

Qualifications Pack for CNC Operator /Machining Technician L3

Criteria for assessment of Trainees
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JOB ROLE	CNC OPERATOR / Machining Technician L3
Qualification Pack	ASC/Q 3501
No. Of NOS	3 Role specific , 2 generic

NOS Title/ NOS Elements	NOS & Performance Criterion Description	Marks allocation		
		Theory	Viva	Practical
ASC/N3504	Assist in Carrying out pre-machining activities			
Understanding the component requirements	PC1. Understand the output product requirement by reading the engineering drawing specified in the work instructions/ work order PC2. Clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors PC3. Reading the control panel instructions/ job orders to determine the correct output product specifications PC4. Understanding the tooling instructions as specified in the Operating Manual/ Work Instructions or Standard Operating Procedures PC5. Selection of proper coolant and lubricant required for machining the required component		25	25
Checking the dimensions for the component	PC6. Set the machine stops or guides as per the specified lengths indicated through scales or work instructions PC7. Measure and mark reference points/ cutting lines on the work pieces, using compasses, calipers, rulers and other measuring tools		10	10
	Sub total		35	35
ASC/N 3505	Support the operator in performing machining operations	Theory	Viva	Practical
Setting up machine as per work instructions	PC1. Set-up, adjust machine tools in order to perform machining operations and keep dimension within the specified tolerance limit specified in the Standard Operating Procedures/ Operating manuals PC2. Support the operator in aligning and securely hold fixtures, cutting tools etc. onto the		10	25

Qualifications Pack for CNC Operator /Machining Technician L3

	<p>machine</p> <p>PC3. Position/ secure/ align cutting tools in tool holders of the machine, using hand tools and verify their positions with measuring instruments</p>			
Support the machinist/ operator in performing machining on the component	<p>PC4. Start lathe or turning/drilling/milling machine for operations</p> <p>PC5. Support in select cutting tools and tooling instructions as per the work instructions / supervisor's instructions</p> <p>PC6. Operate hand wheels or valves in order to feed the component and allow cooling and lubricating of the same as per the instructions given by the machinist/supervisor</p> <p>PC7. Turn on the coolant valves and start their flow to maintain temperature in the lathe machine chamber</p> <p>PC8. Move tool holders manually or by turning the hand wheels in order to feed tools along the machined component/ piece</p>		10	40
Observe/ Record the machining operations	<p>PC9. Observe machine operations to detect defects in the component manufactured</p> <p>PC10. Observe the machine operations for any malfunctions and immediately inform the supervisor of any malfunction observed to prevent damage to the machining equipment/ output product</p> <p>PC11. Support the operator in recording operational data such as pressure readings, length of strokes, feed rates, speed etc in the formats specified by the supervisors</p>		5	10
	subtotal		25	75
ASC/N 3506	Support the operator in conducting all post machining operations	Theory	viva	Practical
Perform minor machine maintenance activities	<p>PC1. Maintain the machine as per proper operational condition</p> <p>PC2. Perform minor machine maintenance activities such as oiling or cleaning machine and its components</p> <p>PC3. Oiling or cleaning machines as per the schedules given in the maintenance plan</p> <p>PC4. Adding coolant and lubricant in machine reservoir</p>		10	20
Perform de-burring activity on the machined	<p>PC5. With the help of the correct tool remove the extra burrs, sharp edges, rust and chips from</p>			

Qualifications Pack for CNC Operator /Machining Technician L3

components	<p>the metal surface</p> <p>PC6. Use files, hand grinders, wire brushes, or power tools for performing de-burring operations. Ensure usage of Personal Protective equipment like eye glasses and hand gloves.</p> <p>PC7. For automated processes perform shot blasting/ vibro processes for complete de-burring operations</p>		10	30
Check quality of machined component (Gauging)	<p>PC8. Support the operator in measuring the specifications of the finished component and verify conformance as per CP/ WI</p> <p>PC9. Use devices like micrometers, vernier calipers, gauges, rulers and any other inspection equipment for measuring specifications with valid calibration status.</p> <p>PC10. Support the operator in noting down the observations of the basic inspection process and identify pieces which comply with the specified standards</p> <p>PC11. Separate the defective pieces into two categories – pieces which can be repaired/ modified and pieces which are beyond repair and maintain records of each category</p>		15	50
Assist the operator in the tool change process	<p>PC12. Assist the operator in changing different worn machine accessories, such as cutting tools(as per tool life listed, recommended) and brushes, other hand tools</p> <p>PC13. Replace machine part as per work instructions, using hand tools or notify supervisor/ engineering personnel for taking corrective actions</p> <p>PC14. For automated process observe the tool change cycle in order to ensure that the selected tool is transferred to the spindle from magazine after the previous tool is transferred to the magazine from the spindle</p>		15	50
	Subtotal		50	150
ASC/N 0006	Maintain a safe and healthy working environment	Theory	viva	Practical
Identify and report the risks identified	<p>PC1. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise</p> <p>PC2. Inform the concerned authorities about the potential risks identified in the processes,</p>			

Qualifications Pack for CNC Operator /Machining Technician L3

	<p>workplace area/ layout, materials used etc.</p> <p>PC3. Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations</p> <p>PC4. Create awareness amongst others by sharing information on the identified risks</p>			
Create and sustain a Safe, clean and environment friendly work place	<p>PC5. Follow the instructions given on the equipment manual describing the operating process of the equipment</p> <p>PC6. Follow the Safety, Health and Environment related practices developed by the organization</p> <p>PC7. Operate the machine using the recommended Personal Protective Equipment (PPE)</p> <p>PC8. Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc.</p> <p>PC9. Maintain high standards of personal hygiene at the work place</p> <p>PC10. Ensure that the waste disposal is done in the designated area and manner as per organization SOP.</p> <p>PC11. Inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others</p>		70	80
	subtotal		70	80
ASC/N 0021	Maintain 5S at the work premises	Theory	Viva	practical
Ensure sorting	<p>PC1. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.</p> <p>PC2. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions</p> <p>PC3. Follow the technique of waste disposal and waste storage in the proper bins as per SOP</p> <p>PC4. Segregate the items which are labeled as red tag items for the process area and keep</p>		10	20

Qualifications Pack for CNC Operator /Machining Technician L3

	<p>them in the correct places</p> <p>PC5. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</p> <p>PC6. Ensure that areas of material storage areas are not overflowing</p> <p>PC7. Properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required</p> <p>PC8. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area</p> <p>PC9. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards</p>		10	20
Ensure proper documentation and storage (organizing, streamlining)	<p>PC10. Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists</p> <p>PC11. Check that the items in the respective areas have been identified as broken or damaged</p> <p>PC12. Follow the given instructions and check for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</p> <p>PC13. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions</p>		10	20
Ensure cleaning of self and the work place	<p>PC14. Check whether safety glasses are clean and in good condition</p> <p>PC15. Keep all outside surfaces of recycling containers clean</p> <p>PC16. Ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards</p> <p>PC17. Check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up</p> <p>PC18. Ensure workbenches and work surfaces are</p>		10	40

Qualifications Pack for CNC Operator /Machining Technician L3

	<p>clean and in good condition</p> <p>PC19. Follow the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC20. Store the cleaning material and equipment in the correct location and in good condition</p> <p>PC21. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p>			
Ensure sustenance	<p>PC22. Follow the daily cleaning standards and schedules to create a clean working environment</p> <p>PC23. Attend all training programs for employees on 5S</p> <p>PC24. Support the team during the audit of 5S</p> <p>PC25. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC26. Follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions</p>		10	20
	Sub total		50	120
	Total	30	230	460