

## Tender Paper

### Specification of equipments-cum-Tender Paper for the project “CSS-Technology Mission (MM-I)”

Name of equipment /instrument	Detailed specification	Qty.	Rate per unit	Amount (Rs.)
<b>Muffle Furnace</b>	Muffle Furnace rectangular horizontal electrically operated furnace, body made up of metallic cabinet and insulated with Cerwool insulation. Outer metal cabinet of heavy gauge duly painted with heat resistance paint, energy regulator for precise control, temp. range 930°C / 1150°C (1200°C), temp control – pyrometer or digital time proportional controller.	1 No.		
<b>Leaf Area Meter</b>	Leaf area meter with measuring area: set of circular mask plates, light source: fluorescent, detector: photo sensors with built in area, accuracy: A+ 0.3 sqcm for checking small area. + 1 sqcm for checking larger area	1 No.		
<b>Spectrophotometer</b>	Wave length range – 190-1100nm, source lamp – xeon flash lamp, technology – stabilized single beam, measuring modes – concentration, absorbance, transmission, multi wavelength, scans + kinetics in absorbance or transmission mode, wavelength resolution – 1nm, wavelength accuracy - $\pm 1$ nm, photometric range - $\pm 3.3$ A, absorbance resolution – 0.001A, absorbance accuracy – 0.003A at $<0.600A$ , 0.5: of the reading for $0.600 \leq A \leq 2.000$ , graphic display with background lighting.	1 No.		

Contd....2

<b>Autoclave</b>	Vertical, double walled, capacity 40-60 ltr., can be set at any pressure between 5 to 22 P.s.i, completely made up of stainless steel (inner and outer chambers), boiled and outer shell should be provided with air insulation, Lid with best quality joint less neoprene gasket, fitted with paddle lifting device to open/close the lid, fitted with glass indicator to indicate the water level inside the boiler, fitted with pressure gauge, steam release cock, safety valves, spring loaded safety valves, drain valve etc., provided with ISI mark heating elements	1 No.		
<b>Water Bath Shaker</b>	Multi-chamber Shaking Water Bath with removable shaking carriage and dry running protection, working temperature range: 20-99.9°C, shaking frequency – 20-200 rpm, stroke – 15mm, temp. control – PID, temp. stability - $\pm 0.2^{\circ}\text{C}$ , Bath opening/bath depth (WxL/D) – 19.7 x 11.8/7.1 inches, filling volume – 8-20 lts., ambient temp 5-40°C, heater capacity 1000W (at 115V/60Hz), display – LED, main switch – splash-proof, keypad – seamless, splash proof, digital interfaces – RS 232, Water Bath emptying – through drain screw.	1 No.		
<b>Class II Bio-safety Cabinet (Laminar Air Flow)</b>	Workable made up of stainless steel sheet, workable area – between 6-8ft, fulfill the Class II B1 operation classification with 40% air re-circulated, 60% exhausted from cabinet, exhaust air pulled through dedicated exhaust duct, 100FPM intake, fitted with pre-filter and is made to pass through highly effective HEPA (High Efficiency Particular Air) filters having efficiency rating as high as 99.99%, with cold DOP and 99.97% hot DOP, supplied complete with manometer, UV light fluorescent light of standard sizes.	1 No.		

Contd....3

<b>Plant Tissue Culture Rack</b>	With tubular mild steel pipes or aluminium and is duly painted, fitted with four fluorescent light tubes built at the upper portion of work table, UV germicidal lights fitted inside rack, fluorescent tube chocks as well as germicidal tube chocks are fitted outside the rack with 24 hours digital timer along with control panels that are fitted on top of tissue culture rack, supply with castor wheel	1 No.		
<b>RO Water Purifier</b>	Water purifier with 5 stage RO purification, manual flush facility, energy saver mode and built-in Stabilizer	1 No.		
<b>LCD Projector</b>	Screen size – 4 meters diagonally, Aspect Ratio 4:3, computer compatibility- VGA/SVGA/XGA/SXGA, video compatibility – PAL/SECAM/NTSC, projection lamp – UHP/METALHALIDE/NSH Lamp, Brightness – 2000ANSI Lumens or higher, throw distance (range) – should cover 2 meters – 5 m,ts. From screen, audio system minimum 1.0 watt RMS with built-in speaker, zoom focusing – lens zoom 1:1.2 or higher, motorized zoom & focus )controlled by a remote), remote control unit for PC and Mouse with inbuilt laser pointer shall be standard feature for all items.	1 set		
<b>Sprinkler Irrigation System with Pump</b>	Sprinkler with rotating head system, pressure range 3.5 to 4.5 kg/sqcm, diameter of nozzles 3-6mm, speed of sprinkler rotations 1 rpm, should be supplied with automated water pump.	1 No.		
<b>Portable Water Pump</b>	Portable Water Pump with 4” ports, 10hp class Yanmar diesel engine with electric start (12V battery included), frame-mounted with transport dolly/wheel kit with aluminium with cast iron wear parts casing and silicon carbide seal	1 No.		

Contd....4

<b>Plant Canopy analyzer</b>	Canopy Analyser with nominal Angular Coverage of 0.0-12.3 – 74.1°, Wavelength range 320-490nm, with azimuthally masking of view into quadrants of 10°, 45°, 90°, 180° and 270°, radiation rejection > 99% from 490-650nm and >99.9% above 650nm	1 No.		
	Total			

Rupees.....

.....) only

EMD for Rs..... (Rupees.....

.....) only bearing No..... date.....

Cost of Tender Paper for Rs.1000/- (non-refundable) by Cheque/DD No.....  
date.....

N.B. Brand must be mentioned for each item above.

Enclosures:

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भाकृ अनुप - पूषप  
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Signature of Tenderer with seal

## Tender Paper

### Specification-cum-Tender Paper for C/o Naturally ventilated 'Poly House' under CSS-Technology Mission (MM-I)

Name of works	Detail of material required with specification	Qty.	Rate per unit	Amount (Rs.)
Structure items to be required:	(i) Vertical/horizontal pipe: GI Pipe - 60mm ISI standard - IS 1239 B class, thickness 2mm  (ii) Purlins: GI Pipe - 42mm, ISI standard - IS 1239B class, Thickness - 1.5mm  (iii) Semi arc pipe - GI pipe - 32mm, ISI standard - IS 1239B class, Thickness - 1.5mm			
Roof and all sides covering	Provision of high quality UV stabilized poly film, 5 layered (Imported, Ginegar make Isreal) LDPE sheet 200 micron thick with anti-dust, anti-condensed and anti-drip properties with manually rolling type with gear system will be fixed on both sides with length-wise.			
Side protection	The sides should be covered with Tuflex polymer honeycomb net for effective air circulation			
Doors	Provision of one door at front side (6" x 3") with necessary door fittings			
Ceiling	35% UV stabilized nylon fabric HDPE shading net (Netlon make), Green/Black color should be provided to regulate light intensity.			
Clip Type	Spring type with aluminium profile			
Structure type	Nut and Bolts			
Brick/cement works	All along side 5" wall up to 2' above and 10" below ground up to 1ft.			

Contd....P2

Irrigation	High quality fogging or misting complete with motor, filter and 10000 ltrs. Water tank/100 sqft.			
	Total:			

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**Tender Paper**

**Specification-cum-Tender Paper for C/o Naturally ventilated 'Low Cost Shed House' with cast iron/mild steel racks (3 steps ladder type) under CSS-Tech. Mission (MM-I)**

Name of works	Detail of material required with specification	Qty.	Rate per unit	Amount (Rs.)
Structure items to be required:	(iv) Vertical/horizontal pipe: GI Pipe - 60mm ISI standard - IS 1239 B class, thickness 2mm  (v) Purlins: GI Pipe - 42mm, ISI standard - IS 1239B class, Thickness - 1.5mm  (vi) Semi arc pipe - GI pipe - 32mm, ISI standard - IS 1239B class, Thickness - 1.5mm			
Roof and all sides covering	Provision of high quality UV stabilized poly film, 5 layered (Imported, Ginegar make Israel) LDPE sheet 200 micron thick with anti-dust, anti-condensed and anti-drip properties with manually rolling type with gear system will be fixed on both sides with length-wise.			
Side protection	The sides should be covered with Tuflex polymer honeycomb net for effective air circulation			
Doors	Provision of one door at front side (6" x 3") with necessary door fittings			
Ceiling	35% UV stabilized nylon fabric HDPE shading net (Netlon make), Green/Black color should be provided to regulate light intensity.			
Clip Type	Spring type with aluminium profile			
Structure type	Nut and Bolts			
Brick/cement works	All along side 5" wall up to 2' above and 10" below ground up to 1ft.			

Contd....P2

Irrigation	High quality fogging or misting complete with motor, filter and 10000 ltrs. Water tank/100 sqft.			
	Total:			

Rupees.....

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**Tender Paper**  
**Specification of equipments-cum-Tender Paper for the NICRA project on Agronomy**

Name of equipment /instrument	Detailed specification	Qty.	Rate per unit	Amount (Rs.)
<b>Tensiometer</b>	30cm depth for measuring soil moisture tension in field	2 Nos.		
<b>Soil Thermometer</b>	Portable type, 15cm depth	2 Nos.		
<b>-do-</b>	Portable type, 30cm depth	2 Nos.		
<b>Double Ring Infiltrometer</b>	Outer ring 45cm and inner ring 30cm with all required accessories	4 Nos.		
<b>Digital Vanier Calipers</b>	IP65 waterproof digital Calipers	1 No.		
<b>Top pan Balance</b>	Measuring 0.5gm to 3 Kg	1 No.		
	Total:			

Rupees.....

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Cost of Tender Paper for Rs.500/- (non-refundable) by Cheque/DD No.....  
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**Specification of equipments-cum-Tender Paper for the  
NICRA project - Agromet Advisory Services**

Name of equipment /instrument	Detailed specification	Qty.	Rate per unit	Amount (Rs.)
Soil Moisture Meter	a. Range 0 to 100% b. LED display c. Battery back up fir in-field operation d. Suitability of any type of soil e. Auger for moisture meter probe	1 No.		
Pyranometer	a. Sensor: at least 72 element thermopile b. Spectral Range: 0.3 to 3μ meters c. Range: 0 to 1500 W per sqm d. Output: 0 to 25mV With shading ring for direct & defuse radiation	1 No.		
<b>Total:</b>				

Rupees.....

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EMD for Rs..... (Rupees.....

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**Tender Paper**  
**Specification for equipments required for mushroom cultivation**  
**for the project - AICRP on Mushroom**

Equipment	Specification	Quantity required	Rate per unit	Amount (Rs.)	
1	<b>AUTOCLAVE (VERTICAL)</b>	Size: dia x depth -550mm x 750mm; Electric load-5kw; Capacity -152 Ltr; with sturdy construction, double walled, Inner chamber i.e. boiler is of 16SWG stainless steel of 304 qualities, outer shell is of thick mild steel duly painted. The boiler & outer shell is to be provided with air insulation. Lid is to be made of thick mild steel duly stainless steel lined & should be tightened by radial locking system. Lid should be mounted on a central screw & would be with best quality joint less neoprene gasket to avoid any risk & trouble free operation. The autoclaves are to be fitted with paddle lifting device to open/close the lid. Fitted with glass indicator to indicate the water level inside the boiler. Fitted with pressure gauge, steam release cock, safety valves, spring loaded safety valves etc., The autoclave can be set at any pressure in between 5 to 22lb p.s.i, to be provided with drain valve. The autoclave should be hydraulically tested up to 40lb p.s.i. This should provided with ISI mark heating elements which are easily replaceable & heats the water to desired temperature & pressure .Pressure is to be indicated by pressure gauge. Needs to supply complete with stainless steel perforated basket, cord plug to work on 220V+/-9% 50Hz, single phase.	1 (one)		
2	<b>BOD Incubator</b>	Size: Inner chamber 500W X 825H X 414 D mm, with solid state temperature controller cum indicator, digital display with unbreakable transparent acrylic inside door, outer cabinet is MS sheet, inner chamber is polished stainless (SS), provision for allowing wide range of shelf positions			

		and spacing, SS trays, chamber is duly insulated, two door system, outer door insulated with magnetic tape closing & lock & key, Temperature control cum indicator digital display range from 5 <sup>o</sup> C to 50 <sup>o</sup> C, compress is of high efficiency, heating element in the path of moving air duly insulated from the body, cooling coils in the air circulation path, thermostat system, control panel with temperature setting of fine & course knobs & voltmeter with interior illumination with 3 Nos. florescent tubes 60cm, automatic cyclic timer 0-24 hours regulating illumination cycle, voltage stabilizer 3KVA.	1 (one)		
3	<b>Camera</b>	Nikon D90 Black SLR Digital Camera Kit w/18-105mm lens).	1 (one)		
4	<b>Colony Counter</b>	Contact manual colony counter: a pen should give three signals, audible, mark on the plate and addition on the display, anytime that a colony is possible to be counted. It should accept a stainless steel pen tip. It should counts by touching the agar directly. It should be used for any media just changing the dark field by a transparent grid. Counter: 4 digits, 9 mm LED-Display for up to 9999 count; Connections: Fiber marker with switch or fiber marker and metal pointer; Magnifying glasses: Biconvex, 100 or 200 mm diameter 4Diopters, Magnification DINx2: Mains: 240 V, 50/60 Hz; Power:50 watts; Dimensions (WxDxH): 20x30x40 cm / 7.9x11.8x15.7 in;	1 (one)		
	<b>Total:</b>				

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 .....) only.

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