

Tender

Sr.No.	MACHINE NAME	Specifications	
1	LATHE MACHINE	BED LENGTH - 1370	
		CENTRE HEIGHT - 177	
		SPINDLE BORE - 42	
		ADMIT BETWEEN CENTRES -555	
		SPINDLE SPEEDS RANGE(RPM) - 45 to 938	
		NO. OF SPINDLE SPEEDS - 8	
		MOTOR HP -2HP	
		OPTIONAL ACCESSORIES	
		ELEC. COOLANT PUMP WITH TANK & FITTINGS	
		REAR SPLASH GUARD FOR 555 MM ABC	
		MACHINE LAMP WITH CONTROL TRANSFORMER	
		8" X3 JAW SELF CENTERING TRUE CHUCK(for use up to 1250 rpm)	
2	UNIVERSAL MILLING MACHINE	WORKING SURFACE - 10"X49"	
		CROSS -8"	
		VERTICAL - 15"	
		LONGITUDINAL AUTOMATIC -25"	
		TABLE ROTATION - 45-0-45	
		SPINDLE STANDARD ARBOUR - 1"	
		NO. OF SPINDLE SPEEDS	
3	SPOT WELD MACHINE	15KVA	
4	SHAPER MACHINE	LENGTH OF STROKE - 825MM	
		MAX. HORZT. TRAVEL OF TABLE - 765MM	
		MAX. VERTICAL TRAVEL OF TABLE - 40 MM	
		RANGE OF RAM CYCLES - 15 TO 60	
		POWER OF MOTOR - 5KW	
5	POWER HACK SAW	MAX. SIZE OF MATERIAL THAT CAN BE CUT DIAMETER/ SQUARE - 200 TO 300MM	

6	3-D Printing Machine	100V ~ 240V 240W	
		Material Compatibility	
		3D Color-inkjet PLA / PLA / Antibacterial PLA / Tough PLA / PETG / *Premium Metallic PLA / *XYZ Carbon Fiber (*Option Extruder)	
		Print Bed	
		Ez-removable Metal	
		Calibration - AUTO	
		Filament Feeding System - YES	
		Max. Moving Speed	
		180 mm/s	
		XY Positioning Precision	
		X/Y 12.5 micron	
		Z Positioning Precision	
Z : 0.0004 mm			
7	Computer	1) Intel i3,6th Generation,4GB RAM,500 GB HD, WINDOWS 10 2) Intel (R) Core TM i3-3240 CPU @ 3.40 GHz 3.40 GHz, 2GB RAM, 64 bit operating system	
8	Keboard and Mouse	USB Keyboard and Optical USB Mouse Make - Iball / HP/OTHERS	
9	Digital Storage Oscilloscope	2 channel, 100MHz , 0-40 MHz	
10	Human Skeleton for study purpose	Human Skeleton for study purpose	
		Model of Endoskeleton Prosthesis(Below Knee)	
		Model of Exoskeleton Prosthesis(Below Knee)	
		Bell Crank Lever	
		Orthosis for Spine	
		Stethoscope	
BP Apparatus			

11	KITS	A-D converter kit	
		Pressure sensor kit	
		Endoscopy trainer kit	
		DSP KIT	
		PH electrode kit	
12	Instruments	X-ray controller with X-ray tube	
		Refelx Klystron Microwave Test Bench with Klystron power supply	
		Single Power supply (0- 15 v)	
		Dual Power Supply (0-30 V)	
		Frequency Generator (0-2 MHz)	
		Web camera	
		DAC Card 8 channel Compatible with MATLAB	
		Dermatoscope	
Multimeters			
13	Consumables	Resistors 1Kohm,10Kohm,12Kohm,15Kohm,22Kohm,33Kohm,39Kohm,47Kohm,68Kohm,82Kohm,100Kohm, 150Kohm,	
14	ICS	7400 NAND Gate	150
		7402 NOR Gate	150
		7404 NOT Gate	150
		7408 AND Gate	150
		7432 OR Gate	150
		7486 XOR Gate	300
		74151 8:1MUX	10
		7476 JK Flip-Flop	20
		74153 4:1MUX	25
		74139 2:4 DEMUX	25
		7473 MS JK Flip-Flop	20
		741 op-amp	75
		555 timer	50

15	Printers	Ink jet /Lasejet/Dotmatrix/All in One
16	Softwares	Proteus software
15	<u>Chemicals Requirement:</u>	
		Sodium Hydroxide pellets (AR Grade) 3000 g
		Sodium Chloride (AR Grade) 2000 g
		Ethanol (95%) (AR Grade) 7.5 litres
		Castor Oil (LRGrade) 2.5 litres
		Aluminium Scraps 250 g
		Potassium Hydroxide (AR Grade) 1000 g
		Sulphuric Acid (98%) (LR Grade) 5 litres
		Salicylic Acid (AR Grade) 500 g
		Acetic Anhydride (AR Grade) 2.5 litres
		Phosphoric Acid (85%) (AR Grade) 2.5 litres
		Sodium Carbonate anhydrous (AR Grade) 500 g
		Sulfanilic Acid Monohydrate (AR Grade) 500 g
		Sodium Sulphanilate Dihydrate (AR Grade) 500 g
		Sodium Nitrite (AR Grade) 500 g
		Dimethylaniline (AR Grade) 500 ml
		1,2 Dichloroethane (AR Grade) 2.5 litres
		Sulphur (AR Grade) 500 g
		Latex 500 g
		Vinegar 2.5 litres
		Bromobenzene (AR Grade) 500 ml x 4
		Concentrated Nitric Acid (LR Grade) 500 ml x 4
		Dodecanol (AR Grade) 2.5 litres
		Phenolphthalein indicator solution (AR Grade) 1300 ml
		Coconut Oil 2.5 litres
		Methanol (AR Grade) 5 litres
		Acetone (AR Grade) 7.5 litres
		Thermocol 1000 g
		Baking Powder 500 g
		Sodium Bicarbonate (AR Grade) 1000 g
		Yeast 500 g

		Cinnamon Powder (AR Grade)	1000 g
		Concentrated Hydrochloric Acid (LR Grade)	2.5 ltr
		Ethyl Acetate (LR Grade)	6.0 ltr
		Methyl Acetate (LR Grade)	2.5 ltr
		Naphthalene Balls	1 Kg
		EDTA (LR Grade)	2000 gm
		conc. Ammonia (LR Grade)	5 Ltr.
		Conc HCl (LR Grade)	2.5 ltr
		AgNO ₃ (LR Grade)	100 gm
		Potassium Iodide (LR Grade)	1000 gm
		Ammonium chloride (LR Grade)	1000 gm
		KBr (LR Grade)	1000 gm
		KBrO ₃ (LR Grade)	1000 gm
		KNO ₃ (LR Grade)	1000 gm
		Iodine solution (LR Grade)	2kg
		FeSO ₄ (LR Grade)	1000 gm
		B Naphthol (LR Grade)	1000 gm
		Sodium metal (LR Grade)	200 gm
16	<u>Glassware Requirement:</u>	Beaker 100 ml	10
		Beaker 250 ml	20
		Beaker 500 ml	19
		Beaker 1000 ml	18
		Measuring Cylinder 5 ml	2
		Measuring Cylinder 10 ml	5
		Measuring Cylinder 50 ml	15
		Measuring Cylinder 100 ml	15
		Measuring Cylinder 250 ml	9
		Measuring Cylinder 500 ml	8
		Measuring Cylinder 1000 ml	9
		Glass Rod 8 inch long	24
		Conical Funnel Large Size	10
		Conical Funnel Small Size	10

Rubber Bulb Large Size	10
Rubber Bulb Small Size	10
Filter Paper	1 Box containing 100 Nos.
Conical Flask 125 ml	20
Conical Flask 250 ml	14
Conical Flask 500 ml	10
Buchner Funnel Large Size	2
Buchner Funnel Small Size	2
Heating Mantle Large Size	3
Heating Mantle Small Size	3
Aspirator	1
Buchner Flask Large Size	2
Buchner Flask Small Size	2
Test tubes	30
Copper Wire 6 inches long	10
Separating Funnel 500 ml	3
Separating Funnel 250 ml	3
Vials with teflon cap liners 10 ml	10
Burette (Graduated) 50 ml	15
Burette (Graduated) 25 ml	15
Hand Gloves Standard Size	12 pairs
Hot Plate	3
Paper Cups	10
Thermometer 0 to 100 ^o C	15
Thermometer 0 to 200 ^o C	15
Safety Goggles	5
Weighing Balance 0.001 g to 1 kg	2
Petri Dish Large Size	5
Petri Dish Small Size	5
Clamp and Stand	10
Porcelain Tile White colour	5

Round bottom flask with glass stoppers 500 ml	3
Round bottom flask with glass stoppers 250 ml	3
Rubber bung	5
Rubber Tubing	5 meters
Water Bath with digital Temperature indicator and controller	1
Burette stand	5
Plastic beaker 1000 ml	5
T shape Stefan Tube	2
Lit mas Paper(Red)	6pack
Lit mas Paper(Blue)	6pack
Starch paper	6pack
Termeric paper	6pack
Lead acetate paper	6pack
Sodium fusion tube	2 gross
Capillary tubes	6pack
Wire guise	12 no.
First aid box	02 no
Silica Crucible	12 no
Glass Stopper Bottle (1000ml)	06 no
Glass Stopper Bottle (500ml)	06no
Aspirin tablet	06 Pkts
Kerosene	1 Lit.
Burette (50ml)	06no
Thermometer (360 0c)	06 nos
Plastic beaker (1lit)	06 no
Plastic beaker (1lit)	06 no

17	Equipment Requirement:	
	Reynolds Apparatus	1)water collecting tank
		2)water measuring tank
		3) Acrylic glass tube 1” inch & 1mtr.
		4) water pipe line, gate valve & other fittings
		5)Colored die dosing unit
		6) 1/2 H.P Crompton motor
	Pitot Tube	1)water collecting tank
		2)water measuring tank
		3)water flow tank
		4) Venturimeter tube
		5)water pipe line, gate valve & other fittings
		6)Manometer tube
		7) 1/2 H.P Crompton motor
	V and Rectangular Notches	1)water collecting tank
		2)water measuring tank
		3)water flow tank
		4) a complete set of different sizes of V & Rectangular type Notch for assembling on flow tank.
		5)water pipe line, gate valve & other fittings
		6) 1/2 H.P Crompton motor
	Digital Tachometer	A non-touch laser tachometer to measure the speed of rotation of a shaft
	Dropwise & Filmwise condensation	steam generator- 8 ltr,
		heater capacity 1.5 watts
		RTD Pt 100 type

	Wet bulb & Dry bulb thermometer set up	
	Stefan Boltzmann's apparatus	water heater capacity 1.5 KW Hemispherical enclosure 200 mm no. of thermocouples= 5 no.
	Finned tube heat exchanger	1. Double Pipe assembly with Longitudinal Finns for the max. heat transfer. 2. Heating Arrangement : Heat Exchanger provided along with geysers. 3. Rotameter for flow measurement of hot water. Range : 0 - 11 LPM 4. Air Blower with orifice for air supply & measurement. 5. Set of thermocouples. 6. 12 Channel Digital Temperature Indicator
18	Accesseris	
	Sr. No.	MATERIAL REQUIRED
	1	M. S. ROUND BAR 40 MM DIAMETER
	2	M. S. FLAT PLATE (50X6 MM)
	3	HACK SAW BLADE 18TPI
	4	POWER HACK SAW BLADE (14"X1.25"X0.062)
	5	V BELT FOR LATHE (B-50)
	6	VERNIER CALLIPER
	7	HSS SINGLE POINT CUTTING TOOL(0.5"X4")
	8	MILLING CUTTER (4"x1"x0.5")
	9	KNURLING TOOL
	10	HAMMER 500 GM
	11	DRILL SET(1MM TO 10MM)
	12	PINE WOOD(1.5"X1.5"X3')-
	13	TEAK WOOD(2"X2"X3')
	14	TRI ANGULAR FILE 4"
		QTY.
		300 KG
		100 KG
		20 POCKET
		12 NOS.
		12 NOS.
		6 NOS.
		3 BOX
		3NOS.
		04 NOS.
		3 NOS.
		3 NOS.
		200 NOS.(9.37QB FOOT)
		30 NOS. (2.5QB FOOT)
		50 NOS.