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Document Version

July, 2015
Islamabad, Pakistan

MACHINIST

Assessment Package

National Vocational
Certificate Level 2

Version 1 - July 2015

MACHINIST

Assessment Package

National Vocational
Certificate Level 2

Version 1 - July 2015



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code:

Level: 2

Credit: 10

Version: 1

PERFORM BASIC BENCH WORK

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/ BFORM #

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Registration Number Issued by
Assessment Body

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to NAVTTC

NAVTTC OFFICE ONLY

1. DATE

FORM

RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO

DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM BASIC BENCH WORK	COMPETENT	NOT YET COMPETENT
Practical skill demonstration				✓	<ul style="list-style-type: none"> Perform basic bench work (sawing, filing, drilling, threading, reaming) 		
Knowledge Assessment		✓			<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirements					<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name.....

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks within **three (3) hours** timeframe

- Perform basic bench work including;

- ✓ Sawing
- ✓ Filing
- ✓ Drilling
- ✓ Threading
- ✓ Reaming

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

Activities	CANDIDATE RESPONSE
1. Complete practical task of performing basic bench work under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks:</p> <ul style="list-style-type: none"> • Perform basic bench work including the following • Sawing <ul style="list-style-type: none"> ✓ Mark the job as per the given drawing ✓ Clamp the work piece firmly. ✓ Set the blade in the form of hacksaw as per procedure. ✓ Adapt methods and techniques for sawing as per the job requirement. ✓ Follow marked line during time to ensure accuracy. • Filing <ul style="list-style-type: none"> ✓ Clamp the work piece firmly. ✓ Select the file properly. ✓ Use file according to required dimension grade and shape. ✓ Adapt methods and techniques for filing as per requirement of job. • Drilling <ul style="list-style-type: none"> ✓ Clamp the work piece in machine vice as per requirement. . ✓ Select the RPM. ✓ Adapt methods and techniques for drilling as per job requirement. • Threading <ul style="list-style-type: none"> ✓ Clamp the work piece in Vice. ✓ Select tap and die according to job requirement. ✓ Adapt methods and techniques for Threading ✓ Use lubricants during threading for smooth cutting. • Reaming <ul style="list-style-type: none"> ✓ Select reamer according to whole size and drawing requirements. ✓ Set reamer in the handle firmly ✓ Use lubricants during reaming. ✓ Ensure proper alignment of the reamer during operations. ✓ Clamp the work piece in Vice.

	<ul style="list-style-type: none"> • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to all questions are correct and demonstrate my understanding of the topics and their application:

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task of performing basic bench work under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks.			
Carry out sawing	Mark the job as per the given drawing			
	Clamp the work piece firmly.			
	Set the blade in frame of hacksaw as per procedure.			
	Adapt methods and techniques for sawing as per the job requirement			
	Followed marked line during time to ensure accuracy			
Filing	Clamped the work piece firmly			
	Selected the file properly.			
	Use file according to required dimension grade and shape			
	Adapt methods and techniques for filling as per requirement of job			
Drilling	Clamp the work piece in machine vice as per requirement. .			
	Select the RPM.			
	Adapt methods and techniques for drilling as per job requirement			
Threading	Clamped the work piece in Vice			
	Use lubricants during threading for smooth cutting.			
	Select tap and die according to job requirement			
	Adapt methods and techniques for Threading			
Reaming	Adapted methods and techniques for Threading			
	Select reamer according to whole size and drawing requirements.			
	Clamped the work piece in Vice.			
	Use lubricants during reaming.			
	Ensure proper alignment of the reamer during operations			
General performance criteria	Adapted methods and techniques for Threading			
	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			

	Performed task(s) within standard timeframe			
2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment.
- List of consumable items required during the service.

1. Context of Assessment

This task will be performed in real time/simulated environment.

2. List of tools and equipment required

S. No	Items	Quantity
1	Work bench with vice	
2	Flat file	
3	Line scribe	
4	Steel rule	
5	Try square/ back Square	
6	Bench hammer	
7	Centre punch/prick punch	
8	Surface plate	
9	Vernier height gauge	
10	Drill machine with assesses	
11	Drill set	
12	Tap set with tape handle	
13	Hand reamer with Handel	
14	Thread plug Gauge	
15	Plug Gauge (GO – Not GO)	

3. List of consumables

S. No	Items	Quantity
1	MS flat as per requirement.	
2	Lube oil	
3	Marking Paste	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Mechanist

CS Code

Level: 2

Credit: 4

Version: 1

PERFORM DRILLING MACHINE OPERATIONS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD	MM	YYYY							

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

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NAVTTTC OFFICE ONLY

1. DATE
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RECEIVED:

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2. DATE ENTERED INTO
DATABASE:

DD	MM	YYYY							

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM DRILLING MACHINE OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration			✓	<ul style="list-style-type: none"> Drilling, Counter-Boring Counter-Sinking Machine Reaming 		
Knowledge Assessment	✓	✓		<ul style="list-style-type: none"> Complete knowledge assessment Answer any questions your Assessor may have during the practical assessment 		
Other requirements				<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name:.....

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks within **three(3) hours** timeframe

- Performing drilling and bench work operations including
 - ✓ Drilling,
 - ✓ Counter-Boring
 - ✓ Counter-Sinking
 - ✓ Machine Reaming

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of performing drilling machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Drilling <ul style="list-style-type: none"> ✓ Observe personal and tools and work safety. ✓ Set up drilling machine for producing holes according to job requirement. ✓ Manipulate the machine tool controls safely and correctly in line with operational procedures. ✓ Produce components to the required quality and within the specified 'dimensional accuracy. ✓ Carry out quality sampling checks at suitable intervals. ✓ Shut down the equipment to a safe condition on conclusion of the machining activity • Counter boring / counter sinking <ul style="list-style-type: none"> ✓ Select relevant tools according to the information given in engineering drawings and job specifications. ✓ Ensure tooling is correct in terms of size, shape, type, and grade for the work. ✓ Position the work-piece in the drill in such a way that it is aligned, secured and stable during drilling. ✓ Adjust speeds and feeds of drill in accordance with the size, type, and hardness of work-piece material, so that the drill performs optimum cutting without damage to work-piece • Machine reaming <ul style="list-style-type: none"> ✓ Clamp work-piece in the vice properly. ✓ Select reamer according to hole size and drawing requirements ✓ Set reamer in the drill chuck according to procedure. • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe

2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:
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Candidate's Name Father's Name.....

**INSTRUCTIONS
FOR
ASSESSOR**

This section contains model minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Completes practical task of performing drilling machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks.			
Drilling	Observed personal, tools, and work safety.			
	Set up drilling machine for producing holes according to job requirement.			
	Manipulated the machine tool controls safely and correctly in line with operational procedures			
	Produced components to the required quality and within the specified 'dimensional accuracy.			
	Carried out quality sampling checks at suitable intervals.			
	Shut down the equipment to a safe condition on conclusion of the machining activity			
Counter Boring / Counter sinking	Selected relevant tools as per the given information in the engineering drawings and job specifications.			
	Ensured that tooling is correct in terms of size, shape, type, and grade for the work.			
	Positioned the work-piece in the drill in such a way that it is aligned, secured and stable during drilling.			
	Adjusted speeds and feeds of drill in accordance with the size, type, and hardness of work-piece material, so that the drill performs optimum cutting without damage to work-piece			
Machine Reaming	Clamped work-piece in the vice properly.			
	Set reamer in the drill chuck according to procedure			
	Selected reamer according to hole size and drawing requirements			
	Set reamer in the drill chuck according to procedure.			
General performance criteria	Set reamer in the drill chuck according to procedure			
	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment
- List of consumable items

1. Context of Assessment

The Assessment will take place in real time environment.

2. List of tools and equipment required

S. No	Name of Items (tools and equipment)	Quantity
1	Drill Machine	
2	Counter bore	
3	Line scribe	
4	Steel rule	
5	Vernier Caliper	
6	Bench hammer	
7	Centre punch/prick punch	
8	Surface plate	
9	Vernier height gauge	
10	Drill machine with accessories	
11	Drill set	
12	Tap set with tape handle	
13	machine reamer	
14	Plug Gauge (GO – Not GO)	
15	Counter Sink	

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	Ms flat	
2	Lube oil	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Mechanist

CS Code

Level: 2

Credit: 4

Version: 1

APPLY OCCUPATIONAL HEALTH & SAFETY PROCEDURES AT THE WORKPLACE

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD	MM	YYYY							

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

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NAVTTTC OFFICE ONLY

1. DATE
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RECEIVED:

DD	MM	YYYY							

2. DATE ENTERED INTO
DATABASE:

DD	MM	YYYY							

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: APPLY OCCUPATIONAL HEALTH & SAFETY PROCEDURES AT THE WORKPLACE	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration			✓	<ul style="list-style-type: none"> Observe OHS and work under controlled working environment Apply organisational techniques and methods to identify hazards and control risk in the workplace Use Personal Protective and Safety Equipment at all required times Develop safe work habits to ensure safety at workplace 		
Knowledge Assessment		✓		<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks with in **one(1) hour** timeframe

- Perform Occupational Health and Safety procedures including
 - ✓ Observe OHS and work under controlled working environment
 - ✓ Apply organisational techniques and methods to identify hazards and control risk in the workplace
 - ✓ Use personal protective and safety equipment at all required times
 - ✓ Develop safe work habits to ensure safety at workplace

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of applying Occupational Health and Safety procedures at the workplace under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks:</p> <ul style="list-style-type: none"> • Identify hazards in workplace environment <ul style="list-style-type: none"> ✓ Read and interpret work processes and procedures correctly to identify risk of hazards at workplace. ✓ Recognize engineering processes, tools, equipment and consumable materials that have the potential to cause harm. ✓ Identify any potential hazards and take appropriate action to minimize the risk. • Occupational Health and Safety Precautions <ul style="list-style-type: none"> ✓ Work safely at all times, complying with health and safety precautions, regulations and other relevant guidelines. ✓ Identify health and safety hazards in the workplace, so that the potential for personal injury, damage to equipment or the workplace is prevented, and corrective action is taken. ✓ Deal with problems which are within your control, and report those that cannot be resolved to safety officer. • Apply personal protective and safety equipment PPE. <ul style="list-style-type: none"> ✓ Select personal protective equipment in terms of type and quantity according to work orders. ✓ Wear, adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures. ✓ Ensure personal protective equipment is cleaned and stored in proper place. • Practice safe work habits to ensure safety in the workplace <ul style="list-style-type: none"> ✓ Wear required clothing (not loose or torn), confine long hair, and remove jewelry in accordance with company procedures. ✓ Apply work procedures and approaches that ensure personal safety as well as others safety. ✓ Demonstrate good housekeeping in the workplace by cleaning up spills or leaks. ✓ Keep work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented. ✓ Ensure tools or equipment are in place and available in proper place as per company procedures • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task

	<ul style="list-style-type: none"> ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTIONS FOR ASSESSOR

This section contains model answers and/or minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Completes practical task of applying Occupational Health and Safety procedures at the workplace under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks.			
Identifying hazards in workplace environment	Read and interpreted work processes and procedures correctly to identify risk of hazards at workplace.			
	Recognised engineering processes, tools, equipment and consumable materials that have the potential to cause harm			
	Identified potential hazards and take appropriate action to minimize the risk.			
Occupational Health and Safety Precautions	Worked safely at all times, complying with health and safety precautions, regulations and other relevant guidelines.			
	Identified health and safety hazards in the workplace, so that the potential for personal injury, damage to equipment or the workplace is prevented, and corrective action is taken.			
	Dealt with problems, which are within your control, and report those that cannot be resolved to safety officer.			
Apply personal protective and safety equipment PPE.	Selected personal protective equipment in terms of type and quantity according to work orders.			
	Wore adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures.			
	Ensured personal protective equipment is cleaned and stored in proper place.			
Practice safe work habits to ensure safety in the workplace	Wore required clothing (not loose or torn), confine long hair, and remove jewellery in accordance with company procedures			
	Applied work procedures and approaches that ensure personal safety as well as others safety.			
	Demonstrated good housekeeping in the workplace by cleaning up spills or leaks.			
	Kept work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented			
	Ensured tools or equipment are in place and available in proper place as per company procedures			
General performance criteria	Followed health and safety procedure as per the requirements of given task			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			
2. Answer any questions their Assessor may have during the practical assessment	<ul style="list-style-type: none"> Candidate's answers to questions are correct and demonstrate understanding of the topics and their application. 			

4

LIST OF TOOLS , EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRCUTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipments
- List of consumable items

1. Context of Assessment

The assessment will take place in real triem environment.

2. List of tools and equipment (for five candidstates)

S. No	Items	Quantity
1	Health and safety Manual	
2	Coverall combination	
3	Safety shoes	
4	Safety gloves	
5	Safety goggles	
6	Safety helmet	
7	Ear plluge	
8	Fire extinguisher	
9	Smoke alram	
10	First aid box	

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	First Aid box Medicans	
2	Fire extinguisher	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code

Level:

Credit:4

Version: 1

CARRY OUT MAINTENANCE OF TOOLS AND MACHINES

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD	MM	YYYY							

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number: issued by
Assessment Body

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the
requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

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1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: CARRY OUT MAINTENANCE OF TOOLS AND MACHINES	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Preventative maintenance schedules for tools, equipment and machines Regular maintenance requirements for tools, equipment and machines General housekeeping requirements 		
Knowledge Assessment		✓			<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirement					<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks within **three (3) hours** timeframe

- Perform maintenance operations including
 - ✓ Preventative maintenance schedules for tools, equipment and machines
 - ✓ General housekeeping requirements

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of carrying out maintenance of tools and machines under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks :</p> <ul style="list-style-type: none"> • Preventative maintenance <ul style="list-style-type: none"> ✓ Inspect and assess the general condition of an assigned machine on regular basis. ✓ Recognize maintenance problems and carry out routine maintenance as per given instructions and schedules. ✓ Report the problems that are beyond the scope of authority. ✓ Keep record as per company policy to track maintenance history. • General housekeeping requirements <ul style="list-style-type: none"> ✓ Clean and maintain all bench-work tools and machines as per housekeeping checklists or instructions given. ✓ Maintain cleanliness of the workplace. ✓ Respond appropriately to safety hazards on all bench-work tools and machines. ✓ Keep all the tools and material in proper place to ensure safe work. • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2.. Answer any questions your Assessor may have during the practical assessment	<p>My answers to questions are correct and demonstrate my understanding of the topics and their application:</p>

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task of carrying out maintenance of tools and machines under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out:			
Preventative maintenance	Inspected and assessed the general condition of an assigned machine on regular basis.			
	Recognized maintenance problems and carried out routine maintenance as per given instructions and schedules.			
	Reported the problems which are beyond the scope of authority			
	Kept record as per company policy to track maintenance history.			
General housekeeping requirements	Cleaned and maintained all bench-work tools and machines as per housekeeping checklists or instructions given.			
	Maintained cleanliness of the workplace.			
	Responded to safety hazards on all bench-work tools and machines as per industry standards.			
	Kept all the tools and material in proper place to ensure safe work.			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			

4

LIST OF TOOLS , EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

Instructions

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment
- List of consumable items

1. Context of Assessment

The assessment will take place in real time

2. List of tools and equipment (for five candidates)

S. No	Items	Quantity
1	Tools box	
2	Hammer	
3	Spener set	
4	Files	
5	L N keys sets	
6	Chisel set	
7	Bearing Puller Sets	
8	Pin Punch Set	
9	Oil Gun Grease Gun	
10	Tools Grinder	

3. List of consumables (for five candidates)

S. No	(Items)	Quantity
1	Lube Oil	
2	Carocine Oil	
3	Grees	
4	Cotton Wast	
5	Nut Bolt Different Types	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code

Level: 2

Credit: 36

Version: 1

PERFORM LATHE MACHINE OPERATIONS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Registration Number issued by
Assessment Body

Gender

Male ☐

Female ☐

Transgender ☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to **NAVTTCC**

NAVTTCC OFFICE ONLY

1. DATE

FORM

RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO

DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM LATHE MACHINE OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration				✓	<ul style="list-style-type: none"> Perform Lathe machine operation 		
Knowledge Assessment			✓		<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirement					<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks within **four (4) hours** timeframe

- Perform Lathe operations including
 - ✓ Facing
 - ✓ Turning
 - ✓ Centre drilling
 - ✓ Taper Turning
 - ✓ Kurling
 - ✓ Threading

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of performing lathe machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Facing <ul style="list-style-type: none"> ✓ Select facing tools according to job requirement. ✓ Mount and set the required work-holding devices, work piece and cutting tools. ✓ Follow the correct specifications for the part or component to be produced. ✓ Select safe procedures and tools to accomplish the work. ✓ Adjust the operating parameters (e.g. speed and feed) of machine tool to achieve the work specification. ✓ Ensure all safety mechanisms are in place. • Turning <ul style="list-style-type: none"> ✓ Obtain and follow work specifications, drawings or sketches to accomplish the ✓ Mount and set the required work-holding devices, work piece and cutting tools. ✓ Select and adjust appropriate speeds and feeds of turning machine. ✓ Produce a component, which matches the work specifications using appropriate methods and techniques. ✓ Check quality of the component produced at different intervals. ✓ Follow safety precautions to ensure safe work and to avoid any injury. • Centre drilling, drilling and boring <ul style="list-style-type: none"> ✓ Select drill, centre drill boring tools according to drawings. ✓ Mount and set the required work-holding devices, work piece and cutting tools. ✓ Adjust the RPM of machine according to the cutting speed. ✓ Perform the boring operation according to the drawing. ✓ Check quality of the component produced at different intervals. • Taper turning <ul style="list-style-type: none"> ✓ Mount and set the required work-holding devices, work piece and cutting tools. ✓ Select and adjust appropriate speeds and feeds of turning machine. ✓ Produce a component that matches the work specifications using appropriate methods and techniques. ✓ Check quality of the component produced at different intervals.

	<ul style="list-style-type: none"> ✓ Follow safety precautions to ensure safe work and to avoid any injury. • Knurling <ul style="list-style-type: none"> ✓ Select the knurling tool according to drawing. ✓ Set the tool and work piece in the machine according to procedure. ✓ Adapt methods and techniques to produce proper knurling on work piece. ✓ Select and adjust appropriate speeds and feeds of lathe machine. • Threading <ul style="list-style-type: none"> ✓ Select and obtain the appropriate tools and equipment for the threading operations and check they are in usable condition. ✓ Follow given work specifications for the component to be produced. ✓ Shape the materials using appropriate methods and techniques. ✓ Ensure all the required threading operations have been completed to the given specification. ✓ Check quality of the component produced at different intervals. ✓ Observe personal and workplace safety. • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Completes practical task of performing lathe machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out :			
Facing	<p>Selected facing tools according to job requirement.</p> <p>Mounted and set the required work-holding devices, work piece and cutting tools.</p> <p>Followed the correct specifications for the part or component to be produced.</p> <p>Selected safe procedures and tools to accomplish the work.</p> <p>Adjusted the operating parameters (e.g. speed and feed) of machine tool to achieve the work specification.</p> <p>Ensured all safety mechanisms are in place</p>			
Turning	<p>Obtained and follow work specifications, drawings or sketches to accomplish the</p> <p>Mounted and set the required work-holding devices, work piece and cutting tools.</p> <p>Selected and adjust appropriate speeds and feeds of turning machine.</p> <p>Produced a component which matches the work specifications using appropriate methods and techniques.</p> <p>Checked quality of the component produced at different intervals.</p>			
Centre drilling, Drilling and boring	<p>Followed safety precautions to ensure safe work and to avoid any injury.</p> <p>Selected drill, centre drill boring tools according to drawings.</p> <p>Mounted and set the required work-holding devices, work piece and cutting tools</p> <p>Adjusted the RPM of machine according to the cutting speed.</p> <p>Performed the boring operation according to the drawing.</p> <p>Checked quality of the component produced at different intervals.</p>			
Taper turning	<p>Mounted and set the required work-holding devices, work piece and cutting tools.</p> <p>Selected and adjust appropriate speeds and feeds of turning machine.</p>			

	Produced a component that matches the work specifications using appropriate methods and techniques.			
	Checked quality of the component produced at different intervals.			
	Followed safety precautions to ensure safe work and to avoid any injury			
Knurling	Selected the knurling tool according to drawing.			
	Set the tool and work piece in the machine according to procedure.			
	Adapted methods and techniques to produced proper knurling on work piece.			
	Selected and adjust appropriate speeds and feeds of lathe machine			
Threading	Selected and obtain the appropriate tools and equipment for the threading operations and check they are in usable condition.			
	Followed given work specifications for the component to be produced.			
	Shaped the materials using appropriate methods and techniques.			
	Ensured all the required threading operations have been completed to the given specification.			
	Checked quality of the component produced at different intervals.			
	Observed personal and workplace safety			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			
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4

LIST OF TOOLS , EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRCUTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment
- List of consumable items

1. Context of Assessment

Please check the one which is applicable real/simulated environment

2. List of tools and equipment required

S. No	Items	Quantity
1	Lathe Machine with all assessries.	
2	Scerow Werinch	
3	L N key set	
4	Cutting tools, Right hand tools, Threadind tools, Knurling tools with holder	
5	Measuring tools	
6	Safety glass	
7	Files	
8	Drilll Set, Center Drill	
9	Drill Chuck With keys	
10	Threading gauge, plug gauge, tools centure gauge,	
11	Hammer	
12	Oli Cane	

3. List of consumable Items

S. No	Items	Quantity
1	Ms Round Bright Bar	
2	Lube Oil	
3	Ragmal	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code

Level: 2

Credit: 36

Version: 1

PERFORM MILLING MACHINE OPERATIONS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued
by Assessment Body:

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

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NAVTTTC OFFICE ONLY

1. DATE

FORM

RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO

DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM MILLING MACHINE OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration				✓	<ul style="list-style-type: none"> Square shape workpiece Spur gear cutting Slotting/grooving Drilling/boring 		
Knowledge Assessment			✓		<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other requirement					<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate Name:..... Father Name

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following with in 5 Hrs time frame

- Perform Milling Machine operations including
 - ✓ Square Shape Workpiece
 - ✓ Spur Gear Cutting
 - ✓ Slotting/Grooving
 - ✓ Drilling/Boring

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of performing milling machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly :</p> <ul style="list-style-type: none"> • Observe OHS and work under controlled working environment • Interpret technical drawing • Select and use machine, tool/cutter, accessories and equipment for the required operations • Mark-out Job • Securely clamp workpiece and cutting tool • Set and handle Machine to meet the required specifications • Use coolant on job while working during the operation • Operation results in finished jobs meet the job specifications according to drawing • Clean the tools and equipment and store in accordance with organisational requirements after completion of Job • Evidence of machine operations must include at least three completed jobs each of: <ul style="list-style-type: none"> ✓ Square Shape Workpiece ✓ Spur Gear Cutting ✓ Slotting/Grooving ✓ Drilling/Boring • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Complete knowledge assessment	<ul style="list-style-type: none"> • Complete knowledge assessment on following topics: <ul style="list-style-type: none"> ✓ Planning sequence of operations ✓ Interpreting technical drawings ✓ Use of coolant ✓ Safe work practices for milling machine operations

3. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:
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3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

THIS SECTION CONTAINS MODEL ANSWERS AND/OR MINIMUM EVIDENCE REQUIREMENTS. Where model answers are provided for the Assessor, the candidate's response is not required to be identical but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task of performing milling machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks.			
	Observed OHS and working under controlled working environment			
	Interpreted technical drawing			
	Selected and using machine, tool/cutter, accessories and equipment for the required operations			
	Marked-out Job			
	Clamped workpiece and cutting tool securely.			
	Set and handled Machine to meet the required specifications			
	Used coolant on job while working during the operation			
	Followed correct sequence of operations			
	Operationed results in finished jobs meet the job specifications according to drawing.			
	Cleaned the tools and equipment and storing in accordance with organiaastional requirements after completion of Job			
	Worked safely at all times			
	Used tools, machinery and measuring instruments to produce a workpiece to job specification			
	Evidence of machine operations must include at least three completed jobs each of:			
	<ul style="list-style-type: none"> ✓ Square Shape Workpiece Spur Gear Cutting ✓ Slotting/Grooving ✓ Drilling/Boring 			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Performed task(s) within standard timeframe			
2. Complete knowledge assessment	<ul style="list-style-type: none"> Completed knowledge assessment on following topics: <ul style="list-style-type: none"> ✓ Planning sequence of operations ✓ Types of operations used to produce the given job ✓ Interpreting technical drawings ✓ Use of coolant ✓ Safe work practices for milling machine operations All questions answered All answers are correct and demonstrate understanding of the topics and their application 			
3. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			

4

LIST OF TOOLS , EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

Instructions

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment

1. Context of Assessment

Please check the one which is applicable.

Real

☐

Simulated

☐

2. List of tools and equipment required

S. No	Name of Items (tools and equipment)	Quantity
1	Milling Machine with all assessries.	
2	Scerow Werinch	
3	Allen key set	
4	Milling cutters with holder	
5	Measuring tools	
6	Safety glass	
7	Files	
8	Drilll Set, Center Drill	
9	Drill Chuck With keys	
10	Threading gauge, plug gauge, tools centure gauge,	
11	Hammer	
12	Oli Cane	
13	Indexing head	

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	Ms square	
2	Lube Oil	
3	Ragmal	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code

Level: 2

Credit: 36

Version: 1

CARRY OUT COMPUTERIZED NUMERICAL CONTROL (CNC) MACHINE OPERATION

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD	MM	YYYY							

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body:

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to **NAVTTTC**

NAVTTTC OFFICE ONLY

1. DATE
FORM
RECEIVED:

DD	MM	YYYY							

2. DATE ENTERED INTO
DATABASE:

DD	MM	YYYY							

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: CARRY OUT COMPUTERIZED NUMERICAL CONTROL (CNC) MACHINE OPERATION	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration				✓	<ul style="list-style-type: none"> Setting CNC milling and lathe machine according to job requirements Performing milling and turning operations using CNC Machines 		
Knowledge Assessment		✓			<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirement					<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father 's Name:.....

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following with in **one(1) hour** timeframe

- Perform to perform CNC operations i including
 - ✓ Plan sequence of CNC machine operations
 - ✓ Interpret technical drawings
 - ✓ Set and handle CNC machines
 - ✓ G-Codes and M-Codes
 - ✓ Safe work practices for basic CNC machine operations
 - ✓ Carry pout Computerized Numerical Control (CNC) machine operations

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of carrying out Computerized Numerical Control (CNC) machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks :</p> <ul style="list-style-type: none"> • Setting and handling CNC machines <ul style="list-style-type: none"> ✓ Mount and set the work-piece and cutting tool according to procedures. ✓ Set up and adjust machine according to parameters to achieve work specification. ✓ Report uncertainties and deviations to person concerned for timely action. ✓ Observe safety and workplace precautions to avoid any injuries. • Planning sequence of CNC machine operations <ul style="list-style-type: none"> ✓ Match work piece data with CAD data through software simulation. ✓ Execute program on CNC milling to perform milling operations (e.g. surfacing, drilling, slotting, tapping, key ways, step cutting etc.) to achieve work specifications. ✓ Follow correct specifications for the component to be produced. ✓ Report uncertainties and deviations to person concerned for timely action. ✓ Observe safety and workplace precautions to avoid any injuries. • Turning operations using CNC Machines <ul style="list-style-type: none"> ✓ Match work piece data with CAD data through software simulation. ✓ Execute program on CNC Lathe to perform turning operations to achieve work specifications. ✓ Follow correct specifications for the component to be produced. ✓ Report uncertainties and deviations to person concerned for timely action. ✓ Observe safety and workplace precautions to avoid any injuries. • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe

2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application.
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Candidate's Name Father's Name

**INSTRUCTION
FOR
ASSESSOR**

This section contains minimum evidence requirements.. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task of carrying out Computerized Numerical Control (CNC) machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Setting and handling CNC machines	Mounted and set the work-piece and cutting tool according to procedures.			
	Set up and adjusted machine according to parameters to achieve work specification.			
	Reported uncertainties and deviations to person concerned for timely action.			
	Observed safety and workplace precautions to avoid any injuries.			
Planning sequence of CNC machine operations	Matching work piece data with CAD data through software simulation.			
	Executed program on CNC milling to perform milling operations (e.g. surfacing, drilling, slotting, tapping, key ways, step cutting etc.) to achieve work specifications.			
	Following correct specifications for the component to be produced			
	Report deviations to person concerned for timely action.			
Turning operations using CNC Machines	Observed safety and workplace precautions to avoid any injuries.			
	Matching work piece data with CAD data through software simulation.			
	Executed program on CNC Lathe to perform turning operations to achieve work specifications.			
	Following correct specifications for the component to be produced.			
	Reported uncertainties and deviations to person concerned for timely action.			
	Observed safety and workplace precautions to avoid any injuries.			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			
2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment

1. Context of assessment

The assessment will take place in real time environment

2. List of tools and equipment (for five candidates)

S. No	Items	Quantity
1	CNC Machine	
2	CNC manual	
3	Tools Insert	
4		
5		
6		
7		
8		
9		

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	Raw Material	
2	Tools insert	
3	Cutting oil	
4		
17		
18		
19		
20		
21		



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code:

Level: 2

Credit: 21

Version: 1

PERFORM GRINDING MACHINE OPERATIONS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

Assessor's Code

Assessor's Signature

Date

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued
by Assessment Body :

Gender

Male

☐

Female

☐

Transgender

☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

ASSESSMENT RESULTS SUMMARY FORM

You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to **NAVTTTC**

NAVTTTC OFFICE ONLY

1. DATE
FORM
RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO
DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY		METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	PORTFOLIO	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM GRINDING MACHINE OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical skill demonstration				✓	<ul style="list-style-type: none"> Off-hand grinding Surface grinding Cylindrical grinding Tool & cutter grinding 		
Knowledge Assessment		✓			<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirement			✓		<ul style="list-style-type: none"> NA 		

2

CANDIDATE ASSESSMENT

Candidate's Name:..... Father's Name

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks within **3(three) Hours** timeframe

- Performing Grinding operations including
 - ✓ Off-hand Grinding
 - ✓ Surface Grinding
 - ✓ Cylindrical Grinding
 - ✓ Tool & Cutter Grinding

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of performing grinding machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks.</p> <ul style="list-style-type: none"> • Offhand grinding <ul style="list-style-type: none"> ✓ Select proper size and shape of grinding wheel. ✓ Hold the work piece firmly against rotating wheel by placing it on the tool rest. ✓ Use coolant at intervals to avoid over heating of the job. ✓ Adopt technique and methods, which are safe. ✓ Produce component according to work operations. ✓ Observe personal and workplace safety. • Surface grinding <ul style="list-style-type: none"> ✓ Select suitable size and type of grinding ✓ Mount the work piece over the holding devices to ensure proper clamping. ✓ Dress the wheel with diamond tip if required. ✓ Identify reference points on work piece before grinding. ✓ Adjust depth of cut according to speed of machine table. ✓ Use coolant continuously to avoid over heating of the job. ✓ Observe personal and workplace safety • Cylindrical grinding <ul style="list-style-type: none"> ✓ Select the suitable size and type of grinding wheel. ✓ Mount work piece according to procedure (e.g. between two centres, chuck, collet, faceplate). ✓ Ensure that the grinding wheel is balanced. ✓ Follow suitable method for universal cylindrical grinding to ensure work specifications. ✓ Use coolant continuously to avoid overheating of job. ✓ Observe personal and workplace safety. • Tools and cutter grinding. <ul style="list-style-type: none"> ✓ Select the suitable size, type and shape of grinding wheel. ✓ Mount work piece over correct attachment for required procedure. ✓ Adjust the attachments according to different types of tools and cutter grinding. ✓ Follow safe procedure for sharpening of tools and cutter. ✓ Observe personal and safety precautions • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task

	<ul style="list-style-type: none"> ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Completes practical task of performing grinding machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Off-hand grinding	Selected the proper size and shape of grinding wheel			
	Held work piece firmly against the rotating wheel, by placing it on the tool rest.			
	Used coolant at intervals to avoid over heating of the job.			
	Adopted technique and methods, which are safe.			
	Produced component according to work operations.			
	Observed personal and workplace safety.			
Surface grinding	Selected the suitable size and type of grinding			
	Mounted the work piece over the holding devices to ensure proper clamping.			
	Dressed the wheel with diamond tip if required.			
	Identified reference points on work piece before grinding.			
	Adjusted depth of cut according to speed of machine table.			
	Used coolant continuously to avoid over heating of the job.			
	Observed personal and workplace safety			
Cylindrical grinding	Selected the suitable size and type of grinding wheel.			
	Mounted work piece according to procedure (e.g. between two centres, chuck, collet, faceplate).			
	Ensured the grinding wheel is balanced.			
	Followed suitable method for universal cylindrical grinding to ensure work specifications.			
	Used coolant continuously to avoid overheating of job.			
Tools and cutter grinding.	Observed personal and workplace safety.			
	Selected the suitable size, type and shape of grinding wheel.			
	Mounted work piece onto correct attachment for required procedure.			
	Adjusted the attachments according to job.			
	Followed procedure for sharpening of tools and cutter that is safe and appropriate.			
	Observed personal and safety precautions			
General performance criteria	Followed health and safety procedure as per the requirements of given task			

	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

2. Answer any questions their Assessor may have during the practical assessment	candidate's answers to questions are correct and demonstrate understanding of the topics and their application.			
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4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipment

1. Context of Assessment

Please check the one, which is applicable.

Real

☐

Simulated

☐

2. List of tools and equipment required

S. No	Name of Items	Quantity
1	Pedestal grinder machine, tool and grinder machine	
2	Surface grinder machine	
3	Cylinder grinder	
4	Adjust able wrench	
5	Allen key set	
6	Sharpener Sets	

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	Grinder wheel	
2	Cutting oil	
3	Cotton wastage	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

CS Code

Level: 2

Credit: 9

Version: 1

PERFORM SHAPER MACHINE OPERATIONS

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent

☐

Not Yet Competent

☐

Assessment

☐

Re-Assessment

☐

Assessor's Name:

.....

Assessor's Code

DD	MM	YYYY							

Assessor's Signature

.....

Date

CANDIDATE DETAILS

Candidate's Name:

First
Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body:

Gender

Male ☐

Female ☐

Transgender ☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature:

.....

ASSESSMENT RESULTS SUMMARY FORM

You can use this coversheet as an *Assessment Results Summary Form*. Simply post a photocopy of this completed coversheet to **NAVTTC**

NAVTTC OFFICE ONLY

1. DATE
FORM
RECEIVED:

DD	MM	YYYY							

2. DATE ENTERED INTO
DATABASE:

DD	MM	YYYY							

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD			DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	OBSERVATION	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF COMPETENCY STANDARD: PERFORM SHAPER MACHINE OPERATIONS	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration			✓	<ul style="list-style-type: none"> Producing square shape V-shape cutting 		
Knowledge Assessment		✓		<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		

2

CANDIDATE ASSESSMENT

Candidate's Name:.....Father's Name.....

ALL WORK ASSESSED IN THIS COMPETENCY STANDARD MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following tasks with **three(3)hours'** time frame

- Perform shaper machine operations including
 - ✓ Producing square shape
 - ✓ V-shape cutting

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of performing shaper machine operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor, I will correctly perform the following tasks:</p> <ul style="list-style-type: none"> • Square shape <ul style="list-style-type: none"> ✓ Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. ✓ Dial the machine vice according to job requirement. ✓ Select point cutting tool and set machine as per requirements. ✓ Mount cutting tool and work piece in the machine. ✓ Check quality of the component at suitable intervals. ✓ Shut down the machine at safe position after finishing the work. V-shape cutting <ul style="list-style-type: none"> ✓ Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. ✓ Dial the machine vice according to job requirement. ✓ Select point cutting tool and set machine according to job requirements. ✓ Mount cutting tool and work piece in the machine. ✓ Check quality of the component at suitable intervals. ✓ Shut down the machine in safe position after finishing the work • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application:

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. Oral questioning may be used to clarify candidate understanding of the topic and its application.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Completes practical task of performing shaper machine operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks:			
Square shape	Identified safety hazards related with shaping operations and took appropriate steps to avoid any injury or accident			
	Dialled the machine vice according to job requirement.			
	Selected point cutting tool and set machine as per requirements.			
	Mounted cutting tool and work piece in the machine.			
	Checked quality of the component at suitable intervals.			
	Shut down the machine at safe position after finishing the work.			
V-shape cutting	Identified safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident.			
	Dialled the machine vice according to job requirement.			
	Selected point cutting tool and set machine according to job requirements.			
	Mounted cutting tool and work piece in the machine.			
	Checked quality of the component at suitable intervals.			
	Shut down the machine in safe position after finishing the work			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
2. Answer any questions their Assessor may have during the practical assessment	Candidate's answers to questions are correct and demonstrate understanding of the topics and their application			

4

LIST OF TOOLS, EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRUCTIONS

This section contains information regarding;

- Context of the assessment
- List of required tools and equipments
- List of consumable items

1. Context of Assessment

The assessment will take place in real environment.

2. List of tools and equipment (for five candidates)

S. No	Items	Quantity
1	Shaper machine with all accessories	
2	Machine vice	
3	Tri square	
4	Vernier caliper	
5	Dial Indicator with magnet stand	
6	Cutting tools	
7	Screw wrench	
8	Spener sets	
9	Oil Cane/ Grees gun	

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	MS square	
2	Lube oil	
3	Grees	
4	Cleaning brush	
5	Cotton waste	



ASSESSMENT
MATERIAL

EVIDENCE GUIDE

Qualification

Machinist

Qualification Code

Level: 2

Credit: 160

Version: 1

MACHINIST

CONTENTS

1. Assessment Summary and Record
2. Candidate Assessment
3. Assessor Judgement Guide
4. List of required tools/ equipment, material and context of assessment

ASSESSMENT AND ASSESSOR DETAILS

Competent ☐

Not Yet Competent ☐

Assessment ☐

Re-Assessment ☐

Assessor's Name: _____ Assessor's Code _____

Assessor's Signature _____ Date _____

DD		MM		YYYY					

CANDIDATE DETAILS

Candidate's Name:

First Name

Last Name

Father's Name

Institute Name and District

CNIC/BFORM #

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Registration Number issued by
Assessment Body

Gender

Male ☐ Female ☐ Transgender ☐

Candidate's Consent

I agree to the time and date of the assessment and am aware of the requirements of the assessment. I fully understand my rights of appeal.

Candidate's Signature: _____

ASSESSMENT RESULTS SUMMARY FORM

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NAVTTTC OFFICE ONLY

1. DATE
FORM
RECEIVED:

DD		MM		YYYY					

2. DATE ENTERED INTO
DATABASE:

DD		MM		YYYY					

1

ASSESSMENT SUMMARY & RECORD

ACTIVITY	METHOD				DESIRED OUTCOMES	RESULT	
NATURE OF ACTIVITY	WRITTEN	ORAL	WORKR SAMPLES	PORTFOLIOS	DESIRED OUTCOMES FOR SUCCESSFUL ASSESSMENT OF MACHINIST QUALIFICATION	COMPETENT	NOT YET COMPETENT
Practical Skill Demonstration			✓	✓	<ul style="list-style-type: none"> Perform basic bench work as per given drawing according to industry standard Perform drilling machine operations as per given drawing according to industry standard Apply Occupational Health & Safety (OHS) procedures at workplace according to industry standard Carry out maintenance of tools and machines according to industry standard Perform lathe machine operations as per given drawing according to industry standard Perform milling machine operations as per given drawing according to industry standard Perform shapping operations as per given drawing according to industry standard Perform grinding machine operations as per given drawing according to industry standard 		
Knowledge Assessment		✓			<ul style="list-style-type: none"> Answer any questions your Assessor may have during the practical assessment 		
Other Requirements			✓		<i>Provide verified evidence of bench work, drilling, lathe, milling, shaper, grinding machine operation during training to be submitted to assessor before assessment</i>		

2

CANDIDATE ASSESSMENT

Candidate's Name:.....Father's Name

ALL WORK ASSESSED FOR THESE COMPETENCY STANDARDS MUST BE YOUR OWN WORK.

GUIDANCE TO CANDIDATE

To meet this standard you are required to perform the following task within **four (4) hours** timeframe:

- Produce work piece using machining operations to meet supplied job specifications in Annex 1:
 - ✓ Complete all basic bench work operation assignments
 - ✓ Complete all drilling, lathe, milling, shaper, grinding machine operation assignments
 - ✓ Complete practical assessment tasks of producing workpieces using machining operations to meet supplied job specifications
 - ✓ Supply required supporting documentation for workpieces produced using machines

Important Note: The following general performance criteria will be followed and performed in all the tasks (where applicable) by the candidate in order to meet this standard.

- ✓ Follow health and safety procedure as per the requirements of given task
- ✓ Prepare work station as per the requirements of task
- ✓ Select tools/ equipment as per the requirements of task
- ✓ Report to supervisor in case of any contingency after taking necessary actions
- ✓ Complete the work by following sequence of operations
- ✓ Perform task(s) within standard timeframe

ACTIVITIES	CANDIDATE RESPONSE
1. Complete practical task of producing a workpiece to meet a supplied job specification using machining operations under observation by an assessor	<p>During a practical assessment, under observation by an assessor I will correctly perform the following tasks:</p> <ul style="list-style-type: none"> • Perform basic bench work as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations ✓ Select tools and equipment precisely according to industry standard ✓ Clamp workpiece securely as per requirement of job in accordance with industry standard ✓ Perform sawing as per requirement of job specification in given drawing ✓ Perform filing as per requirement of job specification in given drawing ✓ Perform threading as per requirement of job specification in given drawing ✓ Perform reaming as per requirement of job specification in given drawing • Perform drilling machine operations as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations ✓ Select drill bit and equipment precisely according to industry standard procedure ✓ Clamp workpiece securely as per requirement of job in accordance with industry standard ✓ Perform marking-out as per requirement of job specification in given drawing ✓ Punch the center point for drilling operation as per requirement of job specification in given drawing ✓ Fix drill bit as per requirement of job procedure according to industry standard ✓ Use coolant as per requirement of job specification during drilling operation according to industry standard ✓ Perform machine reaming operation on job as per industry standard procedure ✓ Meet the required specification of job requirement as per industrial procedure • Apply Occupational Health & Safety (OHS) procedures at workplace according to industry standard <ul style="list-style-type: none"> ✓ Use Personal Protective and Safety Equipment at according to standard ✓ Apply organisational techniques and methods to identify hazards and control risk in the

	<p>workplace as per industry standard</p> <ul style="list-style-type: none"> ✓ Develop safe work habits to ensure safety at workplace according to standard <ul style="list-style-type: none"> • Carry out maintenance of tools and machines according to industry standard <ul style="list-style-type: none"> ✓ Perform selection of machine, tools, grinding wheel, accessories and equipment for the required task as per given job specification ✓ Implement routine and periodical maintenance schedules for hydraulic/ lubrication, oils, grease & air in accordance with organisational and industry standard procedures ✓ Perform inspection of machinery and tools as required for maintenance as per industry standard ✓ Re-sharpening of cutting tools is carried out as required to ensure edge is maintained at all times • Perform lathe machine operations as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations as per industry standard procedure ✓ Perform Selection of machine tool, cutting tools, accessories and equipment for the required operation ✓ Clamp workpiece as per required job operation as per industry standard procedure ✓ Set the Machine to meet the required job specifications as per industry standard procedure ✓ Handle tools, machinery and measuring instruments as per standard produce on workpiece ✓ Meet results in finished workpiece as required job specifications according to drawing ✓ Use coolant on job while working during the operations ✓ Clean the tools and equipment and store in accordance with organisational requirements after completion of Job • Perform milling machine operations as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations as per industry standard procedure ✓ Perform Selection of machine tool, cutting tools, accessories and equipment for the required operation ✓ Clamp workpiece as per required job operation as per industry standard procedure ✓ Align workpiece as per required job operation as per industry standard procedure ✓ Set the Machine to meet the required job specifications as per industry standard procedure ✓ Handle tools, machinery and measuring instruments as per standard produce on workpiece ✓ Perform cutting operation including square shape, slotting/ grooving, drilling/ boring, as per industry standard procedure according to job specification ✓ Meet results in finished workpiece as required job specifications according to drawing ✓ Use coolant on job while working during the operations ✓ Clean the tools and equipment and store in accordance with organisational requirements after completion of Job • Perform shaping operations as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations as per industry standard procedure ✓ Perform Selection of machine tool, cutting tools, accessories and equipment for the required operation ✓ Clamp workpiece as per required job operation as per industry standard procedure ✓ Align workpiece as per required job operation as per industry standard procedure ✓ Set the Machine to meet the required job specifications as per industry standard procedure ✓ Handle tools, machinery and measuring instruments as per standard produce on workpiece ✓ Perform cutting operation including square shape, V-shape, grooving, as per industry standard procedure according to job specification ✓ Meet results in finished workpiece as required job specifications according to drawing ✓ Use coolant on job while working during the operations ✓ Clean the tools and equipment and store in accordance with organisational requirements after completion of Job • Perform grinding machine operations as per given drawing according to industry standard <ul style="list-style-type: none"> ✓ Interpret technical drawing for job specifications and sequence of operations as per industry standard procedure ✓ Perform Selection of grinding machine tool, accessories and equipment for the required operation ✓ Clamp workpiece as per required job operation as per industry standard procedure
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	<ul style="list-style-type: none"> ✓ Align workpiece as per required job operation as per industry standard procedure ✓ Set the Machine to meet the required job specifications as per industry standard procedure ✓ Handle tools, machinery and measuring instruments as per standard procedure on workpiece ✓ Perform grinding operation including off-hand, surface, cylindrical, tool grinding as per industry standard procedure according to job specification ✓ Meet results in finished workpiece as required job specifications according to drawing ✓ Use coolant on job while working during the operations ✓ Clean the tools and equipment and store in accordance with organisational requirements after completion of Job <ul style="list-style-type: none"> • General performance criteria: <ul style="list-style-type: none"> ✓ Follow health and safety procedure as per the requirements of given task ✓ Prepare work station as per the requirements of task ✓ Select tools/ equipment as per the requirements of task ✓ Report to supervisor in case of any contingency after taking necessary actions ✓ Complete the work by following sequence of operations ✓ Perform task(s) within standard timeframe
2. Answer any questions your Assessor may have during the practical assessment	My answers to questions are correct and demonstrate my understanding of the topics and their application.

3

ASSESSOR JUDGEMENT GUIDE

INSTRUCTION FOR ASSESSOR

This section contains minimum evidence requirements. Oral questions can be used to clarify any underpinning knowledge that can not be observed through application to task in hand.

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
1. Complete practical task of producing a workpiece to meet a supplied job specification using machining operations under observation by an assessor	During a practical assessment, under observation by an assessor, the candidate correctly carried out the following tasks.			
Perform basic bench work as per given drawing according to industry standard	Interpreted technical drawing for job specifications and sequence of operations			
	Selected tools and equipment precisely according to industry standard			
	Clamped workpiece securely as per requirement of job in accordance with industry standard			
	Performed sawing as per requirement of job specification in given drawing			
	Performed filing as per requirement of job specification in given drawing			
	Performed threading as per requirement of job specification in given drawing			
	Performed reaming as per requirement of job specification in given drawing			
Perform drilling machine operations as per given drawing according to industry standard	Interpreted technical drawing for job specifications and sequence of operations			
	Selected drill bit and equipment precisely according to industry standard procedure			
	Clamped workpiece securely as per requirement of job in accordance with industry standard			
	Performed marking-out as per requirement of job specification in given drawing			
	Punched the center point for drilling operation as per requirement of job specification in given drawing			
	Fixed drill bit as per requirement of job procedure according to industry standard			
	Used coolant as per requirement of job specification during drilling operation according to industry standard			
Apply Occupational Health & Safety (OHS) procedures at workplace according to industry standard	Used personal protective and Safety Equipment at according to standard			
	Applied organisational techniques and methods to identify hazards and control risk in the workplace as per industry standard			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Developed safe work habits to ensure safety at workplace according to standard			
	Performed Inspection of machinery and tools as required for maintenance as per industry standard			
	Re-sharpened cutting tools is carried out as required to ensure edge is maintained at all times			
Carry out maintenance of tools and machines according to industry standard	Performed selection of machine, tools, grinding wheel, accessories and equipment for the required task as per given job specification			
	Implemented routine and periodical maintenance schedules for hydraulic/ lubrication, oils, grease & air an accordance with organisational and insutry standard procedures			
Perform lathe machine operations as per given drawing according to industry standard	Interpret ed technical drawing for job specifications and sequence of operations as per industry standard procedure			
	Performed Selection of machine tool, cutting tools, accessories and equipment for the required operation			
	Clamped workpiece as per required job operation as per indutry standard procedure			
	Set the Machine to meet the required job specifications as per indutry standard procedure			
	Handled tools, machinery and measuring instruments as per standard produce on workpiece			
	Met results in finished workpiece as required job specifications according to drawing			
	Used coolant on job while working during the operations			
	Cleaned the tools and equipment and store in accordance with organisational requirements after completion of Job			
Perform milling machine operations as per given drawing according to industry standard	Interpret ed technical drawing for job specifications and sequence of operations as per industry standard procedure			
	Performed Selection of machine tool, cutting tools, accessories and equipment for the required operation			
	Clamped workpiece as per required job operation as per indutry standard procedure			
	Aligned workpiece as per required job operation as per indutry standard procedure			
	Set the Machine to meet the required job specifications as per indutry standard Procedure			
	Handled tools, machinery and measuring instruments as per standard produce on workpiece			
	Performed cutting operation including squre shape, sloting/ grooving, drilling/ boring, as per industry standard procedure according to job specification			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Met results in finished workpiece as required job specifications according to drawing			
	Used coolant on job while working during the operations			
	Cleaned the tools and equipment and store in accordance with organisational requirements after completion of Job			
Perform shapping operations as per given drawing according to industry standard	Interpreted technical drawing for job specifications and sequence of operations as per industry standard procedure			
	Performed Selection of machine tool, cutting tools, accessories and equipment for the required operation			
	Clamed workpiece as per required job operation as per indutry standard procedure			
	Aligned workpiece as per required job operation as per indutry standard procedure			
	Set the machine to meet the required job specifications as per indutry standard procedure			
	Handled tools, machinery and measuring instruments as per standard produce on workpiece			
	Performed cutting operation including squre shape, V-shape, grooving, as per industry standard procedure according to job specification			
	Met results in finished workpiece as required job specifications according to drawing			
	Used coolant on job while working during the operations			
	Cleaned the tools and equipment and store in accordance with organisational requirements after completion of Job			
Perform grinding machine operations as per given drawing according to industry standard	Interpreted technical drawing for job specifications and sequence of operations as per industry standard procedure			
	Performed Selection of grinding machine tool, accessories and equipment for the required operation			
	Clamped workpiece as per required job operation as per indutry standard procedure			
	Aligned workpiece as per required job operation as per indutry standard procedure			
	Set the Machine to meet the required job specifications as per indutry standard procedure			
	Handled tools, machinery and measuring instruments as per standard produce on workpiece			
	Performed grinding operation including off-hand, surface, cylindrical, tool grinding as per industry standard procedure according to job specification			

ACTIVITIES	MINIMUM EVIDENCE REQUIRED	YES	NO	ASSESSOR COMMENTS
	Met results in finished workpiece as required job specifications according to drawing			
	Used coolant on job while working during the operations			
	Cleaned the tools and equipment and store in accordance with organisational requirements after completion of Job			
General performance criteria	Followed health and safety procedure as per the requirements of given task			
	Prepared work station as per the requirements of task			
	Selected tools/ equipment as per the requirements of task			
	Reported to supervisor in case of any contingency after taking necessary actions			
	Completed the work by following sequence of operations			
	Performed task(s) within standard timeframe			
2. Answer any questions their Assessor may have during the practical assessment	<p>Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application.</p> <p><i>Assessor to document below all questions asked and candidate answers. Use extra sheets if required and attach.</i></p>			

4

LIST OF TOOLS , EQUIPMENT, MATERIAL AND CONTEXT OF ASSESSMENT

INSTRCUTIONS

- This section contains information regarding;
- Context of the assessment
 - List of required tools and equipment.
 - List of consumeable items required during the service

1. Context of

Assessment

This task will be performed in real time enviornment

2. List of tools and equipment required (For Five Students)

S. No	Name of Items (tools and equipment)	Quantity
1	Universal milling machine	05 Nos.
2	Milling Attachment (Dividing head, slotting and Universal vertical Head)	05 Nos.
3	Lathe machine BL115	05 Nos.
4	Lathe machine BE165 with one taper turning attachment	05 Nos.
5	Power Hacksaw	05 Nos.
6	Pillar type drill machine	02 Nos.
7	Bench drill machine	02 Nos.
8	CNC Lathe Machine with Core i7 computer	02 Nos.
9	CNC Milling Machine with Core i7 computer	02 Nos.
10	Computer – Core i7 complete set.	10 Nos.
11	Computer Table and Chairs	10 Nos.
12	Surface grinding machine	05 Nos.
13	Cylindrical grinding machine	05 Nos.
14	Pedestal grinding machine	05 Nos.
15	Bench vice with bench	05 Nos.
16	Steel rule	05 Nos.
17	Vernier caliper	05 Nos.
18	Vernier height gauge	05 Nos.
19	Vee block	05 Nos.
20	Centre punch	05 Nos.
21	Scriber	05 Nos.
22	Divider	05 Nos.
23	Screw driver set	05 set
24	Philips screw driver set	05 set
25	Taps set m4,m5,m6,m8,m10,m12 4 each size	1 set each size
26	Tap handle set	05 set
27	Radius gauge 1-7,7.5-30mm 4 Nos.	05 Nos.
28	Allen key set	05 set
29	Double ended open spanner set 6-32mm	05 set
30	Ring spanner set 6-32mm	05 set
31	Ball peen hammer 500 gm	05 Nos.
32	Cross peen hammer 500 gm	05 Nos.
33	Marking hammer 250 gm	05 Nos.
34	Number punch set	05 set
35	Letter punch set	05 set
36	Flat file 300 x1	05 Nos.
37	Flat file 300x2	05 Nos.
38	Flat file 250x2	05 Nos.
39	Flat file 250x3	05 Nos.
40	Flat file 150x1	05 Nos.

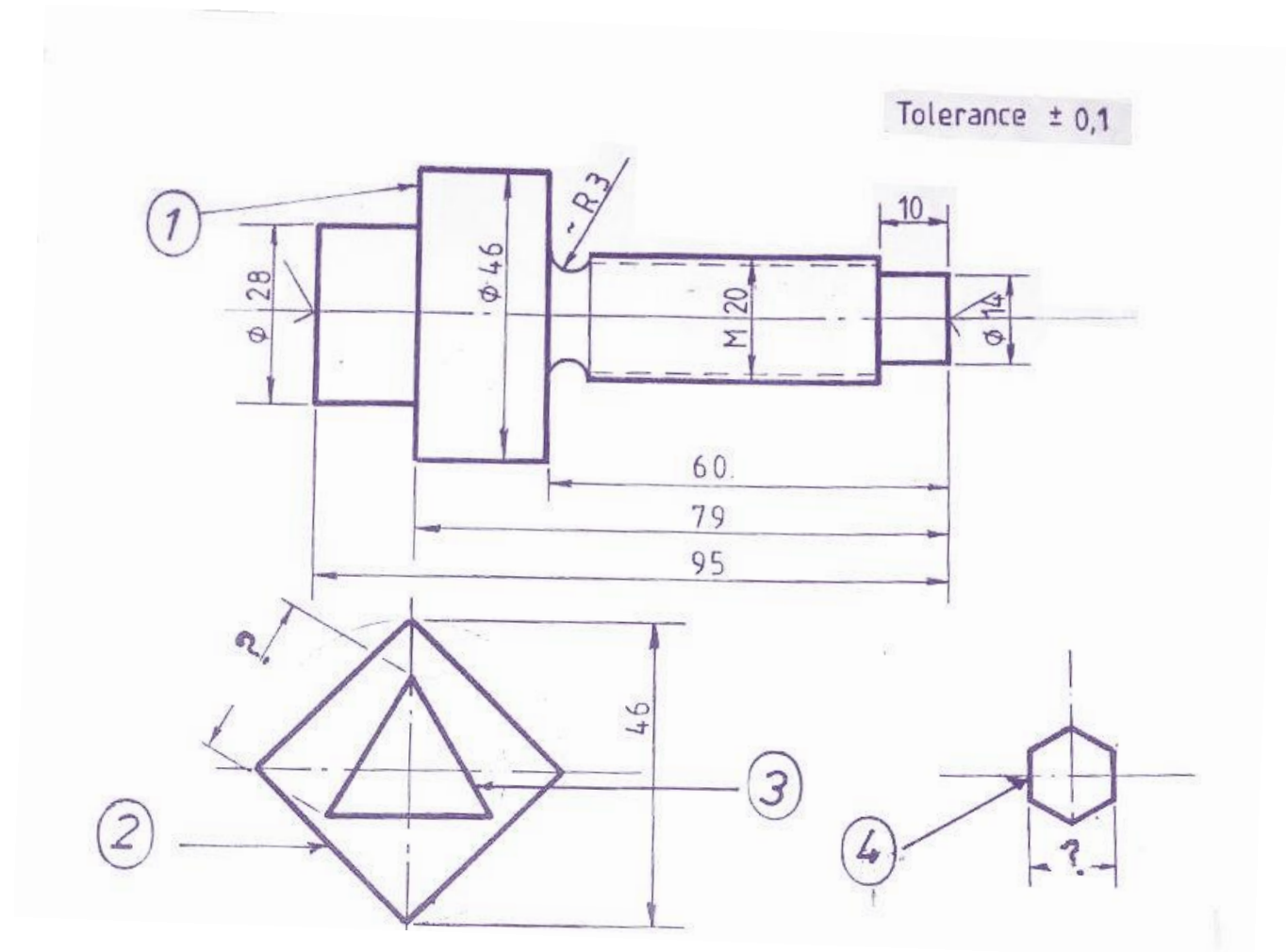
41	Flat file 150x2	05 Nos.
42	Half round file 200x2	05 Nos.
43	Half round file 200x1	05 Nos.
44	Round file 200x1	05 Nos.
45	Round file 200x2	05 Nos.
46	Round file 150x2	05 Nos.
47	Round file 150x1	05 Nos.
48	Needle file set 25	05 Nos.
49	Key file set	05 Nos.
50	File brush	05 Nos.
51	Tap die set	05 Nos.
52	Hand reamer 4,6,8,10, 12, 57	05 sets
53	Die M5, M6, M8, M10, M12	05 sets
54	Dies handles	05 sets
55	Drills 3-12mm with difference 0.5	5 set each
56	Drill set 1 to 10 mm with difference 0.1 mm	05 sets
57	Centre drill 2.5, 3.0 mm	05 set
58	Morse taper gauge set (plug + ring) MT-2, MT-3, MT-4	05 set each
59	Oil cane	05 Nos.
60	Tool centre gauge	05 Nos.
61	Hand vice	05 Nos.
62	Adjustable wrench 12"	05 Nos.
63	Try angle file 200x2	05 Nos.
64	Try angle file 200x1	05 Nos.
65	Counter sink 18; x60°, 12.5x60°	05 sets
66	Counter bore M 4, M 6, M 10, M 12	05 sets
67	Twist drill grinding gauge	05 Nos.
68	Safety goggle	05 Nos.
69	Diamond dresser with holder	05 Nos.
70	Acme thread gauge	05 Nos.
71	Drill drift	05 Nos.
72	Combination pliers	05 Nos.
73	Tool box	05 Nos.
74	Hand vice	05 Nos.
75	Surface plate	05 Nos.
76	Micro meter 25 mm	05 Nos.
77	Micro meter 25-50mm	05 Nos.
78	Micro meter 50-75mm	05 Nos.
79	Inside micro meter 5-55 mm	05 Nos.
80	Micro meter 25 mm	05 Nos.
81	Micro meter 25-50mm	05 Nos.
82	Micro meter 50-75mm	05 Nos.

3. List of consumables

S. No	Name of consumable (Items)	Quantity
1	Involute gear milling cutter module 1.0 mm	05 Nos.
2	Involute gear milling cutter module 1.5 mm	05 Nos.
3	Involute gear milling cutter module 1.0 mm	05 Nos.
4	Involute gear milling cutter module 1.5 mm	05 Nos.
5	Involute gear milling cutter module 1.75 mm	05 Nos.
6	Involute gear milling cutter module 2.0 mm	05 Nos.


7	Convex cutter R6x80 mm	10 Nos.
8	Convex cutter R8x80 mm	10 Nos.
9	Convex cutter R12x80 mm	10 Nos.
10	Plain milling cutter ϕ 100x50x27	10 Nos.
11	Plain milling cutter ϕ 63x50x22 mm	10 Nos.
12	Plain milling cutter ϕ 63x25x27 mm	10 Nos.
13	Side and face cutter ϕ 80x8x27 mm	10 Nos.
14	Side ϕ 80x12x27 and face cutter ϕ 80x14x27 mm	10 Nos.
15	Side and face cutter ϕ 80x18x27	10 Nos.
16	End mill cutter ϕ 4 mm two lipped	10 Nos.
17	End mill cutter ϕ 5 mm two lipped	05 sets
18	End mill cutter ϕ 6 mm two lipped	05 sets
19	End mill cutter ϕ 8 mm two lip/four lip	05 sets
20	End mill cutter ϕ 10 mm	05 sets
21	End mill cutter ϕ 12 mm	05 Nos.
22	End mill cutter ϕ 14 mm	05 Nos.
23	H.S.S tool bits 8x8x160 mm	05 Nos.
24	H.S.S tool bits 12x12x200mm	05 Nos.
25	H.S.S tool bits 16x16x200 mm	05 Nos.


ASSESSMENT JOB SHEET




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