

**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.)
Double Distillation Unit	Vertical double distillation unit, quartz Boiler, quartz Condenser, quartz heater, Dist. Water output capacity, 1.5 – 2.5 lit./hr, Cooling water consumption: 60-120 lt/hr, Biological activity must be Pyrogen free and distillate pH: 6.9 – 7.0, should be supplied with pre-attached back flues iron remover.	1 set		
Muffle Furnace	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.		
Leaf Area Meter	Leafd 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.		
Spectrophotometer	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 - ± 1 nm, photometric range - ± 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

Autoclave	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.		
Water Bath Shaker	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 - ±0.2°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.		
Class II Bio-safety Cabinet (Laminar Air Flow)	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 lightm fluorescent light of standar sizes.	1 No.		

Plant Tissue Culture Rack	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.		
RO Water Purifier	Water purifier with 5 stage RO purification, manual flush facility, energy saver mode and built-in Stabilizer	1 No.		
LCD Projector	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		
Sprinkler Irrigation System with Pump	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.		
Portable Water Pump	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.		

Plant Canopy analyzer	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 form each item above.

Enclosures:

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भाकृ अनुप - पूषप
 ICAR-RC-NEH

Signature of Tenderer with seal

**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:	<p>(i) Vertical/horizontal pipe: GI Pipe - 60mm ISI standard - IS 1239 B class, thickness 2mm</p> <p>(ii) Purlins: GI Pipe - 42mm, ISI standard - IS 1239B class, Thickness - 1.5mm</p> <p>(iii) Semi arc pipe - GI pipe - 32mm, ISI standard - IS 1239B class, Thickness - 1.5mm</p>			
Roof and all sides covering	Provision of high quality UV stabilized polu 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:			

Rupees.....

.....) only

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

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

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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:	<p>(iv) Vertical/horizontal pipe: GI Pipe - 60mm ISI standard - IS 1239 B class, thickness 2mm</p> <p>(v) Purlins: GI Pipe - 42mm, ISI standard - IS 1239B class, Thickness - 1.5mm</p> <p>(vi) Semi arc pipe - GI pipe - 32mm, ISI standard - IS 1239B class, Thickness - 1.5mm</p>			
Roof and all sides covering	Provision of high quality UV stabilized polu 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:			

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 form each item above.

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ICAR-RC-NEH

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

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

Rupees.....

.....) only

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

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

Cost of Tender Paper for Rs.500/- (non-refundable) by Cheque/DD No.....
date.....

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

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