

Approved Procurement Plan dated. 29.09.2020

Name of the ITI – Salem

Sl.No	Name of items	Package No	Specifications	Trade/Course for which it is required	No of Quantity Approved	NSQF Syllabus Sl.No
1.	Centre Lathe	1	As Per Annexure - B	Machinist & Fitter	4 Nos	159
2.	Surface Grinding Machine (Vertical)	2	As Per Annexure - C	Machinist Grinder	1 No	75
	Pedestal Grinding Machine	2	As Per Annexure - D	Fitter	2 Nos	178
3.	Vice Bench	3	As Per Annexure - E	Fitter	90 Nos	89
4.	Airless spray gun unit	4	As Per Annexure - F	Industrial Painter	1 No	48
5.	D C Compound Motor	5	As Per Annexure - G	Wireman	2 Nos	96
	D C Shunt Motor	5	As Per Annexure - H	Wireman	2 Nos	97
	D C Series Motor	5	As Per Annexure - I	Wireman	2 Nos	98
	Squirrel cage induction motor	5	As Per Annexure - J	Wireman	1 No	105
	2 KVA Alternator	5	As Per Annexure - K	Wireman	1 No	116
6.	Interactive Flat Panel Board 65"	6	As Per Annexure - L	All trades	3 Nos	ICT Infrastructure
7.	Interactive Flat Panel Board 75"	6	As Per Annexure - M	All trades	1 No	ICT Infrastructure
8.	Wall Speaker (30W)	6	As Per Annexure - N	All trades	2 Nos	ICT Infrastructure
	75 W Amplifier	6	As Per Annexure - O	All trades	1 No	ICT Infrastructure
9.	UPS 1KVA	6	As Per Annexure - P	All trades	4 Nos	ICT Infrastructure
10.	Books	7	As per Annexure -I	FITTER	3 Sets	Books

Approved Procurement Plan Dated. 01.02.2021
Name of the ITI – Salem

SI No	Name of the Items	Package No	Specifications	Trade / Course for which it is required	No of Quantity Approved	NSQF Syllabus SI No
1.	CNC Lathe / CNC Turn Centre	1	As per Annexure	Turner	1 No	117

Sd/..
Director

//forwarded by order //

K. R. Srinivasan
For Director 01/2/21

01/02/21

Annexure**CNC Lathe / Turning Centre with tool holders and standard accessories.
Specification:**

Sl. No	Description	Size & Unit
Machine Capacity		
1	Chuck Dia	200 mm (3 jaw Hydraulic power operator with accumulator)
2	Max. load on Chuck	40 kgs
3	Machine weight net	1500 kg (Minimum)
4	Max. Turning Dia	200-300mm
5	Max. Turning Length with chuck	230-300mm
6	Slant Angle (Bed or saddle)	30 deg to 45 deg
7	Admit between centers	400mm (Minimum)
8	Swing over bed	400-500 mm
9	Swing over Carriage	300 mm (Minimum)
Spindle		
1	Maximum Spindle speed	4000 RPM (Minimum)
2	Type of Drive	AC servo spindle motor (digital)
3	Spindle front Bearing (ID)	60 mm (Minimum)
4	Spindle Nose	A2-5 or higher
5	Max. bar capacity	35-40
6	Spindle Motor power Ac-cont./15min	5.5/7.5kw or 7/10.5 kw
Axes		
1	X-axis travel	120-200mm
2	Z-axis travel	240-300mm
3	Rapid traverse – X&Z	10-30 m/min
4	Minimum programmable command – X, Z axes	0.001 mm
5	Type of drive X & Z	AC servo motor
6	Motor torque – X axis	3 Nm or higher
7	Motor torque – Z axis	6 Nm or higher
8	Ball screw size – dia x pitch X & Z axes	X-32 x 10, Z-40 x 12
9	Ball screw finish and class	Hardened & ground and class 3
10	Feedback elements type	Absolute encoder
11	Guideways	Anti-friction LM Guideway
12	Guide way size – X & Z axes	25-30 for X axis 30-35 for Z axis
13	Guide way class	P class
14	Manual Handle Feed	In step of 0.001,0.01,0.1 mm

Turret		
1	No of stations	8/12
2	Max. boring bar diameter	25 – 32 mm
3	Tool size (cross section)	25 x 25 mm
4	Bi directional Tool Turret	Electro / Mechanical / Hydraulic / servo
Tail Stock		
1	Quill size	75 mm
2	Quill Taper	MT4
3	Quill Stroke	100mm or higher
4	Quill Actuation	Hydraulic
5	Tail Stock base travel manual	150mm
6	Quill Thrust adjustable	300 kgf of higher
7	Revolving center	Mt4- 1 no
Coolant / Lubrication / Hydraulic		
1	Coolant tank capacity	100 Liters of higher
2	Coolant pump motor	0.37 kw
3	Coolant pump output	20 – 25 lpm
4	Lubrication	Automatic centralized lubrication
5	Lubrication tank capacity	3 – 5 liters
6	Hydraulic tank capacity	30 – 40 liters
7	Hydraulic system pressure	30 – 40 bar
8	Hydraulic pump capacity	8 – 10 lpm
Accuracy as per ISO 230-2		
1	Positioning accuracy for X&Z axes	0.010 mm or lesser
2	Repeatability for X&Z axes	±0.005mm or lesser
3	Geometrical alignment	ISO 13041 – part 1
4	Accuracy of finish test piece	ISO 13041 – part 6
CNC System		
1	Control system	Fanuc 0i TF advanced
2	Resolution	0.001mm
3	Machine control panel	Feed rate, spindle speed override knob, MPG,MDI alarm messages on screen, swivel-based type pendant
4	MPG (Manual pulse generator)	On machine operator panel
5	Motor & Drive	Fanuc, compatibility with CNC controllers mentioned above

6	CNC features	Graphic simulation, programming help, Tool offset, MDI, Absolute / incremental positioning, pitch error compensation.
Power Source		
1	Mains supply ($\pm 10\%$)	415v, 3 Phase, 50 Hz AC supply
2	Total connected load requirement	Approx., 15 KVA
Standard Equipment		
1	Voltage stabilizer	15 KVA
2	Air conditioning unit for electrical cabinet	1 no
3	Backup CD for PLC ladder logic	1 no
4	Machine lightning	1 no
5	Leveling pads and jacking screws	1 set (As required)
6	Instruction and programming manual	Both Hard & Soft copy 2 sets
7	Maintenance support system	And interactive multimedia-based system which will guide the user through various of the operation of the machine maintenance, basic operations of the machine
8	Maintenance manual	1 Set
9	Electrical documentation manual	1 No
10	Installation kit	1 Set
11	Maintenance tool kit	1 Set
12	Sliding door inter lock	1 No
13	Coolant & chip tray	1 No
14	Foot switch for chuck and tail stock	Required
15	Set of turret tool holder	1 Set
16	Absolute encoder	1 No
17	USB port	As required
18	6 rack trolley (size 25" x 22" x 45")	1 No
19	Machine guarding with safety complete	
20	Machine status lamp	As required
21	Soft jaws	2 Sets
Makes of Critical Components		
1	LM guideways	HIWIN / THK / PMI / STAR
2	Ball screws	HIWIN / THK / TSUBAKI / PMI / STAR / HMT / NSK
3	Spindle bearings	RHP / NSK / FAG / SKF / NRB
4	Stabilizer	NEEL / SERVOMAX / CONSULF / FARMAX
5	Lubrication	CENLUBE / DROPKO

6	Coolant pump	RAJAMAN / GRU NDFOS HIWIN / THK / PMI / STAR
Tool Holders		
Tool holders to suit the CNC machine for turning, threading, grooving (external&internal), parting off operation, boring, under-cutting with 20 inserts of each operation.		
1	MWLN External turning tool holder	2 Nos
2	WNMG 0.8R coated carbide inserts (Mild steel machining)	20 Nos
3	MVJNL External turning tool holder	2 Nos
4	VNMG 0.8R coated carbide inserts (Mild steel machining)	10 Nos
5	VNMG 0.4R coated carbide inserts (Mild Steel machining)	10 Nos
6	PDJNR External Turning Tool Holder	2 Nos
7	DNMG 0.8R coated carbide inserts (Mild steel machining)	10 Nos
8	DNMG 0.4R coated carbide inserts (Mild steel machining)	10 Nos
9	SEL External Threading Tool Holder	2 Nos
10	1.5mm ISO 3M coated carbide insert. (for threading Mild steel)	10 Nos
11	Internal threading tool holder	2 Nos
12	1.5mm ISO 3M coated carbide insert. (for threading Mild steel)	10 Nos
13	3mm External Grooving coated carbide inserts. (Mild steel)	10 Nos
14	3 mm LH Grooving Tool Holder External	2 Nos
15	3mm LH Grooving Tool Holder Internal	2 Nos
16	3mm Grooving coated carbide inserts. (Mild Steel)	10 Nos
17	Parting of Holder LH	2 Nos
18	Insert for parting 2mm width. (Mild steel)	10 Nos
19	Internal Grooving Tool Holder LH, (Bore Diameter 12mm)	2 Nos
20	Grooving insert 2mm width coated carbide. (Mild Steel)	10 Nos
21	Insert drill Diameter 16mm	1 No
22	Suitable insert for above drill coated carbide. (Mild Steel)	10 Nos
23	Centre drill A 2.5 x 6.3	2 Nos

24	HSS straight shank drill bit diameter 6,8,10 & 12mm	Each 1 No
25	Collet holder (with locknut)	2 Nos
26	Collets for above drills diameter 6,8,10 & 12 mm	Each 1 no
27	Boring Bar (diameter 16 to 22 mm)	2 Nos
28	Boring Bar (diameter 12mm to 16mm)	2 Nos
29	Boring insert coated carbide (Mild Steel machining)	10 Nos
30	Boring Bar Holder	2 Nos

Note:

A. Geometrical and practical tests should be done as per Indian Standards of latest version. Necessary inspection and material test certificates should be submitted.

B. Training in the following areas should be provided:

1. Instruction about the machine operation for 2 persons of each consignee.
2. Programming, Servicing, basic operation, Machine setup and adjustment of the machine. (including system maintenance and mechanical maintenance)
3. Number of sample jobs with programming on machine to be worked out.

Quantity: Should be done by the vendor Qty 1 no.

Erection & Commissioning: Should be done by the vendor

For *K. R. Reddy*
Director 2/2/21

2/2/21