

PERFORMANCE CRITERIA

Job Role: CNC Operator - Turning

Qualification Pack: CSC/ Q 0115

Sector Skill Council: Capital Goods Sector Skills Council

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 and skill practical part for each candidate at each examination/training center.
4. To pass the Qualification Pack, every trainee should score a minimum of 40% in every NOS overall 50% pass percentage.
5. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessment Strategy Marks Allocation		
NOS CODE	NOS TITLE	Weightage
CSC/ N 0115	Perform turning operations on metal components using Computer Numerically Controlled (CNC) machines	70
CSC/ N 1335	Use basic health and safety practices at the workplace	20
CSC/ N 1336	Work effectively with others	10
		100

CSC/ N 0115	Perform turning operations on metal components using Computer Numerically Controlled (CNC) machines		
Elements	Performance criteria	Theory	Practical
Work safely	PC1. comply with health and safety, environmental and other relevant regulations and guidelines at work	1	1
	PC2. adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing CNC turning operations	1	2
	PC3. read and understand safety instructions, warning signs on the machine	0	2
	PC4. work following laid down procedures and instructions	1	1
	PC5. ensure work area is clean and safe from hazards	0	1
	PC6. ensure that all tools and equipment are in a safe and usable condition	0	1
		3	8

Prepare for performing turning operations using CNC machine	PC7. obtain job specification from a valid and approved source	0	1
	PC8. read and establish job requirements from the job specification document accurately	1	1
	PC9. report and rectify incorrect and inconsistent information in job specification documents as per organization procedures	1	2
	PC10. prepare the work area for the turning operations as per procedure or operational specification	1	1
	PC11. perform daily maintenance of machine according to defined checklist, at the beginning of day's shifts.	1	2
	PC12. ensure that the components used are free from foreign objects, dirt or other contamination	0	1
	PC13. conduct a preliminary check of the readiness of the CNC turning machine	0	2
	PC14. obtain correct work-pieces/raw materials and consumables as per job requirements	1	1
	PC15. obtain appropriate cutting tools and hand tools and measuring tools as per job requirements	1	1
	PC16. ensure that all measuring equipment is calibrated and approved for usage	0	2
	PC17. set work pieces as per job requirements using appropriate positioning and/or holding devices and support mechanisms	1	2
	PC18. seek necessary instruction/training on the operation of the machine where required from appropriate sources	0	2
	PC19. check that the operating program is at the correct start point and the tool is at a safe position clear of the part	0	2
	PC20. perform basic daily maintenance activities as per the checklist given	1	1
	8	21	

Carry out turning operations using CNC machine	PC21. obtain the component drawings, specifications and/or job instructions required for the components to be machined	0	1
	PC22. use and extract information from engineering drawings, dimensioning and labeling data	0	2
	PC23. use and extract information from reference charts, tables, graphs and standards	0	2
	PC24. interpret the visual display and the various messages displayed correctly	0	2

PC25. find the correct restart point in the program when the machine has been stopped before completion of the program	0	2
PC26. load and unload component(s) using pre-determined fixtures or work holding devices as per work instructions	1	2
PC27. check correctness of program through dry run and single block check	0	2
PC28. do first part cutting trial by setting tool offsets to get oversize part	0	3
PC29. measure the critical parameters of the machined component on the machine (without removing from the machine), after the trial run	0	3
PC30. correct the offsets based on the measurements by accessing program edit facility in order to enter tooling data	0	3
PC31. measure the component after unloading to check for accuracy in the critical parameters as per job specifications	1	3
PC32. produce machined components that combine different turning operations and have a range of features	1	3
PC33. follow the specified machining sequence and procedure as per job specifications	1	1
PC34. interpret in-built machine alarms and respond to the same as per operating manual/organizational guidelines	1	1
PC35. inspect as per frequency of inspection mentioned in the inspection plan (part of the job specifications)	1	1
PC36. record the measured values as per organizational procedure	0	1
PC37. observe for inconsistency in dimensions due to tool wear and correct the offsets accordingly	1	2
PC38. ensure that machine settings are adjusted as and when required, either by self or the setter, to maintain the required accuracy	0	2
PC39. identify when tools need replacing	0	2
PC40. replace worn tool with new tool	0	1
PC41. cut a trial part and adjust tool offsets after each tool change	0	1
PC42. store finished components as well as raw material as per organizational procedure	1	1
PC43. produce components as per standards applicable to the process	1	2

	PC44. report problems and seek appropriate assistance in a timely manner	0	2
	PC45. deal with finished components as per organizational guidelines	1	1
	PC46. complete documentation during and post operations as per organizational procedures	1	1
	PC47. return the machine and all tools and equipment to the correct location on completion of activities	0	1
	PC48. leave the work area in a safe and tidy condition on completion of job activities	0	1
		11	49
		22	78
		100	

CSC/ N 1335	Use basic health and safety practices at the workplace		
Elements	Performance criteria	Theory	Practical
Health and safety	PC1. use protective clothing/equipment for specific tasks and work conditions	2	3
	PC2. state the name and location of people responsible for health and safety in the workplace	1	2
	PC3. state the names and location of documents that refer to health and safety in the workplace	1	2
	PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace	2	3
	PC5. carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role	2	2
	PC6. state location of general health and safety equipment in the workplace	2	1
	PC7. inspect for faults, set up and safely use steps and ladders in general use	2	3
	PC8. work safely in and around trenches, elevated places and confined areas	2	3
	PC9. lift heavy objects safely using correct procedures	2	3
	PC10. apply good housekeeping practices at all times	2	2
	PC11. identify common hazard signs displayed in various areas	2	3
	PC12. retrieve and/or point out documents that refer to health and safety in the workplace	1	2
	21	29	
Fire safety	PC13. use the various appropriate fire extinguishers on different types of fires correctly	1	3
	PC14. demonstrate rescue techniques applied during fire hazard	1	3
	PC15. demonstrate good housekeeping in order to prevent fire hazards	1	2
	PC16. demonstrate the correct use of a fire extinguisher	1	3
	4	11	
Emergencies, rescue and first-aid procedures	PC17. demonstrate how to free a person from electrocution	1	3
	PC18. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.	1	3
	PC19. demonstrate basic techniques of bandaging	1	2

	PC20. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments	1	3
	PC21. perform and organize loss minimization or rescue activity during an accident in real or simulated environments	1	2
	PC22. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases	1	2
	PC23. demonstrate the artificial respiration and the CPR Process	1	2
	PC24. participate in emergency procedures	2	1
	PC25. complete a written accident/incident report or dictate a report to another person, and send report to person responsible	1	3
	PC26. demonstrate correct method to move injured people and others during an emergency	1	3
		11	24
		36	64
		100	

CSC/ N 1336	Work effectively with others		
Elements	Performance criteria	Theory	Practical
Work effectively with others	PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	3	7
	PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt	3	7
	PC3. give information to others clearly, at a pace and in a manner that helps them to understand	3	7
	PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible	3	7
	PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks	3	7
	PC6. display appropriate communication etiquette while working	3	7
	PC7. display active listening skills while interacting with others at work	3	7
	PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism	3	7
	PC9. demonstrate responsible and disciplined behaviors at the workplace	3	7
	PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict	3	7
		30	70
		100	