JOB SPECIFICATION
AND
SKILL TEST

JOB TITTLE : LATHE SETTER OPERATOR, L – 1
SECTOR : MECHANICAL
SUB-SECTOR : METAL MACHINING

Council for Technical Education and Vocational Training
NATIONAL SKILL TESTING BOARD
Madhyapur thimi – 17, Sanothomi, Bhaktapur, Nepal
June 2006

The National Skill Standard and Test was developed by

1.	**Mr. Sridhar Devkota**	**Advisor**	**General Manager BYS**
2.	**Mr. B. B. Ale**	**Co-ordinator**	**IOE, Thapathali Campus**
3.	**Mr. D.P. Dhungel**	**Member Secretary**	**Technical Officer Skill Testing Division, CTEVT**
4.	**Prem Kr. Nakarmi**	**Member**	**Supervisor, Shri Krishna Metal Work**
5.	**Mr. Gopal Singh Gurung**	**Member**	**Sr. Lathe Operator, National Structure and Engineering Pvt. Ltd.**

Approved by the tripartite National Skill Testing Board.

1989

The National Skill Standard and Test was revised by

1.	**Prof. Rabindra Nath Bhattarai**	**Co-ordinator**	**Professor, IOE, Pulchowk**
2.	**Mr. Chandra Bhakta Nakarmi**	**Member**	**Director, NSTB**
3.	**Mr. Soma Shekar Adiga**	**Member**	**Associate Professor, IOE, Pulchowk**
4.	**Mr. Prem Kumar Nakarmi**	**Member**	**Senior Instructor, IOE, Thapathali**
5.	**Mr. Raju Bajracharya**	**Member**	**Senior Instructor, BTTC, Balaju**
6.	**Mr. Durdam Thapa**	**Member**	**Propritor, Ambika Fabrication (P) LTD., Sallaghari**
7.	**Mr. Chhabi Gurung**	**Member**	**Deputy Director, NSTB**
8.	**Mr. Binod Badal**	**Assistant**	**Skill Testing Assistant, NSTB**
9.	**Mr. Suresh Bhaila**	**Member-secretary**	**Skill Testing Officer, NSTB**

Recommended by Mechanical Technical Sub committee.

June, 2006

JOB SPECIFICATION	
1	**JOB TITLE : LATHE SETTER OPERATOR** **LEVEL : 1**
2	**JOB DESCRIPTION** The Lathe Setter Operator prepares and operates lathe machine to perform:-facing ends, turning parallel (Diameter between 25 – 40 mm and length up to 200mm), steps, grooves, de burring, center drilling and drilling operations.
3	**LIST OF TASKS** 1. Ensuring machine condition and identifying of job materials. 2. Facing ends. 3. Turning parallel. 4. Turning steps with shoulders. 5. De-burring 6. Turning grooves. 7. Centre drilling. 8. Drilling operation.
4	**QUALIFYING NOTES (entry requirements, etc.)** - Normal health. - Educational requirements: able to read and write in order to understand specifications.

TASK SPECIFICATION	
5	**TASK NO. : 1** **ENSURING MACHINE CONDITION & IDENTIFYING JOB MATERIALS. JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 1.1 Receives work instructions. 1.2 Wears safety clothing. 1.3 Checks oil levels in gear box and coolant. 1.4 Ensures machine is in safe condition to start. 1.5 Prepares materials for machining. 1.6 Follows safety precautions.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/specification/Instructions. **Machine tools & accessories:** Centre lathe, chuck or collets, **Measuring instruments & gauges:** Vernier caliper and micrometer. **Fitting tools:** Spanner set, hammer and mallet. **Cutting Tools:** Lathe tools and center drill. **Consumable materials:** Coolant, lubricants, job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Material selected according to instructions, oil levels and coolant checked and reported, chuck key removed from chuck, no unnecessary tools on machine, no oil hazards present. Job free of burr and deformations.

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
1	1 2	Knowledge of location and methods of checking oil levels and coolants. Knowledge of identification of common engineering materials such as brass, bronze, steel, copper, aluminum, cast iron.			Use of safety foot wear and safe method of dressing. Safe lifting techniques. Hazards involved in handling sharp edged materials.

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : ENSURING MACHINE CONDITION & IDENTIFYING JOB MATERIALS.** **TASK No. : 1**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 1.1 Select materials according to instructions 1.2 Check the gear box oil level and coolant, if inadequate reported. 1.3 Remove the chuck key before stating machine. 1.4 Remove unnecessary tools from the machine before starting, if present. 1.5 Remove any oil hazards. 1.6 Accept appropriate materials. 1.7 Complete the task within specified time. 1.8 Follow safety rules.		

	TASK SPECIFICATION
5	**TASK NO. : 2** **FACING ENDS.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 2.1 Ascertains job requirements from instructions/drawing and/or other specifications 2.2 Selects appropriate materials. 2.3 Determines sequences and methods of producing the work piece. 2.4 Selects and clamps appropriate cutting tools. 2.5 Positions and secures wok piece on machine. 2.6 Sets machine controls as required (Speed, feed, and depth of cut.) 2.7 Ensures coolant supply. 2.8 Operates automatic or manual controls. 2.9 Checks accuracy of job using measuring instruments. 2.10 Repositions work piece, changes tools and resets machine, if necessary. 2.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center and chuck key **Measuring instruments & gauges:** inside and outside calipers and vernier caliper. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** facing tools and centre drills. **Consumable materials:** Coolant, lubricants and job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected and clamped securely. Work pieces secured and aligned to allow facing end operation. Speed, feed and depth of cut selected and set according to materials and size of work piece. Coolant supplied adequately to prevent overheating of work piece and cutting tools. Controls operated either automatically or manually without damage to tool and work piece. Work piece repositioned, tools and machine reset when required. Tolerance within specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
2	1	Knowledge of use and care of measuring instruments such as inside and outside calipers, steel engineering rule.	Reading numerical and computation of simple arithmetical such as addition, subtraction, multiplication and division.	Interpretation of simple working drawing to determine dimensions of required materials, working sequence, and degree of accuracy.	Importance of using emergency stop.
	2	Knowledge of identification of common engineering materials such as brass, bronze, steel, copper, aluminum, cast iron.		Convention for surface finish.	Results of improper manipulation such as flying broken tools or excessive chips. Importance of eye protection.
	3	Knowledge of sequential operations involved in producing work piece.	Reading metric and imperial system of units for linear measurement.		
	4	Knowledge of facing tools and methods of sharpening facing tools.			
	5	Knowledge of method of fastening and positioning of cutting tools.			
	6	Knowledge of procedures for inserting and securing work piece in different holding devices.			
	7	Knowledge of the factors affecting surface finish and quality of job.			
	8	Knowledge of coolants.			
	9	Knowledge of manual and automatic controls.			

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : FACING ENDS.** **TASK No. : 2**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 2.1 Select materials as specified/instructed. 2.2 Select, clamp and align the appropriate tool. 2.3 Clamp, tighten and align the work piece for facing ends operations. 2.4 Select and set the appropriate speed, feed, and depth of cut as required. 2.5 Supply adequate coolant. 2.6 Operate the machine without damage to work piece, tools or machine. 2.7 Produce the work piece within tolerance as specified in below:- Linear ± 0.1 mm. Surface finish 3.2 microns 2.8 Reposition the work piece, change the tools as required to complete facing ends operation. 2.9 Clean used tools, measuring instruments and return to specified place. 2.10 Clean machine and surrounding. 2.11 Follow safety rules.		

TASK SPECIFICATION	
5	**TASK NO. : 3** **TURNING PARALLEL.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 3.1 Ascertains job requirements from drawing, instructions and/or other specifications. 3.2 Selects appropriate materials. 3.3 Determines sequences and methods of operations as required by specifications. 3.4 Selects and clamps appropriate cutting tools. 3.5 Positions and secures work piece on machine. 3.6 Sets machine controls as required (Speed, feed, and depth of cut.) 3.7 Ensures coolant supply. 3.8 Operates automatic or manual controls. 3.9 Checks accuracy of job using measuring instruments. 3.10 Repositions work piece, changes tools and resets machine as required. 3.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/specification/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center, chuck or collets and sleeves. **Measuring instruments & gauges:** Vernier caliper and micrometer. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** Turning tool, center drill and drill bits. **Consumable materials:** Coolant, lubricants, job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected for parallel turning operations. Speed, feed and depth of cut selected and set according to the material and size of work piece. Controls operated either automatically/manually without tool breakage or damage to work piece. Adequate coolant supplied to prevent overheating of work piece and cutting tool. Work piece repositioned, tools changed and machine reset as required. Parallel turned within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
3	1	Knowledge of use and care of measuring instruments such as inside and outside calipers, vernier caliper.	Reading metric and imperial system of units for linear measurement.	Interpretation of simple working drawing to determine, dimensions of required materials, working sequence, and degree of accuracy.	Importance of using emergency stop.
	2	Knowledge of identification of common engineering materials such as brass, bronze, steel, copper, aluminum, cast iron.	Simple arithmetical procedure such as addition, subtraction, multiplication and division.		Results of improper manipulation such as flying broken tools or excessive chips. Importance of eye protection.
	3	Knowledge of sequential operations involved in producing work piece.			
	4	Knowledge of parallel turning and methods of sharpening (roughing, finishing). Method of fastening and positioning of cutting tools.			
	5	Knowledge of procedures for inserting and securing work piece in different holding devices.			
	6	Knowledge of the factors affecting surface finish and quality of job.			
	7	Knowledge of coolants.			
	8	Knowledge of manual and automatic controls.			

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : TURNING PARALLEL.** **TASK No. : 3**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 3.1 Select materials as specified according to the drawing. 3.2 Select appropriate tools, and fit in position securely. 3.3 Tighten and align work piece securely to allow parallel turning operation. 3.4 Select appropriate speed, feed and depth of cut corresponding to materials and size. 3.5 Maintain adequate supply of coolant to prevent overheating of cutting tools and work piece. 3.6 Operate the controls without tool breakage or damage to work piece. 3.7 Produce the work piece within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns 3.8 Reposition the work piece, change the tools as required to complete parallel turning operation. 3.9 Clean used tools, measuring instruments and return to specified place. 3.10 Clean machine and surrounding. 3.11 Follow safety rules.		

TASK SPECIFICATION	
5	**TASK NO. : 4** **TURNING STEPS WITH SHOULDERS.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 4.1 Ascertains job requirements from drawing, instructions and/or other specifications. 4.2 Selects appropriate materials. 4.3 Determines sequences and methods of operations as required by specifications. 4.4 Selects and clamps appropriate cutting tools. 4.5 Positions and secures work piece on machine. 4.6 Sets machine controls as required (Speed, feed, and depth of cut.) 4.7 Ensures coolant supply. 4.8 Operates automatic or manual controls. 4.9 Checks accuracy of job using measuring instruments. 4.10 Repositions work piece, changes tools and resets machine as required. 4.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center, chuck or collet, **Measuring instruments & gauges:** Vernier caliper and micrometer. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** Lathe tool and center drill. **Consumable materials:** Coolant, lubricants, job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected for steps turning operations. Speed, feed and depth of cut selected and set according to the material and size of work piece. Controls operated either automatically/manually without tool breakage or damage to work piece. Adequate coolant supplied to prevent overheating of work piece and cutting tool. Work piece repositioned, tools changed and machine reset as required. Steps turned within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
4	1	Knowledge of use and care of measuring instruments such as inside and outside calipers, vernier caliper.	Reading metric and imperial system of units for linear measurement.	Interpretation of simple working drawing to determine, dimensions of required materials, working sequence, and degree of accuracy.	Importance of using emergency stop.
	2	Knowledge of identification of common engineering materials such as brass, bronze, steel, copper, aluminum, cast iron.	Simple arithmetical procedure such as addition, subtraction, multiplication and division.		Results of improper manipulation such as flying broken tools or excessive chips. Importance of eye protection.
	3	Knowledge of sequential operations involved in producing work piece.			
	4	Knowledge of steps turning and methods of sharpening (roughing, finishing). Method of fastening and positioning of cutting tools.			
	5	Knowledge of procedures for inserting and securing work piece in different holding devices.			
	6	Knowledge of the factors affecting surface finish and quality of job.			
	7	Knowledge of coolants.			
	8	Knowledge of manual and automatic controls.			

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : TURNING STEPS WITH SHOULDERS.** **TASK No. : 4**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 4.1 Select materials as specified according to the drawing. 4.2 Select appropriate tools, and fit in position securely. 4.3 Tighten and align work piece securely to allow steps turning operation. 4.4 Select appropriate speed, feed and depth of cut corresponding to materials and size. 4.5 Maintain adequate supply of coolant to prevent overheating of cutting tools and work piece. 4.6 Operate the controls without tool breakage or damage to work piece. 4.7 Produce the work piece within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns 4.8 Reposition the work piece, change the tools as required to complete step turning operation. 4.9 Clean used tools, measuring instruments and return to specified place. 4.10 Clean machine and surrounding. 4.11 Follow safety rules.		

	TASK SPECIFICATION
5	**TASK NO. : 5** **De-burring.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 5.1 Ascertains job requirements from instructions/drawing and/or other specifications 5.2 Selects appropriate materials. 5.3 Determines sequences and methods of producing the work piece. 5.4 Selects and clamps appropriate cutting tools. 5.5 Positions and secures wok piece on machine. 5.6 Sets machine controls as required (Speed, feed, and depth of cut.) 5.7 Ensures coolant supply. 5.8 Operates automatic or manual controls. 5.9 Checks accuracy of job using measuring instruments. 5.10 Repositions work piece, changes tools and resets machine, if necessary. 5.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center and drill with chuck key. **Measuring instruments & gauges:** inside and outside calipers and vernier caliper. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** De-burring tools and centre drills. **Consumable materials:** Coolant, lubricants and job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected and clamped securely. Work pieces secured and aligned to allow de-burring operation. Speed, feed and depth of cut selected and set according to materials and size of work piece. Coolant supplied adequately to prevent overheating of work piece and cutting tools. Controls operated either automatically or manually without damage to tool and work piece. Work piece repositioned, tools and machine reset when required. De-burred tolerance within as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
5	1	Knowledge of use and care of measuring instruments such as inside and outside calipers, steel engineering rule.	Reading numerical and computation of simple arithmetical such as addition, subtraction, multiplication and division.	Interpretation of simple working drawing to determine dimensions of required materials, working sequence, and degree of accuracy.	Importance of using emergency stop.
	2	Knowledge of identification of common engineering materials such as brass, bronze, steel, copper, aluminum, cast iron.		Convention for surface finish.	Results of improper manipulation such as flying broken tools or excessive chips. Importance of eye protection.
	3	Knowledge of sequential operations involved in producing work piece.	Reading metric and imperial system of units for linear measurement.		
	4	Knowledge of de-burring and methods of sharpening tools.			
	5	Knowledge of method of fastening and positioning of de-burring tools.			
	6	Knowledge of procedures for inserting and securing work piece in different holding devices.			
	7	Knowledge of the factors affecting surface finish and quality of job.			
	8	Knowledge of coolants.			
	9	Knowledge of manual and automatic controls.			

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : DE-BURRING.** **TASK No. : 5**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 5.1 Select materials as specified/instructed. 5.2 Select, clamp and align the appropriate tool. 5.3 Clamp, tighten and align the work piece for de-burring operations. 5.4 Select and set the appropriate speed, feed, and depth of cut as required. 5.5 Supply adequate coolant. 5.6 Operate the machine without damage to work piece, tools or machine. 5.7 Produce the work piece within tolerance as specified in below:-Linear ± 0.1 mm. Surface finish 3.2 microns 5.8 Reposition the work piece, change the tools as required to complete de-burring operation. 5.9 Clean used tools, measuring instruments and return to specified place. 5.10 Clean machine and surrounding. 5.11 Follow safety rules.		

TASK SPECIFICATION	
5	**TASK NO. : 6** **TURNING GROOVES.** **TITLE: LATHE SETTER OPERATOR, L-1**
	TASK ELEMENTS 6.1 Ascertains job requirements from drawing instruction and/or other specifications. 6.2 Selects appropriate materials. 6.3 Selects form tools, marking tools and measuring instruments and gauges. 6.4 Determines sequences and methods of operations as required by specifications. 6.5 Mounts, aligns and positions the work piece on machine. 6.6 Sets machine controls as required (speed, feed, and depth of cut). 6.7 Ensures coolant supply. 6.8 Performs groove turning 6.9 Checks accuracy of job using measuring instruments and gauges. 6.10 Repositions work piece, if necessary. 6.11 Changes tools and resets machine, if necessary. 6.12 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing and metal table book. **Machine tools & accessories:** Lathe machine, revolving center and drill chuck with key. **Measuring Instruments & gauges:** Vernier caliper, micrometer (inside and outside), dial test indicator, filler gauge and radius gauge. **Fitting tools:** Steel hammer and mallets. **Cutting Tools:** Lathe tools, grooving tool and center drill. **Consumable materials:** Coolant, lubricants and job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected and clamped securely as required, work piece securely tightened and aligned to allow groove turning operation, appropriate speed, feed and depth of cut selected and set, coolant supplied adequately to prevent overheating of work piece and cutting tools. Controls operated automatically or manually without tool breakage or damage to work piece, work piece repositioned, tools changed and machine reset. Groove turned within tolerance as specified below: Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
6	1	Knowledge of use and care of measuring instruments such as inside and outside calipers, micrometers, etc.	Interpretation and computation of imperial and metric units for linier and angular measurement.	Interpretation of conventional symbols and working drawing.	Importance of using emergency stop.
	2	Knowledge of groove turning on lathe machine			Result of improper manipulation and situation like flying broken tools and excessive chip formation.
	3	Knowledge of sequential operation involved in producing work piece.			
	4	Knowledge of groove turning tools and methods of aligning and clamping tools.			
	5	Knowledge of procedure for securing work piece in work holding devices.			
	6	Knowledge of factors affecting surface finish and quality of job.			
	7	Knowledge of application of coolants.			
	8	Knowledge of manual and automatic controls.			
		.			

TASK PERFORMANCE TEST (skill assessment)			
11	**TASK TITLE : TURNING GROOVES** **TASK No. : 6**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE? 6.1 Select the specified material. 6.2 Select, align and clamp the appropriate tool. 6.3 Tighten and align the work piece to allow groove turning operation. 6.4 Select and set the appropriate speed, feed and depth of cut. 6.5 Supply adequate coolants. 6.6 Select and manipulate appropriate controls. 6.7 Reposition the work piece and change the tools, if required. 6.8 Produce the work piece within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns 6.9 Produce the work piece within specified time. 6.10 Clean used tools, measuring instruments and return to specified place. 6.11 Clean machine and surrounding. 6.12 Follow safety rules.		

TASK SPECIFICATION	
5	**TASK NO. : 7** **CENTRE DRILLING.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 7.1 Ascertains job requirements from instructions/drawing and/or other specification. 7.2 Selects appropriate materials. 7.3 Determines sequences and methods of producing the work piece. 7.4 Selects and clamps appropriate center drill. 7.5 Positions and secures work piece on machine. 7.6 Sets machine controls as required (Speed, feed, and depth of cut.) 7.7 Ensures coolant supply. 7.8 Operates manual controls. 7.9 Checks accuracy of job using measuring instruments. 7.10 Repositions work piece, changes center drill and resets machine as necessary. 7.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center, sleeves, drill drift and chuck with key. **Measuring instruments & gauges:** Vernier caliper. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** Centre drills and turning tools. **Consumable materials:** Coolant, lubricants and job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected, and clamped securely. Work pieces secured and aligned to allow centre drilling operation. Speed, feed and depth of cut selected and set according to materials and size of work piece. Coolant supplied adequately to prevent overheating of work piece and center drill. Controls operated either automatically or manually without damage to center drill or work piece. Work piece repositioned, tools and machine reset as required. Center drilled within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
7	1 2 3 4 5 6	Knowledge of distinguishing materials such as mild steel cast iron, aluminum, brass, bronze and copper. Knowledge of sequential operations involved in producing work piece. Knowledge of center drills. Method of fastening and positioning of center drill. Knowledge of procedures for inserting and securing work piece into collect. Knowledge of application of coolants. Knowledge of manual and automatic controls.	Reading numerical and computation of simple arithmetical procedure such as addition, subtraction, multiplication and division.		Importance of using emergency stop. Hazard associated with chuck keys and unsecured work pieces.

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : CENTRE DRILLING.** **TASK No. : 7**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDAT ? 7.1 Select materials as specified/instructed. 7.2 Select, clamp and align the appropriate tool. 7.3 Clamp, tighten and align the work piece for center drilling operations. 7.4 Select and set the appropriate speed, feed, and depth of cut. 7.5 Supply adequate coolant. 7.6 Operate the machine without damage to work piece, center drill or machine. 7.7 Produce the work piece within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns 7.8 Produce the work piece within specified time. 7.9 Clean used center drill, measuring instruments and return to specified place. 7.10 Clean machine and surrounding. 7.11 Follow safety rules.		

TASK SPECIFICATION	
5	**TASK NO. : 8** **DRILLING OPERATION.** **JOB TITLE: LATHE SETTER OPERATOR, L-1**
6	**TASK ELEMENTS** 8.1 Ascertains job requirements from instructions/drawing and/or other specification. 8.2 Selects appropriate materials. 8.3 Determines sequences and methods of producing the work piece. 8.4 Selects and clamps appropriate center drill. 8.5 Positions and secures wok piece on machine. 8.6 Sets machine controls as required (Speed, feed, and depth of cut.) 8.7 Ensures coolant supply. 8.8 Operates manual controls. 8.9 Checks accuracy of job using measuring instruments. 8.10 Repositions work piece, changes drill and resets machine as necessary. 8.11 Follows safety rules.

TASK SPECIFICATION	
7	**TASK PERFORMANCE REQUIREMENTS** **Drawing instruction:** Working drawing/ verbal/written instructions. **Machine tools & accessories:** Centre lathe, revolving center, sleeves, drill drift and chuck with key. **Measuring instruments & gauges:** Vernier caliper. **Fitting tools:** Spanner set, hammer and mallets. **Cutting Tools:** Drills and center drill. **Consumable materials:** Coolant, lubricants and job materials as specified in drawing.
8	**TASK PERFORMANCE STANDARDS** Materials selected as specified, appropriate tools selected, and clamped securely. Work pieces secured and aligned to allow drilling operation. Speed, feed and depth of cut selected and set according to materials and size of work piece. Coolant supplied adequately to prevent overheating of work piece and drill. Controls operated either automatically or manually without damage to tool or work piece. Work piece repositioned, tools and machine reset as required. Drilled within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns

9	10	TASK TRAINING DATA			
TASK No.	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY AND HYGINE
8	1	Knowledge of distinguishing materials such as mild steel cast iron, aluminum, brass, bronze and copper.	Reading numerical and computation of simple arithmetical procedure such as addition, subtraction, multiplication and division.		Importance of using emergency stop. Hazard associated with chuck keys and unsecured work pieces.
	2	Knowledge of sequential operations involved in producing work piece.			
	3	Knowledge of drills. Method of fastening and positioning of drill.			
	4	Knowledge of procedures for inserting and securing work piece into self centering chuck and collect.			
	5	Knowledge of application of coolants.			
	6	Knowledge of manual and automatic controls.			

TASK PERFORMANCE TEST (Skill Assessment)			
11	**TASK TITLE : DRILLING OPERATION.** **TASK No. : 8**	**LOCATION OF TEST:** **CANDIDATE'S NAME:** **EVALUATOR'S NAME:**	
12	**TEST FACTORS AND ITEMS**	**STANDARD MET**	**STANDARD NOT MET (comments)**
	DID THE CANDIDATE ? 8.1 Select materials as specified/instructed. 8.2 Select, clamp and align the appropriate tool. 8.3 Clamp, tighten and align the work piece for drilling operations. 8.4 Select and set the appropriate speed, feed, and depth of cut. 8.5 Supply adequate coolant. 8.6 Operate the machine without damage to work piece, drill or machine. 8.7 Produce the work piece within tolerance as specified below:- Linear ± 0.1 mm. Surface finish 3.2 microns 8.8 Produce the work piece within specified time. 8.9 Clean used drill, measuring instruments and return to specified place. 8.10 Clean machine and surrounding. 8.11 Follow safety rules.		

SUBJECT-LATHE SETTER OPERATOR L-1	**Skill Testing Division**	**SCALE-1:4**
DATE-	**NATIONAL SKILL TEST**	**TIME: hrs**