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	RSC/N8010
NOS Name	Design plastic toys
Sector	Rubber, Chemical and Petrochemical
Sub-Sector	Plastic Manufacturing
Occupation	Production/Manufacturing Plastic Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/06/2022
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Recommended Pass % aggregate for QP : 70

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
RSC/N8004. Prepare technical drawing for plastic product	40	60	-	-	100	20
RSC/N5610. Coordinate and communicate effectively at the workplace	40	60	-	-	100	15
RSC/N5001. Carry out housekeeping	40	60	-	-	100	15
RSC/N5007. Carry out health and safety	30	70	-	-	100	15
RSC/N5603. Follow ethical and sustainable practices at the workplace	40	60	-	-	100	15
Total	**190**	**310**	**-**	**-**	**500**	**100**

Elective NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
RSC/N8010: Design plastic toys	40	60	0	0	100	20
Total	**40**	**60**	**0**	**0**	**100**	**20**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
SOP	Standard operating procedure
PPE	Personal Protective Equipment
PwD	Person with Disability

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 that together specify the technical, generic, professional and organisational specific knowledge that an individual need 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.