

GOVERNMENT OF ANDHRA PRADESH  
DEPARTMENT OF EMPLOYMENT AND TRAINING

From  
Sri P.Ganesh,  
Principal,  
Govt I T I,  
Tirupathi.

To  
The Strive Project (SPIU)  
O/o Director of Employment  
and Training, AP., VIJAYAWADA.

Lr.No.E/06/2019 dt 22-07-2021

Sir,

Sub: Govt I T I, Tirupathi – SPIU – Strive – Annual Procurement Plan of packages  
(Package 1- 34 lakhs, Package 2 – 56 lakhs) as per ISP And Approved by IMC  
Govt ITI, Tirupati (Strive) – Submitted – Reg.


Ref: Memo No. SPIU/2479/STRIVE/2017 of Directorate of Employment and  
Training, A.P., Vijayawada. Mail Dt. 16-07-2021.

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With reference to the above cited, I am herewith submitting the Annual  
Procurement Plan as per the Institute Strategic Plan (ISP) and guide lines of the Strive  
Operation Manual duly signed by the IMC Govt ITI, Tirupati (GR28000182) Strive of Two  
copies in Original as the contract value estimated cost is more than 25 lakhs (Package 1- 34  
lakhs, Package 2 – 56 lakhs)

This is submitted for your kind perusal and necessary actions.

Yours faithfully,

  
**PRINCIPAL**  
**GOVT. INDUSTRIAL TRAINING INSTITUTE**  
**TIRUPATI**

Encl: Revised procurement plan signed copy original (2 sets)

Copy submitted to Regional Deputy Director (App), Tirupati for favour of kind information.

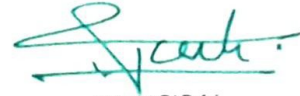
STRIVE PROCUREMENT PLAN PARTICULARS-1st YEAR

MIS ITI CODE: GR28000182

NAME OF THE ITI: GOVT ITI, TIRUPATI

DISTRICT: CHITTOOR

S.No	Package	Description	Estimated Cost (Rs. in Lakhs)
1	Package-1	Equipment- Electrical, Fitter, MMV, Mechanic Diesel Trades (Upgradation)	34.04
2	Package-2	Machinery- Fitter, Machinist Trades (Upgradation)	56.00
	<b>Grand Total:</b>		<b>90.04</b>



PRINCIPAL  
GOVT ITI, TIRUPATI  
GR28000182

**PROCUREMENT PLAN SUBMITTED BY IMC Govt. ITI., TIRUPATI, UNDER STRIVE PROJECT**

*Name of the ITI:-GR28000182-GOVT ITI TIRUPATI, AP*

**ITEMS TO BE PROCURED IN YEAR -01**

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
<b>Package-1</b>							
1	Motor-Generator (AC to DC) Panel board consists of Squirrel Cage Induction Motor with star delta starter and directly coupled to DC shunt generator	It includes switch board mounted with regulator, air breaker, ammeter, voltmeter, knife blade switches, DC Power source and fuses, set complete with case iron and plate, fixing bolts, foundation bolts and flexible coupling. with all suitable speed control and measuring instruments (Digital meters), Male and Female banana connectors with cables	Electrician	1 No.	1.5000	1.5000	Competitive Bidding
2	Motor Generator(DC to AC) set consisting of - Shunt Motor with starting compensator and switch directly coupled to AC generator with exciter and switch board mounted with regulator, breaker, ammeter, voltmeter frequency meter, knife blade switch and fuses etc. Set complete with cast iron bed plate, fixing bolts, foundation bolts and flexible coupling.	Shunt Motor rating : 5 HP, 440V AC Generator rating : 3-Phase, 4 wire, 3.5 KVA, 400/230 Volts, 0.8 pf, 50cycles . It includes DC Power source, speed control arrangement, Banana Male and Female connectors with cables	Electrician	1 No.	1.5000	1.5000	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
3	Fan & Motor Winding Machine	Suitable for Winding Fans and Induction Motors	Electrician	1No	0.4500	0.4500	Competitive Bidding
4	Washing Machine Semi Automatic (Demonstration purpose)	Suitable for Demonstration of working operation and Maintenance activity	Electrician	1No	0.2000	0.2000	Competitive Bidding
5	Motor Pump set	1 HP Capacity	Electrician	1No	0.0500	0.0500	Competitive Bidding
6	3 Phase Synchronous Machine (3 KW) coupled with DC Shunt Machine ( 3 KW) with 3 Phase synchronization pannel(Alternator Parallel operation) Board with control starters for Two Synchronous machines & Two DC Shunt machines . Or 3 Phase Synchronization Trainer Kit (Anshuman)with all suitable arrangements for Parallel operation	Consist of Pannel Board, 3 Phase Switch, DC Power Board, Indicators, DC Starters-2No, synchronization controls for parallel operation, Voltmeter-4No, Ammeter-4No, Watt meter-2No, Frequency Meter-2No with suitable control and protective elements, Banana Male and Female Connectors all accessories are fitted in Panel Board (Suitable for demonstration of 3 phase synchronous machines parallel operation with speed variations)	Electrician	1 No	1.8000	1.8000	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
7	D.C. Compound Generator with control panel including DC Power source, fitted rheostat, voltmeter, ammeter and breaker suitable connecting Banana male and Female connectors with cables	D.C. Compound Generator with control panel including fitted rheostat, voltmeter, ammeter and breaker, 2.5 KW, 220V & 3phase Squirrel cage Induction Motor, 5HP, 440V, with control panel & star delta starter, includes all suitable measuring instruments (digital) voltmeter, ammeter, wattmeter, all accessories fitted in panel board	Electrician	1 No.	1.5000	1.5000	Competitive Bidding
8	15 KVA, 415V Diesel Generator Set (Sound Proof) with change over switch, over current breaker and water/air-cooled with armature, star-delta connections AC 3 phase	Sound Proof Cabin Type, It includes control panel for operation and all Digital Meters for monitoring	Electrician	1 No.	3.0000	3.0000	Competitive Bidding
9	Automotive exhaust 5 gas analyser (petrol & Diesel) or Diesel Smokemeter	With all suitable accessories	Mechanical Diesel	1 No	4.5000	4.5000	Competitive Bidding
10	Diesel engine Single cylinder (Running condition ) Stationary type	With all suitable accessories for demonstration purpose	Mechanical Diesel	1 No	1.0000	1.0000	Competitive Bidding
11	Diesel engine 4 cylinder (Running condition ) Stationary type	With all suitable accessories for demonstration purpose	Mechanical Diesel	1 No	4.5000	4.5000	Competitive Bidding
12	Fuel injection pump VE pump / Distributor fuel rotary pump (DPC) pumps / along with special tools and accessories	With all suitable accessories	Mechanic Motor vehicle	1 No	1.5000	1.5000	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
13	Cut section Model of Mock layout of a motor car –electrical system working model	Wiring with parts and accessories of a car to be arranged according to the electrical circuit of a car. Working of Self-starter, Alternator, Wiper Motor, Horn, lighting system, sparks from plug to be shown with Distributor & battery. Should be mounted on suitable table	Mechanic Motor vehicle	1 No	1.5000	1.5000	Competitive Bidding
14	Working Condition of Diesel Engine – CRDI - 4 stroke Engine, Assembly with fault simulation board	Latest 4 Stroke 4 cylinder turbo charged CRDI Engine, with ECM, BCM and sensors, wiring, fuel feed, cooling system& instrument cluster. Fault setting bank for minimum 8 sensors and with diagnostic socket&Scanner to read the faults. Engine management circuit diagram to be printed on the panel board.	Mechanic Motor vehicle	1 No	1.5000	1.5000	Competitive Bidding
16	Demonstration board of electronic Ignition system, ignition coil	With HT coil, HT wires, Spark Plugs, ignition switch, coil, distributor, battery, and wiring.	Mechanic Motor vehicle	1 No	0.0500	0.0500	Competitive Bidding
17	Demonstration board of MPFI system	With injectors, rail, inlet manifold, throttle body, distributor, ECU, purge valve, sensor, crank pulley, fuel tank module.	Mechanic Motor vehicle	1 No	0.0500	0.0500	Competitive Bidding
18	Steering assembly – 1. Worm & roller 2. Recirculating ball 3. Electric Assisted Power Steering	1. Worm & Roller steering assembly with drop arm. 2 Recirculating Ballsteering with pitman shaft and drop Arm. Ballsteering with pitman shaft and drop Arm. 3 Electric Assisted Power Steering with Rack and pinion, Electric Motor and Motor Control Module	Mechanic Motor vehicle	3 No	0.0667	0.2000	Competitive Bidding
19	Heavy Commercial vehicle	Fitted with Latest 06 cylinder CRDI diesel engine with all parts and accessories. (without body on frame)	Mechanic Motor vehicle	1 No	4.0000	4.0000	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
20	MPEI petrol engine with swiveling stand along with special tools for dismantling and assembling	Latest 4 Stroke 3/4 cylinder MPEI Engine in running condition 800-1600cc with ECM, BCM and all sensors, wiring, fuel feed system, cooling system & instrument cluster.	Mechanic Motor vehicle	1 No	1.0000	1.0000	Competitive Bidding
21	Working Condition of Petrol MPEI Engine Assembly with fault simulation board	Latest 4 Stroke 3/4 cylinder MPEI in running condition, 800-1600cc with ECM, BCM and all sensors, wiring, fuel feed system, cooling system & instrument cluster with Fault setting bank for minimum 6 sensors with	Mechanic Motor vehicle	1 No	0.2000	0.2000	Competitive Bidding
22	Compressor unit	suitable for Pressure: 8 bar, Delivery: 50 lpm (or more), Reservoir capacity: 24 Litres (or more), 230V, 50 Hz, with pressure regulator and water separator	Fitter	2 Nos	0.2500	0.5000	Competitive Bidding
23	Pneumatic Trainer Kit, each consisting of the following matching components and accessories:		Fitter	2 Sets	0.0200	0.0400	Competitive Bidding
	I. Single acting cylinder	Max. stroke length 50 mm, Bore dia 20 mm	Fitter	2 Nos	0.0050	0.0100	Competitive Bidding
	II. Double acting cylinder	Max. stroke length 100 mm, Bore dia 20 mm, magnetic type	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	III. 3/2-way valve	manually-actuated, Normally Closed	Fitter	4 Nos	0.0050	0.0200	Competitive Bidding
	IV. 3/2-way valve	pneumatically-actuated, spring return	Fitter	2 Nos	0.0050	0.0100	Competitive Bidding
	V. One-way flow control valve		Fitter	4 Nos	0.0025	0.0100	Competitive Bidding
	VI. 5/2-way valve	with manually-operated switch	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
	VII. 5/2-way valve	pneumatically-actuated, spring return	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	VIII. 5/2-way pneumatic actuated valve	double pilot	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	IX. 3/2-way roller lever valve	direct actuation Normally Closed	Fitter	4 Nos	0.0100	0.0400	Competitive Bidding
	X. Shuttle valve (OR)		Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XI. Two-pressure valve (AND)		Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XII. Pressure gauge	0-16 bar	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XIII. Manifold with self-closing	NRV, 6-way	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding
	XIV. Pushbutton station for electrical signal input	with 3 illuminated momentary-contact switches (1 NO + 1 NC) and 1 illuminated maintained-contact switch (1 NO + 1 NC), Contact load 2A	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XV. Relay station	with 3 relays each with 4 contact sets (3NO+1NC or Change-over type), 5 A	Fitter	2 Nos	0.0250	0.0500	Competitive Bidding
	XVI. 3/2-way single solenoid valve	with LED	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XVII. 5/2-way valve	with manual override and LED	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding
	XVIII. 5/2-way double solenoid valve	with manual override and LED	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding



Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
	XIX. Power supply unit,	Input voltage 85 – 265 V AC, Output voltage: 24 V DC, Output current: max. 4.5 A, short-circuit-proof.	Fitter	2 Nos	0.0200	0.0400	Competitive Bidding
	XX. Profile plate, Anodised Aluminium	1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the pneumatic workstation)	Fitter	2 Sets	0.0250	0.0500	Competitive Bidding
24	Hydraulic Trainer Kit, each consisting of the following matching components and accessories:	with (1) external gear pump having a delivery rate of 2.5 lpm, (approx.) @ 1400 rpm operating pressure 60 bar, coupled to a single-phase AC motor (230 V AC) having start capacitor and ON/OFF switch and overload protection, (2) pressure relief valve adjustable from 0 – 60 bar, (3) oil reservoir, ≥5 litres capacity having sight glass, drain screw, air filter, and P and T ports.	Fitter	2 Sets	0.1000	0.2000	Competitive Bidding
	I. Hydraulic Power pack		Fitter	2 Nos	0.2500	0.5000	Competitive Bidding
	II. Pressure relief valve	pilot-operated	Fitter	2 Nos	0.0050	0.0100	Competitive Bidding
	III. Drip tray, steel	size 1160 mm x 760 mm.	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	IV. Pressure Gauge	Glycerin-damped, Indication range of:	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
	V. Four-Way distributor	with five ports, equipped with a pressure gauge	Fitter	2 Nos	0.0200	0.0400	Competitive Bidding
	VI. Double acting hydraulic cylinder	with a control cam, Piston diameter 16 mm, Piston rod diameter 10 mm, Stroke length 200 mm.	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	VII. Suitable Weight	for vertical loading of hydraulic cylinder	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	VIII. Mounting kit for weight	for realizing pulling and pushing load.	Fitter	2 Nos	0.0200	0.0400	Competitive Bidding
	IX. 3/2-way directional control valve	with hand lever actuation.	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding
	X. 4/2-way directional control valve	with hand lever actuation.	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding
	XI. 4/3-way directional control valve	closed-centre position, with hand lever actuation.	Fitter	2 Nos	0.0100	0.0200	Competitive Bidding
	XII. Non-return valve.		Fitter	2 Nos	0.0200	0.0400	Competitive Bidding
	XIII. Pilot-operated check valve	pilot to open.	Fitter	2 Nos	0.0250	0.0500	Competitive Bidding
	XIV. One-way flow control valve	with integrated check valve.	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding
	XV. T-Connector with self sealing coupling nipples (2 Nos.) and quick coupling socket (1 No.).		Fitter	4 nos	0.0125	0.0500	Competitive Bidding
	XVI. Profile plate,	Anodised Aluminium, 1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the Hydraulic workstation)	Fitter	2 Nos	0.0150	0.0300	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
25	Pneumatic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide:	(1) Work Table – Size(Approx.) L1200mmXW900mmXH900 mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.) - L470mmxW495mmxH825m m and (3) Drawer slide height (Approx.) 85mm.	Fitter	2 Nos	0.2000	0.4000	Competitive Bidding
26	Carrier for mounting components, such as PB & relay boxes.		Fitter	2 Nos	0.0250	0.0500	Competitive Bidding
27	Cut section model for pneumatic components		Fitter	2 Sets	0.0500	0.1000	Competitive Bidding

28	Hydraulic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide:	(1) Work Table – Size(Approx.) L1200mmXW900mmXH900 mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.) - L470mmxW495mmXH825m m and (3) Drawer slide height (Approx.) 85mm.	Fitter	2 Nos	0.4500	0.9000	Competitive Bidding	
29	Cut-section models for hydraulic components		Fitter	2 Sets	0.2000	0.4000	Competitive Bidding	
<b>Total Amount:</b>							<b>34.0400</b>	

  
**SECRETARY**  
**IMC STRIVE SOCIETY**  
**GOVT. I.T.I., TIRUPATHI,**

  
**CHAIRMAN**  
**IMC STRIVE SOCIETY**  
**GOVT. I.T.I., TIRUPATHI.**

**PROCUREMENT PLAN SUBMITTED BY IMC Govt. ITI, TIRUPATI, UNDER STRIVE PROJECT**

*Name of the ITI:-GR28000182-GOVT ITI TIRUPATI, AP*

**ITEMS TO BE PROCURED IN YEAR -01**

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
<b>Package-2</b>							
1	Slotter Machine	180 mm stroke (motorized) with all attachments, Motor Capacity - 0.75 KW	Machinist	01 No	6.000	6.000	Competitive Bidding
2	Silicon carbide grinder for carbide tipped tools	Machine for carbide tipped tools grinding	Machinist	01 No	5.000	5.000	Competitive Bidding
3	Universal Milling machine with minimum specification as:	Table Length x width 1200 x 300 mm having motorized up & down movement along with auto feed arrangement and with Motor Capacity - 7.5KW following attachments such as: a. Vertical head b. Slotting attachment c. Rack cutting attachment d. Rotary table e. Dividing head f. Adaptors, arbors and collects etc. for holding straight shank drills and cutters from 3 mm to 25 mm	Machinist	01 No	6.000	6.000	Competitive Bidding
4	Vertical Milling Machine with minimum specification as:	Table Length x width 1200 x 300 mm having motorized up & down movement along with auto feed arrangement along with 150mm universal vice, Motor Capacity - 5.5KW	Machinist	01 No	6.000	6.000	Competitive Bidding
5	Cylindrical grinder	Max grinding length – 300 mm Height of centre – 130 mm Max. distance between centers – 340 mm	Machinist	01 No	2.000	2.000	Competitive Bidding
6	Power Hack saw machine (Hydraulic)	400 mm. Blade size capacity, Motor Capacity -0.75 KW including coolant pump and all suitable Operational and Mounting accessories	Machinist	02 No	0.500	1.000	Competitive Bidding

Sl No.	Name of Items	Specifications	Trade /Course	Total required	Rate/ Unit (in INR lakh)	Total (in INR lakh)	Method of procurement (e.g. shopping / Competitive Bidding)
7	Lathe S.S. & S.C. ( All geared head stock ) with minimum specification as:	Centre height 150 mm and centre distance 1000 mm along with 3 & 4 jaw chucks, auto feed system, safety guard, taper turning attachment, motorized coolant system, lighting arrangement & standard accessories.	Fitter	4 No	4.0000	16.0000	Competitive Bidding
8	SS and SC centre lathe (all geared) with specification as:	Centre height 150 mm and centre distance 1000 mm along with 4 jaw chuck, Taper turning attachment, steadies, auto feed system, safety guard, motorized coolant system, with lighting arrangement and set of lathe tools, Motor Capacity - 5.5 KW	Machinist	01 No	4.000	4.000	Competitive Bidding
9	CNC lathe/CNC turn Centre (2 Axis)	<b>Specification List Enclosed</b>	Machinist	01 No	10.000	10.000	Competitive Bidding
	<b>Total Amount:</b>					<b>56.000</b>	

  
**SECRETARY**  
**IMC STRIVE SOCIETY**  
**GOVT. I.T.I., TIRUPATHI.**

  
**CHAIRMAN**  
**IMC STRIVE SOCIETY**  
**GOVT. I.T.I., TIRUPATHI.**

**CNC Lathe/CNC turn Centre Specifications**

<b>1. MACHINE CAPACITY</b>	<b>2. SPINDLE</b>	<b>3. AXES</b>	<b>4. TURRET</b>
a. Swing over bed-350mm or higher	a. Spindle nose- A2-4/A2-5	a. X - axis Travel- 100mm or higher	a. Bi-Directional Tool Turret- Electromechanical/Servo/Hydraulic
b Turning diameter-135mm or higher	b. Bore through Spindle- 35mm or higher	b. Z - axis Travel- 200 mm or higher	b. No. of Tools- 8 nos or higher
c Distance between centres-250mm or higher	c. Maximum spindle speed- 4000RPM or higher	c. Programmable feed rate- X & Z- 10- 10000	c. Tool shank size- 20 x 20mm or higher
d Maximum Turning Length- 200mm or higher	d. Spindle power, continuous-3.7kw or higher	d. Minimum programmable command - X & Z-0.001 mm	d. Maximum boring bar diameter- 25mm or higher
e Slant angle (bed or saddle)- 30degrees to hizontal or higher	e. Minimum spindle speed @ full power- 1200RPM or lower	e. Rapid traverse - X & Z- 20m/min higher	<b>5. TAIL STOCK</b>
f. Cast Iron grade for bed and saddle- Grade 25 or equivalent	f. Ty'eo" drive -AC servo spindle motor (digital)	f. Type of drive - X & Z- AC SERVO MOTOR	a. Quill Diameter-65mm or higher
g. Machine net weight- 1500kg or higher	g. Chuck size- 135mm or higher	g. Motor torque - Z axis -3Nm or higher	b. Quill Stroke-70mm or higher
	h. Chuck type- 3-jaw hydraulic, Hydraulic Power operated	h. Motor torque - X axis- 3mm or higher with brake	c. Quill Taper- MT-4 or higher
	i. Spindle bearing class- P4 Class	i. Ball screw - Z & X axes (diameter xpitch)- 25X10 mm or higher	d. Quill actuation-Hydraulic
	j. Front Bearing Dia. (ID)- 60mm or higher	j. Ball screw finish - Z & X axes- Hardened and Ground	e. Tail stock base travel manual- 150mm or higher
		k. Ball screw class- Z & X axes - Pre- Guideway type - Z & X axes- Antifricition	f. Thrust (Adjustable)- 300kg or higher
		m. Guideway size - Z & X axes- 25mm or n. Guideway precision - Z & X axes - p	
<b>6. COOLANT/LUBRICATION/HYDRAULIC</b>	<b>8. CNC SYSTEM</b>	<b>10. STANDARD EQUIPMENT</b>	<b>11. MAKES OF CRITICAL MACHINE TOOL COMPONENTS</b>
a. Coolant tank capacity - 100 litres or higher	a. Control System- FANUC/Siemens	a. Voltage Stabilizer - 15 KVA	a. Linear Motion Guideways- HIWIN/THK/PMI/STAR
b. Coolant pump motor-0.37kw	b. System resolution- 0.001 mm	b. Air conditioning unit for electrical	b. Ball Screws- HIWIN/THK/TSUBAKI/PMI/STAR/HMT
c. Coolant pump output- 20 LPM or higher	c. Motors & Drives- Compatible with CNC controllers mentioned above	b. Air conditioning unit for electricalcabinet- As required	c. Spindle Bearings- RHP/NSK/FAG/SKF/NRB


**CNC lathe/CNC turn Centre Specifications**

<b>1. MACHINE CAPACITY</b>		<b>2. SPINDLE</b>		<b>3. AXES</b>		<b>4. TURRET</b>	
d. Lubrication type- Automatic centralized lubrication	d. Tool number display - On machine operator panel	c. Backup CD for PLC Ladder Logic- 1 no.	d. Turret- PRAGATI/BARUFFALDI/SAUTER/DU PLOMATIC				
e. Lubrication tank capacity- 3 liters or higher	e. Machine control panel- Feed rate, spindle speed override knob	d. Machine lighting- 1 no.	e. Hydraulic Chuck & Cylinder- GMTT/KITAGAWA/AIRTECH/PRAGATI /ROHM				
f. Hydraulic pump discharge-8LPM or higher	f. MPG (Manual pulse generator)- On machine operator panel	e. Levelling pads and jacking screws- 4 no.	f. Hydraulic Power Pack- YUKEN/FLUID/REXROTH				
g. Hydraulic tank capacity- 30 or higher	g. CNC features - Graphic Simulation, Programming help, Tool Offsets, MDI, Absolute/ Incremental Positioning, Pitch error compensation	f. Operation manual-1 no.	g. Panel AC-WERNER FINLEY/RITTAL/LEXTECNOID				
h. Hydraulic system pressure maximum- 30 or higher	g. Maintenance manual- 1 no.	g. Maintenance manual- 1 no.	h. Stabilizer- NEEU/SERVOMAX/CONSUL/FARMA XEQUIVALENT				
<b>7. ACCURACY as per ISO 230-2</b>	h. Installation kit- 1 no.	h. Installation kit- 1 no.	CENLUBE/DROPCO/EQUIVALENT				
a. Positioning accuracy X & Z axes- 0.012 mm	a. Mains supply ( $\pm 10\%$ )- 415 V, 3 Ph., 50Hz	i. Maintenance tool kit- 1 no.	j. Coolant Pump- RAJAMANE/GRUNDFOS				
b. Repeatability X & Z axes- +/- 0.007	b. Total connected load requirement- Approx. 15 KVA	j. 6 rack trolley (Size 25"x22"x45")with lock- 1 no.	k. Cutting tools and holders- SANDVIK/TAEGUTEC/KENNAMETAL /SECO/ISCAR/MITSUBISHI				
c. Geometrical Alignment- ISO 13041-Part 1	k. Machine guarding with safety compliance- 1 no.	k. Machine guarding with safety compliance- 1 no.					
d. Accuracy of finish test piece- ISO 13041-Part 6							
<b>12. Cutting tools &amp; tool holders</b>	g) Grooving Holder Internal, LH -2 nos, inserts 3mm-10 nos	m) Insert drill 12.7 mm- 2 nos, Suitable e 10 sets					
a) External turning holder, insert type, MWLNL-2nos, inserts VNMG-G-20 nos.	h) Parting off Holder for insert width 2 mm, LH -2 nos, inserts 2mm-10 nos	n) Reducing sleeves for internal holders - Dia 12 and 16 mm -2 sets					
b) External turning holder, insert type, MVJNL-2 nos, inserts VNMG-G-10 nos	i) Boring holder SCLCL for minimum bore dia. 12 -2 nos, inserts WCMT-20 nos	o) Centre drill HSS A 2.5 x 6.3- 6 nos					



CNC lathe/CNC turn Centre Specifications			
1. MACHINE CAPACITY	2. SPINDLE	3. AXES	4. TURRET
c) External turning holder, insert type, PDJNR -2 nos, inserts DNMG-10 nos	j) Boring holder SCLCL for minimum bore dia. 16 -2 nos, inserts CCMT-20 nos mm	p) Twist drill HSS straight shank, dia 6,8,10,12 mm- 6 sets	
d) Threading Holder - External, LH -2 nos, inserts 0.5 to 2-10 nos	k) Internal grooving holder LH, for minimum bore dia. 12 mm. -2 nos, inserts 2mm-10 nos	q) Collets suitable for the above drills- 2 sets	
e) Threading Holder - Internal, LH -2 nos, inserts 0.5 to 2-10 nos	l) Internal threading holder LH, for minimum bore dia. 12 mm -2 nos, inserts Wmm 10 nos.	r) Collet Holder- 4 nos	
f) Grooving Holder External, LH -2 nos, inserts 3mm-10 nos		s) Boring bar holder-3 nos	

S.No	Package	Description	Estimated Cost (Rs. in Lakhs)
1	Package-1	Equipment- Electrical, Fitter, MIMV, Mechanic Diesel Trades	34.04
2	Package-2	Machinery- Fitter, Machinist Trades	56.00
	Grand Total		90.04

  
 SECRETARY  
 IMC STRIVE SOCIETY  
 GOVT. I.T.I., TIRUPATHI.

  
 CHAIRMAN  
 IMC STRIVE SOCIETY  
 GOVT. I.T.I., TIRUPATHI.