

**Central Pollution Control Board
(Ministry of Environment & Forests, Govt. of India)
Parivesh Bhawan, East Arjun Nagar
Delhi - 110032**

Corrigendum

The NIT published for “Renovation of Air and Treatability Laboratory” in Central Pollution Control Board, Parivesh Bhawan, on 21.10.2010 is hereby amended as details given below:-

Amended date of sale of all documents	Amended date of receiving of tender documents	Amending date of opening of tender documents
29.11.2010 to 30.11.2010 from 10.00 a.m. to 5.00 p.m.	02.12.2010 up to 3.00 p.m.	02.12.2010 at 3.30 p.m.

The firm those had already purchased the tender documents needs not to purchase it again and they will submit their offer before 3.00 p.m. on 02.12.2010.

The corrigendum and tender document can be seen on CPCB website www.cpcb.nic.in. The other terms and conditions will remain unchanged.

**Member Secretary
Central Pollution Control Board**

Central Pollution Control Board
(Ministry of Environment & Forests, Govt. of India)
Parivesh Bhawan, East Arjun Nagar
Delhi - 110032.

Notice inviting Tender

Member Secretary, Central Pollution Control Board invites sealed tenders for the following works:-

Name of Work : - "Renovation of Air and Treatability Laboratory"
in Central Pollution Control Board, Parivesh
Bhawan,

Description of Tenders	Estimated cost (Rs.)	EMD (Rs.)	Cost of tender (Rs.)
Civil, Electrical and Networking work	97,59,762/-	1,95,195/-	1000/-
Air Conditioning, Exhaust and Ventilation work	94,24,314/-	1,88,486/-	1000/-
Seating system and Modular furniture	33,61,775/-	67,236/-	1000/-
Lab furniture	44,46,240/-	88,925/-	1000/-
Fume Hood	51,24,176/-	1,24,049/-	1000/-
Fire detection system	14,65,736/-	29,315/-	500/-

Cost of tender : - Non refundable demand draft/FDR in favour of Central Pollution Control Board, Delhi as detailed above.

Sale of tender :- 15.11.2010 to 17.11.2010 from 10.00 am to 5.00 p.m in the office of I/c, Building.

Last date of receipt of tender : - 19.11.2010 up to 3.00 p.m.

Opening of tender :- 19.11.2010 at 3.30 p.m.

The eligibility criteria and other details can be seen from CPCB website i.e. www.cpcb.nic.in

Note: The tender will be issued to the firms/contractors those meeting the eligibility criteria laid down in respective tender.

Member Secretary
Central Pollution Control Board

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NOTICE INVITING TENDER

1. The Central Pollution Control Board (CPCB) invites sealed tenders from the manufacturer or authorized dealers for "Renovation of Air and Treatability Lab-Lab furniture" at 4th floor in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032. The total estimated costs of the works is given below:

Estimated Cost Rs. 44,46,240/-

Earnest Money Rs. 88,925/- (to be submitted as Demand Draft/FDR in favour of the Central Pollution Control Board, Delhi)

2. The tender document will be available for sale from 15.11.2010 to 17.11.2010 from 10.00a.m. to 5.00 p.m. The tenders, which should always be placed in sealed cover with "Renovation of Air and Treatability Lab-Lab furniture" written on the envelopes, will be submitted upto 3.00 p.m. on 19.11.2010 in the Tender box lying at Ground floor near reception in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032 and will be opened on the same day at 3.30 p.m. at the same address.

3. The tender will be issued to the authorised dealers/manufacturers fulfilling the following requirements:-

- (i) Should have manufacturer or authorised dealer of Lab furniture.
- (ii) Should have completed atleast one work of similar nature not less than Rs.50.0 lacs in the last five year. (list to be enclosed)
Or
Completed two works of similar nature not less than Rs.30 Lakh each during last five years (list to be enclosed).
- (iii) Should have authorized service center in Delhi or NCR.
- (iv) Should have valid Income Tax Clearance certificate & Sale Tax registration certificate as well as sale tax clearance certificates.

4. The tender document can be seen from CPCB website www.cpcb.nic.in.

5. MODE OF SUBMISSION OF TENDER

- I. The tender shall be submitted in two separate sealed covers, duly completed in all respects viz. one for "earnest money", the second for "price bid". The name of the work and the words "earnest money" and "price bid only", as the case may be shall be clearly written on the top of the respective sealed covers. All the two bids, along with the letter for submitting tender shall be put in a sealed cover and the name of the work "Renovation of Air and Treatability Lab-Lab furniture" shall be clearly written on top of the sealed cover.

- II. The technical bid shall be complete in following:-

- a) Complete tender document as purchased from CPCB should be duly signed (each page) for acceptance of all terms and conditions.
- b) All the documents as mentioned above point 3 (i) to (iii) of the tender document for fulfilling the eligibility criteria.

6. Earnest money amounting to Rs. 88,925/- (Rupees Eighty Eight Thousand Nine Hundred Twenty Five only) as Demand Draft/FDR in favour of the Central Pollution Control Board, Delhi must be accompanied in each tender application.

7. The site for the work is available/or the site for the work shall be made available for inspection on all working days except on Saturday, Sunday and Public Holidays.

- III. a) The contractor should quote in figures as well as in words the rate, and amount tendered by them. The amount for each item should be worked out and the requisite totals given.

b) Special care should be taken to write the rates in figures as well as in words, and the amounts in figures only in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, "Rs." should be written before the figures of rupees and "P" after the decimal figures, e.g. Rs. 2.15 P and in case of words, the word 'Rupees' should precede and the word "Paise" should be written at the end. Unless the rates is in only rupees and followed by the words 'only' it should invariably be upto two decimal place. While quoting the rate in schedule of quantities, the words 'only' should be written closely following the amount and it should not be written in the next line.

c) Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates figures and words. However, if a discrepancy is found the rates which correspond with an amount worked out by the contractor shall be taken as correct.

d) If the amount of an item is not worked out by the contractor it does not correspond with the rate written either in figure or in words than the rate quoted by the contractor in words shall be taken as correct.

e) Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly the rate quoted by the Contractor will be taken as correct and not the amount.

IV. The contractor, whose tender is accepted (unless exempted) will be required to furnish by way of security deposit for the fulfillment of his contract such sum as will amount at the rate of 10% of the estimated cost put to tender subject to a maximum upto Rs. 4.5 lakhs.

The security deposit will be collected by deductions from the running bills of the contractor at the rate of 10%. The earnest money deposited at the time of tenders will be released after completion of work, no interest will be paid on it. The security deposit will be released after the 'defects liability period' subjects to verification of defects. However, the security will be released if the firm/contractor submits the FDR of the said security amount in favour of Central Pollution Control Board valid upto defect liability period.

V. The acceptance of a tender rests with the CPCB, which does not bind itself to accept the lowest tender and reserves itself the authority to reject any or all of the tenders received without assigning any reason. All tenders in whom any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

CPCB reserves itself the right to accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

VI. Canvassing in any form in connection with tender is strictly prohibited and the tenders submitted by the contractors who resort to be canvassing will be liable to rejection.

VII. All rates to be quoted in the proper form in the tender.

VIII. Any item rate tender containing percentage below/above will be summarily rejected. However, where a tenderer voluntarily offers rebate or payment within a stipulated period, this may be considered.

IX. On acceptance of the tender, the name of the accredited representative (s) of the contractor who would be responsible for taking instructions from CPCB shall be communicated to the CPCB.

X. Sales Tax or any other tax or liability in respect of this contract shall be payable by the contractor and CPCB will not entertain any claim whatsoever in this respect.

XI. The tender for works shall remain open for acceptance for a period of 3 months from the date of opening of tenders. If any tenderer withdraws his tender before the said period or marks any modifications in the terms and conditions of the tender which are not acceptable to CPCB, without prejudice to any other right or remedy, CPCB will be at liberty to go for forfeiting the said earnest money absolutely.

XII. It will be obligatory on the part of the tenderer to tender and sign the tender documents for all the components or parts and that after work is awarded, he will have to enter into an agreement for each component or part with CPCB.

XIII. The contractor should see the site and understand the work requirements and in case of doubt, obtain required particulars, which may in any way influence his tender, from the CPCB as no claim whatsoever will be entertained for any alleged ignorance thereof.

XIV. If it is found that the tender is not submitted in proper manner or contains too many corrections or absurd rates or amounts, it would be summarily rejected by CPCB.

XV. Before submitting the tender, the contractor should visit the site and satisfy himself as to the conditions prevalent there.

XVI. The Contractor shall comply with the provision of the Apprentices Act, 1961, and the rules and orders issued there under from time to time. If fails to do so, his failure will be breach of the contract and the CPCB may in his discretion cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act.

XVII. The contractor's responsibility for the contract shall commence from the date of issue of orders of acceptance of tender.

XVIII. Unsealed tenders shall be summarily rejected.

XIX. Before tendering, the contractor shall inspect the site to fully acquaint himself about the condition in regard to accessibility of site and nature of ground, working condition including stacking of materials, installations of T & P etc. conditions affecting accommodation and movement of labour etc. required for the satisfactory execution of the work contract. No claim whatsoever on such account shall be entertained by the department in any circumstances.

XX. The contractor shall submit list of works which have been handled by him in the previous financial year and on the works in hand (progress) in the forms given below.

Works Handled in the Previous Financial Year (2009-10)

Name of work	Name and particulars of place where work was done	Value of work	Position of works (In progress/completed)	Remarks
1	2	3	4	5

Works in Hand in the Present Financial Year (2010-11)

Name of work	Name and particulars of place where work was done	Value of work	Position of works (In progress/completed)	Remarks
1	2	3	4	5

LETTER SUBMITTING TENDER

To
Member Secretary
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi – 110 032

Sir,

With reference to the tender invited by you for “Renovation of Air and Treatability Lab-Lab furniture” in 4th floor at the Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi, I/We do hereby offer to execute the works under ‘contract at the respective rates’ mentioned in the Bill of Quantities. I/We have seen the site and read the articles of agreement, conditions of contract, specifications and special clauses forming part of the Bill of Quantities. I/We agree to finish the whole of the works within two months as specified in the tender.

I/We have deposited as Earnest Money Rs..... (Rupees Only) by a Bank draft in favour of CPCB, which amount is not to bear any interest. I / We do hereby agree that this sum shall be forfeited by you in the event our tender is accepted and I /We fail to commence the contract when called upon to do so, within a period of one month after award of work.

I/We understand that you are not bound to accept the lowest or any tender that you receive.

Yours faithfully,

Name of partners of the firm.

Name of Bankers

Tenders submitted on

BILL OF QUANTITIES

BILL OF QUANTITIES FOR LAB FURNITURE FOR AIR LABORATORIES FOR CPCB AT PARIVESH BHAWAN, NEW DELHI.

SI #	Particulars	Qty	Unit	Rate	Rate in Words	Amount
1	Laboratory Counters					
	Providing and fixing laboratory tables made as per the following specifications. Each Laboratory table shall contain the following sub parts:					
NOT E:	The specifications include tentative modules of the tables and would require to be executed as per final sizes on site. Kindly study the attached drawings for basic verification. No additional cost will be permitted for changes in dimension.					
i	Lab Cabinets (L) x (D) x (H)					
	750 x 750 x 900	9	Nos			
	600 x 750 x 900	55	Nos			
	450 x 750 x 900	13	Nos			
	430 x 750 x 900	4	Nos			
	300 x 750 x 900	3	Nos			
	900 x 750 x 900 (Corner Unit)	9	Nos			
	600 x 750 x 900 (Sink Unit)	4	Nos			
	600 x 750 x 900 (Leg space Unit)	8	Nos			
	Granite Support Table (900 x 300 x 900)	2	Nos			

NOT E: For positioning of the above, refer annexure indicating modules and locations.

Material

The cabinets and shutters shall be made of 0.80 mm (22 SWG) thick CRCA MS Sheets.

Surface Treatment

All the MS material used shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).

General Specifications

Each storage unit shall be assembled with M6 fasteners having a Zinc-Cobalt coating for better corrosion resistance. Adjacent units shall be connected using Zinc-Cobalt connectors. The shutters shall be fixed with Nickel-Chrome plated self closing hinges (Make: Hafele, GRASS) and shall have a further CED coating to enhance corrosion resistance. The drawer trays shall be mounted on Delryn roller bearing slides which are made up of 1.6 mm thick MS sheets and epoxy powder coated. A pair of

slides should be able to carry a UDL of 15 kgs.

Shutters & Drawer fronts

The shutters and drawer fronts shall be made of CRCA MS Sheets 0.80mm thickness (22 SWG) with the above-mentioned surface treatment. The shutters and drawer fronts shall be provided with adequate seals on all sides and adequate noise dampers. Handles shall be of SS of approved design and make.

Load Carrying Capacity

The overall load bearing capacity of the cabinets shall be 80 Kgs of UDL (40 Kgs on shelf and 40 Kgs on bottom). The overall load carrying capacity of the drawers shall be as specified earlier.

iv **Reagent racks**

Reagent Shelves to be of complete modular design consisting of horizontal 2 stage storage shelves. The end vertical support should be 0.9mm & horizontal shelves of 0.8mm thick CRCA M.S. Sheet. Each shelf should have a load carrying capacity of 30 kgs. of UDL for the length of 1000 mm. Each vertical panel shall be assembled with horizontal shelf with M6 fasteners having Zinc-Cobalt coating for better corrosion resistance. The complete M.S. material of cabinet to be pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat to be 45-50 microns, which passes the test of Salt Spray for 1000 hours and having the Scratch Hardness of 3Kgs.

a 900 mm (L) X 300 mm (D) (Service Line Stand)

1 Nos

Material

The reagent shelf shall be made of SS 304 sheets of 1.20 & 0.80 mm thickness, made in tray form, machine pressed wherever applicable. The carcass shall be of 2 mm thick 30 mm X 30 mm heavy duty ERW MS square tubes. The end vertical support and horizontal shelves shall be made up of 1.2 mm thick CRCA MS Sheet.

Surface Treatment

The understructure of the units shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch

resistance/hardness of 3 Kgs (IS:101 & IS:13871).

General Specifications

Each understructure table shall consist of 4 height adjusters that shall take care of leveling aspects. The modular construction shall be joined together with high pan head M6 Zinc black coated fasteners for better corrosion resistance.

The horizontal shelf shall have a provision for fixing the service panel to it. The service panels shall carry electrical switches and sockets at locations indicated in the electrical power layout or as indicated by the Engineer-in-Charge.

The service stands fitted under the table shall serve as a support for pipe lines.

Load Carrying Capacity

The load carrying capacity of each reagent shelf shall be 30 Kgs of UDL for the length of every 1000 mm.

- v **Ceramic Sinks**
The sink shall be a glazed ceramic sink capable of handling acidic waste. 4 Nos
- vi **Water Taps - 3-way Swan neck type**
The taps provided shall be processed with Epoxy coating on Brass surfaces for pH & rust resistance. Switch valve cast shall be ceramic, so that it can avoid acid wear. The outlet produced in PVC shall have detachable hose nozzles, alloy pressure, changeable high-pressure outlets constructed for normal clean outlet control of water flow from the faucet. 4 Nos
- vii **Vertical Posts** (wherever necessary)
- a 100 mm X 300 mm from floor level to False ceiling level
- b 140 mm X 300 mm from floor level to False ceiling level
- Material**
The cabinet and steel shutters shall be made of CRCA MS Steel as described above.
- Surface Treatment**
All the MS material used shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).
- viii **Work Surfaces**

a 18mm thick polished black granite with 8mm marine plywood (BWP Grade) backing. 50 Smt

ix **Electrical accessories & Fittings:**

Electrical Accessories and fittings should consist of electrical trunking of 0.8mm thick CRCA MS Sheet. The complete M.S. material of cabinet to be pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat to be 45-50 microns, which passes the test of Salt Spray for 1000 hours. It should have a high temperature withstanding capacity with excellent electrical insulation properties. The rear portion of above accessories which is in contact with live metal shall be made from thermo set material which should not melt on heating.

NOTE: The above specifications shall be considered to be a guidance and the Lab furniture, in addition, shall confirm to all relevant and applicable IS, SEFA, BS, DIN, ASTM & ISO standards.

2 Emergency Shower

Providing and installing of Emergency showers in the locations indicated in the drawings and as per following specifications: 1 Nos

Pipe Diameter

Inlet Pipe: SS #304, 1.25" diameter
Outlet Pipe: SS #304, 1.25" diameter

Emergency Shower

Inlet Pipe: SS #304, 0.75" diameter
Switch: Fixed pull-over switch
Pull Rod: fixed pull-over switch
Shower Bowl: external bowl of outside use SS #304, with polishing finish on the top surface.
Shower Head: more than 800 holes, rain shower type.

Eye Washer

Inlet Pipe: SS #304, 0.50" diameter
Control: Manual Switch, foot pedal type.
Eye Wash: outside use SS #304, with polishing finish on top surface.
Eye Wash Faucet: Cast by non-burnable polycarbonate, with filter sponge and cover that can avoid dust, to be openable by water pressure directly to avoid contamination.

Size:

Total Height: 2325 mm ± 15 mm
Emergency Shower: 2100 mm ± 20 mm
Eye Wash: 1030mm ± 20 mm

Accessories:

Bulletin board of SS #304, Drawing to indicate method of use and adequate number of expandable screws for fixing the same.

Water Pressure:

The piping of the emergency system should be capable of bearing water pressure of 18 kg/cm² (250 psi).

3 Anti-Vibration Tables (900mm X 600mm X 750 mm)

- i **Tubular Frame** 4 Nos.
Completely modular type tubular frame, that carries the load of the Kadappa slab or granite placed on it.
High tension Pan head M6 Zinc black coated screws (for better corrosion resistance) used as fasteners.
Material
40 Sq X 1.6 mm thick ERW tube.
Load Carrying Capacity
The tubular frame should handle a UDL of 250 Kgs
- ii **Cover Panels**
Material
The cover panels shall be made of 0.80 mm thick CRCA M.S Sheet.
Surface Treatment
The M.S Sheets shall be pretreated (de-greased, Zinc Phosphated), and epoxy powder coated for corrosion resistance. The thickness of powder coating shall be 45-50 microns, which shall pass the Salt Spray test of 1000 hours, and shall have a minimum scratch hardness of 3 Kgs.
- iii **Kadappa**
25 mm thick Kadappa shall be used as the main shock dampening component.
- iv **Work Surface**
The work top shall be 18 mm thick jet black granite with polished/bevelled edges as directed.
- v Vibration isolating rubber pads made of a combination of Nitrite rubber, cork particles, and cross linked polyester fibres shall be provided.
- vi Leveling screws shall be provided at the bottom of the frame to accommodate any variations/undulations in the finished floor.

4 Vented Chemical Storage Units (900mm X 450 mm X 1800mm)

- Providing and installing Vented chemical storage racks made in Stainless Steel (304), with a vent pipe (100 mm Diameter SS) connectable to the exhaust system. The unit shall have glazed shutters with locking mechanism treated with anti-corrosive treatment as per manufacturer's specifications. The shutters shall be fixed using CED coated hinges of GRASS/HAFELE make. The unit shall have a collection tray for any accidental spillage and will be provided with vibration isolating rubber pads made of a combination of Nitrite rubber, cork particles
- 3 Nos

and cross linked polyester fibres. The unit shall be mounted on leveling screws to accommodate any variations/undulations in the finished floor.

5 Storage Units	Providing and installing flexible storage racks with slots to fix the shelves in different positions, made in powder coated CRCA MS Sheets of 0.80 mm Thickness. Powder coating shall be of approved colour and 45-50 microns thickness and shall pass through a salt spray test of 1000 hours and have a minimum scratch hardness of 3 Kgs. The unit shall be mounted on leveling screws to accommodate any variations/undulations in the finished floor.	12	Nos
6 Spot Extractors	Providing and installing elephant trunk type spot extractors with clear plastic hoods, attached to a blower of 300 cfm with all necessary hardware for suspending the mechanism from the ceiling, ducting between the blower and the extractor etc., complete as per manufacturer's specifications.	3	Nos
7 Spot Extractors	Providing and installing robot arm type spot extractors with clear plastic hoods, attached to a blower of 300 cfm with all necessary hardware for suspending the mechanism from the ceiling, ducting between the blower and the extractor etc., complete as per manufacturer's specifications.	2	Nos
8 SS Pegboards	SS Pegboard of overall size of 550x420mm. Adjustable PP pegs of 10mm dia. It should have a welded square tube of 20x40x1mm. Tube should be of PVC material.	10	Nos
9 Powdered coated steel shutters	<p>Providing and fixing Shutters to storage area with following specifications:</p> <p>Material The cabinets and shutters shall be made of 0.80 mm (22 SWG) thick CRCA MS Sheets.</p> <p>Surface Treatment All the MS material used shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt</p>	30	Smt

spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).

General Specifications

Each storage unit shall be assembled with M6 fasteners having a Zinc-Cobalt coating for better corrosion resistance. Adjacent units shall be connected using Zinc-Cobalt connectors. The shutters shall be fixed with Nickel-Chrome plated self closing hinges (Make: Hafele, GRASS) and shall have a further CED coating to enhance corrosion resistance. The drawer trays shall be mounted on Delryn roller bearing slides which are made up of 1.6 mm thick MS sheets and epoxy powder coated. A pair of slides should be able to carry a UDL of 15 kgs.

Shutters

The shutters shall be made of CRCA MS Sheets 0.80mm thickness (22 SWG) with the above-mentioned surface treatment. The shutters and drawer fronts shall be provided with adequate seals on all sides and adequate noise dampers. Handles shall be of SS of approved design and make.

NOTE: The above specifications shall be considered to be a guidance and all the furniture shall confirm to all relevant and applicable IS, SEFA, BS, DIN, ASTM, ISO & ASHRAE 110 standards.

NOTE: It is mandatory that the vendor submit technical working drawings with all relevant details and catalogues, if any, for every single item mentioned above at the time of submission of tender. Any tender without such details will be rejected outright.

Grand Total for Laboratory Modular Furniture & Accessories **Rs.**

BILL OF QUANTITIES FOR LAB FURNITURE FOR TREATABILITY LABORATORIES FOR CPCB AT PARIVESH BHAWAN, NEW DELHI.

SI #	Particulars	Qty	Unit	Rate	Rate in Words	Amount
1	Laboratory Counters					
	Providing and fixing laboratory tables made as per the following specifications. Each Laboratory table shall contain the following sub parts:					
NOT E:	The specifications include tentative modules of the tables and would require to be executed as per final sizes on site. Kindly study the attached drawings for basic verification. No additional cost will be permitted for changes in dimension.					
i	Lab Cabinets (L) x (D) x (H)					
	900 x 750 x 900	1	Nos			
	750 x 750 x 900	12	Nos			
	600 x 750 x 900	38	Nos			
	450 x 750 x 900	10	Nos			
	430 x 750 x 900	3	Nos			
	300 x 750 x 900	1	Nos			
	900 x 750 x 900 (Corner Unit)	12	Nos			
	600 x 750 x 900 (Sink Unit)	6	Nos			

NOT E: For positioning of the above, refer annexure indicating modules and locations.

Material

The cabinets and shutters shall be made of 0.80 mm (22 SWG) thick CRCA MS Sheets.

Surface Treatment

All the MS material used shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).

General Specifications

Each storage unit shall be assembled with M6 fasteners having a Zinc-Cobalt coating for better corrosion resistance. Adjacent units shall be connected using Zinc-Cobalt connectors. The shutters shall be fixed with Nickel-Chrome plated self closing hinges (Make: Hafele, GRASS) and shall have a further CED coating to enhance corrosion resistance. The drawer trays shall be mounted on Delryn roller bearing slides which are made up of 1.6 mm thick MS sheets and epoxy powder coated. A pair of slides should be able to carry a UDL of 15 kgs.

Shutters & Drawer fronts

The shutters and drawer fronts shall be made of CRCA MS Sheets 0.80mm thickness (22 SWG) with the above-mentioned surface treatment. The shutters and drawer fronts shall be provided with adequate seals on all sides and adequate noise dampers. Handles shall be of SS of approved design and make.

Load Carrying Capacity

The overall load bearing capacity of the cabinets shall be 80 Kgs of UDL (40 Kgs on shelf and 40 Kgs on bottom). The overall load carrying capacity of the drawers shall be as specified earlier.

iv	<p>Reagent racks</p> <p>Reagent Shelves to be of complete modular design consisting of horizontal 2 stage storage shelves. The end vertical support should be 0.9mm & horizontal shelves of 0.8mm thick CRCA M.S. Sheet. Each shelf should have a load carrying capacity of 30 kgs. of UDL for the length of 1000 mm. Each vertical panel shall be assembled with horizontal shelf with M6 fasteners having Zinc-Cobalt coating for better corrosion resistance. The complete M.S. material of cabinet to be pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat to be 45-50 microns, which passes the test of Salt Spray for 1000 hours and having the Scratch Hardness of 3Kgs.</p>		
a	<p>900 mm (L) X 300 mm (D)(Service Line Stand)</p> <p>Material</p> <p>The reagent shelf shall be made of SS 304 sheets of 1.20 & 0.80 mm thickness, made in tray form, machine pressed wherever applicable. The carcass shall be of 2 mm thick 30 mm X 30 mm heavy duty ERW MS square tubes. The end vertical support and horizontal shelves shall be made up of 1.2 mm thick CRCA MS Sheet.</p> <p>Surface Treatment</p> <p>The understructure of the units shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).</p> <p>General Specifications</p> <p>Each understructure table shall consist of 4 height adjusters that shall take care of leveling aspects. The modular construction shall be joined together with high pan head M6 Zinc black coated fasteners for better corrosion resistance.</p> <p>The horizontal shelf shall have a provision for fixing the service panel to it. The service panels shall carry electrical switches and sockets at locations indicated in the electrical power layout or as indicated by the Engineer-in-Charge.</p> <p>The service stands fitted under the table shall serve as a support for pipe lines.</p> <p>Load Carrying Capacity</p> <p>The load carrying capacity of each reagent shelf shall be 30 Kgs of UDL for the length of every 1000 mm.</p>	1	Nos
v	<p>Ceramic Sinks</p> <p>The sink shall be a glazed ceramic sink capable of handling acidic waste.</p>	6	Nos
vi	<p>Water Taps - 3-way Swan neck type</p> <p>The taps provided shall be processed with Epoxy coating on Brass surfaces for pH & rust resistance. Switch valve cast shall be ceramic, so that it can avoid acid wear. The outlet produced in PVC shall have detachable hose nozzles, alloy pressure, changeable high-pressure outlets constructed for normal clean outlet control of water flow from the faucet.</p>	6	Nos
vii	<p>Vertical Posts (wherever necessary)</p> <p>a 100 mm X 300 mm from floor level to False ceiling level</p> <p>b 140 mm X 300 mm from floor level to False ceiling level</p>		

Material

The cabinet and steel shutters shall be made of CRCA MS Steel as described above.

Surface Treatment

All the MS material used shall be degreased and zinc phosphated. The Zinc Phosphating shall then be air dried using blowers. The minimum Zinc Phosphate deposit on the MS Sheets shall be 1.1 gm/sqm and shall confirm to IS-3618 and IS-6005. It shall then be epoxy powder coated for corrosion resistance. The epoxy powder coating shall be done using a pure epoxy powder and not polyester mixed powder. The thickness of the powder coat shall be 45-50 microns, which can pass salt spray for atleast 1000 hours (IS:101) and shall have scratch resistance/hardness of 3 Kgs (IS:101 & IS:13871).

viii **Work Surfaces**

a 18mm thick polished black granite with 8mm marine plywood 45 Smt
(BWP Grade) backing.

ix **Electrical accessories & Fittings:**

Electrical Accessories and fittings should consist of electrical trunking of 0.8mm thick CRCA MS Sheet. The complete M.S. material of cabinet to be pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat to be 45-50 microns, which passes the test of Salt Spray for 1000 hours. It should have a high temperature withstanding capacity with excellent electrical insulation properties. The rear portion of above accessories which is in contact with live metal shall be made from thermo set material which should not melt on heating.

NOTE: The above specifications shall be considered to be a guidance and the Lab furniture, in addition, shall confirm to all relevant and applicable IS, SEFA, BS, DIN, ASTM & ISO standards.

2 Emergency Shower

Providing and installing of Emergency showers in the 1 Nos
locations indicated in the drawings and as per following specifications:

Pipe Diameter

Inlet Pipe: SS #304, 1.25" diameter
Outlet Pipe: SS #304, 1.25" diameter

Emergency Shower

Inlet Pipe: SS #304, 0.75" diameter
Switch: Fixed pull-over switch
Pull Rod: fixed pull-over switch
Shower Bowl: external bowl of outside use SS #304, with polishing finish on the top surface.
Shower Head: more than 800 holes, rain shower type.

Eye Washer

Inlet Pipe: SS #304, 0.50" diameter
Control: Manual Switch, foot pedal type.
Eye Wash: outside use SS #304, with polishing finish on top surface.
Eye Wash Faucet: Cast by non-burnable polycarbonate, with filter sponge and cover that can avoid dust, to be openable by water pressure directly to avoid contamination.

Size:

Total Height: 2325 mm ± 15 mm
Emergency Shower: 2100 mm ± 20 mm

Eye Wash: 1030mm ± 20 mm

Accessories:

Bulletin board of SS #304, Drawing to indicate method of use and adequate number of expandable screws for fixing the same.

Water Pressure:

The piping of the emergency system should be capable of bearing water pressure of 18 kg/cm² (250 psi).

3 Anti-Vibration Tables (900mm X 600mm X 750 mm)

- | | | | |
|-----|---|---|------|
| i | <p>Tubular Frame</p> <p>Completely modular type tubular frame, that carries the load of the Kadappa slab or granite placed on it.</p> <p>High tension Pan head M6 Zinc black coated screws (for better corrosion resistance) used as fasteners.</p> <p>Material</p> <p>40 Sq X 1.6 mm thick ERW tube.</p> <p>Load Carrying Capacity</p> <p>The tubular frame should handle a UDL of 250 Kgs</p> | 2 | Nos. |
| ii | <p>Cover Panels</p> <p>Material</p> <p>The cover panels shall be made of 0.80 mm thick CRCA M.S Sheet.</p> <p>Surface Treatment</p> <p>The M.S Sheets shall be pretreated (de-greased, Zinc Phosphated), and epoxy powder coated for corrosion resistance. The thickness of powder coating shall be 45-50 microns, which shall pass the Salt Spray test of 1000 hours, and shall have a minimum scratch hardness of 3 Kgs.</p> | | |
| iii | <p>Kadappa</p> <p>25 mm thick Kadappa shall be used as the main shock dampening component.</p> | | |
| iv | <p>Work Surface</p> <p>The work top shall be 18 mm thick jet black granite with polished/bevelled edges as directed.</p> | | |
| v | <p>Vibration isolating rubber pads made of a combination of Nitrite rubber, cork particles, and cross linked polyester fibres shall be provided.</p> | | |
| vi | <p>Leveling screws shall be provided at the bottom of the frame to accommodate any variations/undulations in the finished floor.</p> | | |

4 Vented Chemical Storage Units (900mm X 450 mm X 1800mm)

5	<p>Providing and installing Vented chemical storage racks made in Stainless Steel (304), with a vent pipe (100 mm Diameter SS) connectable to the exhaust system. The unit shall have glazed shutters with locking mechanism treated with anti-corrosive treatment as per manufacturer's specifications. The shutters shall be fixed using CED coated hinges of GRASS/HAFELE make. The unit shall have a collection tray for any accidental spillage and will be provided with vibration isolating rubber pads made of a combination of Nitrite rubber, cork particles and cross linked polyester fibres. The unit shall be mounted on leveling screws to accomodate any variations/undulations in the finished floor.</p>	5	Nos
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5 Storage Units

Providing and installing flexible storage racks with slots to fix the shelves in different positions, made in powder coated CRCA MS Sheets of 0.80 mm Thickness. Powder coating shall be of approved colour and 45-50 microns thickness and shall pass through a salt spray test of 1000 hours and have a minimum scratch hardness of 3 Kgs. The unit shall be mounted on leveling screws to accomodate any variations/undulations in the finished floor.

4 Nos

6 Spot Extractors

Providing and installing elephant trunk type spot extractors with clear plastic hoods, attached to a blower of 300 cfm with all necessary hardware for suspending the mechanism from the ceiling, ducting between the blower and the extractor etc., complete as per manufacturer's specifications.

1 Nos

7 Spot Extractors

Providing and installing robot arm type spot extractors with clear plastic hoods, attached to a blower of 300 cfm with all necessary hardware for suspending the mechanism from the ceiling, ducting between the blower and the extractor etc., complete as per manufacturer's specifications.

1 Nos

8 SS Pegboards

SS Pegboard of overall size of 550x420mm. Adjustable PP pegs of 10mm dia. It should have a welded square tube of 20x40x1mm. Tube should be of PVC material.

6 Nos

NOTE: The above specifications shall be considered to be a guidance and all the furniture shall conform to all relevant and applicable IS, SEFA, BS, DIN, ASTM, ISO & ASHRAE 110 standards.

NOTE: It is mandatory that the vendor submit technical working drawings with all relevant details and catalogues, if any, for every single item mentioned above at the time of submission of tender. Any tender without such details will be rejected outright.

Grand Total for Laboratory Modular Furniture & Accessories

Rs.

The drawings are attached with the tender document and will be issued at the time of purchase of tender. However, interested bidder can see the drawings in the office of I/c, building before purchase of tender.

GENERAL SPECIFICATIONS

The detailed specifications given herein after are for the items of works described in the schedule of quantities attached herein, and shall be guidance for proper execution of works to the required standards. It may also be noted that the specifications are of generalized nature and these shall be read in conjunction with the description of items in the schedule of quantities and drawings. The work also includes all minor details of construction which are obviously and fairly intended and which may not have been referred to in these documents, but are essential for the entire completion in accordance with standard engineering practices.

Unless specifically otherwise mentioned, all the applicable codes and standards published by the Bureau of Indian Standards, latest revision and all other standards that may be published by them before the date of receipt of tenders, shall govern in all respects of design, workmanship, quality and properties of materials and methods of testing, method of measurements etc. In case there is no ISI (BIS) specification for the particular work, such work shall be carried out in accordance with instructions in all respects, and requirements of the client/consultant.

The contractor shall maintain, in perfect condition, all works executed till the completion of the entire work allotted to him. Where phased deliveries are contemplated, this provision shall apply to each phase.

The contractor shall clear the site of all scaffolding materials and rubbish, etc., left out of this work to the satisfaction of the client/consultant before the work is considered as complete.

In case of any difference or discrepancy between the specifications/drawings and the description in the schedule of quantities, the schedule of quantities shall take precedence. In case of any difference or discrepancy between specifications and drawing, the specifications shall take precedence.

SITE BOOKS/REPORTS:

For the purpose of quick communication between the client/consultant and the contractor, or his agent or representative, site instruction books shall be maintained at site in the manner as described below.

Any communication, relating to the works, may be conveyed through records in the site instruction books. Such communication from the consultant to the contractor shall be deemed to have been adequately served in terms of the contract. Each site instruction book shall have machine numbered pages in triplicate and shall be carefully maintained and preserved by the contractor. Any instruction or other orders that the client/consultant may like to issue to the contractor may be recorded by him in the site instruction book and one copy thereof issued to the contractor.

FURNISHING OF REPORTS, STATEMENTS, RETURNS, ETC., BY CONTRACTOR:

All reports, statements, returns, diagrams, or drawings, etc., which the contractor is required to submit during the progress of the works to the client/consultant shall unless otherwise directed, shall be furnished in triplicate and at expense of the contractor.

CONTRACTOR TO VERIFY SITE MEASUREMENTS:

The contractor shall check and verify all the site levels and measurements whenever requested by other specialized contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness, so as to not delay the works in any way. A copy of all such information passed on, shall be given to the client/consultant.

MATERIALS AND SAMPLES:

1. Materials to be new.

All materials/fittings/equipment employed in connection with the permanent work shall be new and of the best quality and description of their respective kinds and shall confirm to the relevant code

(latest applicable standard) and to the approval of the client/consultant. The contractor shall be responsible to ensure that the materials used are suited to the specific conditions including the climate and environmental conditions prevailing at the site.

2. All proprietary material shall be of approved make and the type as stipulated. A list of approved makes is given at the end of the document. It will be deemed that the contractor has priced the respective items on the basis of those approved makes. However, it shall be the prerogative of the client/consultant to choose any particular make among the list as the most appropriate one and the contractor shall be bound to provide the same without any variation in the contract rate.

3. Approval of manufacturers:

Before ordering materials of any description, the contractor shall submit samples to the client/consultant along with the names of the manufacturers and/or supplier proposed and shall obtain approval thereof in writing from the client/consultant well in advance of commencement of work and procurement of materials for use at site.

4. Copies of Orders.

The contractor shall supply to the client/consultant in triplicate, copies of all orders placed by him for the supply of materials for any item of permanent work or materials for the fabrication thereof. The specialist sub-contractors also shall supply, through the main contractor, copies in triplicate of all orders they may place for items of work or materials for fabricating any article or thing for which they have been sub-contracted.

5. Samples of materials and work

- a) Irrespective of the fact that some specific make or type of material has been specified, no material shall be supplied or used on permanent works until the samples of the same are prepared/submitted and have been approved in writing by the client/Consultant.
- b) In addition to special provision made hereinafter as to sampling and the testing of materials by particular methods, samples of all materials and work proposed to be employed in the execution of the work may be called for at any time by the client/consultant and shall be submitted to the consultant for approval without delay by the contractor. The contractor shall arrange for the carriage of the same to enable the tests and analysis thereof to be made.
- c) Samples of materials of all trades/disciplines supplied shall be such as to have a clear idea of the general type and characteristics of the whole of the materials to be used in the work. No plea regarding samples supplied being not representative of the whole of the material will be acceptable. In case it is not practical to bring or make the sample at the site office, the contractor shall arrange for inspection at the sub-contractor/ supplier's shop or works at his own cost. In the event of the contractor not submitting for the approval of the client/consultants, samples of materials of satisfactory quality and workmanship, the client/consultant shall have the power to specify any particular manufacturer or merchant for the supply of such materials and the contractor shall, at no extra charge, obtain such materials from the said manufacturer or merchant. Before submitting samples for approval to the client/consultant, the contractor shall satisfy himself that it is in accordance with the requirement of the contract. The samples shall also be submitted sufficiently early for all procedures to be duly completed including rejection and resubmissions if required, so that the approved programmed construction is not adversely affected in any way.
- d) Samples when approved will be retained by the client/consultant at the site office until the completion of the project and for this purpose, suitable labeled boxes for storage of samples shall be provided by the contractor.
- e) The client/consultant shall be at liberty to reject all materials and workmanship at any stages, which are not at least equal in quality and character to such approved samples.
- f) The contractor shall, when required by the client/consultant, furnish all information as to quality, weight, constituent substances, dimensions, levels, strength and description of the materials, test results, full and accurate records of the dimensions and positions of all new work and any other information necessary and works and give the consultant such other particulars as may be required promptly.

INSPECTION AND TESTING OF MATERIALS:

The client/consultant shall be kept informed as to the progress of all works being carried out or materials being manufactured, prepared or supplied so that he may be able to make such arrangements for inspection, testing and analysis as he may desire. Wherever considered desirable by the client/consultant, a representative shall be sent to contractor's, sub-contractor's and/or manufacturer's premises to test the materials or inspect their manufacture. The contractor shall attend to the client/consultant or his representative during such inspection to be carried out satisfactorily. Should the client/consultant decide not to send a representative to the said premises, the contractor shall obtain the manufacturer's certificate of test, proof sheets, mill sheets, showing that the materials have been tested satisfactorily in accordance with the requirements of the specification relating thereto, but neither omission of the client/consultant to send a representative, nor the production of the manufacturer's certificates of test shall affect the liberty of the client/consultant to reject after delivery of any material found not to be suitable or not in accordance with the specifications.

The contractor shall provide means of identification of the materials delivered at the site with the corresponding certificate of tests and manufacturing batch numbers.

As soon as the materials are delivered at the site, the client/consultant shall be informed. Notwithstanding any test that the client/consultant may direct to be carried out at the contractor's, sub-contractor's or manufacturer's premises, the client/consultant shall be at liberty to carry out any further test he may desire after delivery of materials at the site and may reject any or all materials which fail to comply with the approved sample or the required specification. Only after the approval of the materials delivered at the site, the same shall be used at the works and such approval shall not relieve the contractor for fulfilling his obligations under the contract.

The contractor shall prepare and provide such and as many test pieces of the various materials as the client/consultant may, from time to time, direct or as may be specified and the contractor shall analyze, test and weigh all materials in such manner and at such time or times and in such place or places as may be specified or directed by the client/consultant.

Materials shall be packed, transported, handled and stored on the site carefully and in a satisfactory manner so as to prevent any damage and deterioration of any kind, either during transit or storage. Certain perishable materials like cement, lime, fittings, doors, windows, glass etc., are stored in covered go downs to save them from sun, rain etc.

REJECTED MATERIALS:

Should the client/consultant at any time condemn any material or goods intended for use in the works as:

- a) Being inferior to samples previously approved.
- b) Having deteriorated in transit or on storage or on the site so as to be no longer fit for incorporation in the permanent works.
- c) Not complying with the specification.

The contractor shall promptly remove all such material from the vicinity of the works to the satisfaction of the client/consultant and confirm in writing immediately after removal.

Should the client/consultant discover on the works, any material other than those approved, he may order their immediate removal from the site, and the contractor shall forthwith remove the un-approved materials from the site within 48 hours. Any works executed with inferior material is to be taken out and reinstated with approved material at the contractor's expense and within the contracted time period.

LIST OF PROPRIETARY MATERIALS:

The contractor shall submit a comprehensive list of all proprietary articles and materials used in the works containing catalogues, reference numbers, colour shades, etc., and the manufacturer's and/or supplier's names, addresses, including a pricelist with effect to the site of works. This list in approved format shall be

complete in all respects and shall be submitted together with the as-built drawings and operation and maintenance manuals.

Failure to submit the above list, shall defer issue of the completion certification.

CONTRACTOR TO SATISFY HIMSELF REGARDING ALL REQUIREMENTS:

The contractor shall satisfy himself as to the full extent and character of the works, supply and conditions affecting labour, materials and plant requirements of the Employer's safety and health regulations and all local conditions and restrictions affecting the works and provide for the same.

The responsibility of carrying out the works and the methods to be adopted under this contract shall rest solely with the contractor subject always to the approval by the consultant of the contractor's proposals. Such approvals shall not however relieve the contractor in any way of his responsibility for the proper execution of works in accordance with the contract.

RECORD DRAWINGS:

The client/consultant will issue two sets of drawings, site instructions, with sketches to the contractor for the items for which some changes have been made from the approved drawings. The contractor will mark the changes in the original drawings issued for the purpose earlier and keep record of all such changes including the changes in levels and dimensions as required at site and issued by written instructions of the client/consultant and shall keep the site drawings fully updated. Finally these drawings, with all revisions, shall be maintained as record drawings at site and all such revisions/corrections, shall be effectively reflected/incorporated in the as-built drawings to be submitted by the contractor as stated hereinafter and return these copies to the client/consultant for his approval. In case any revision is required, or the corrections are not properly marked, the client/consultant may point out the discrepancy to the contractor.

AS-BUILT DRAWINGS AND COMPLETION PHOTOGRAPHS:

Two copies of the corrected as-built drawings shall be submitted to the client/consultant for his approval.

The client/consultant shall return a copy of the same duly approved, if found satisfactory or advise the contractor on the changes required of discrepancies, if any. The contractor shall resubmit three copies after incorporating all the corrections, changes etc., as required.

On receipt of the approved copy of these drawings, the contractor shall submit to the client/consultant, six prints/copies of the same along with one reproducible copy and as directed by the client/consultant for onward submission to the Employers unless otherwise stated.

Before the works (or any section thereof) are completed in accordance with relevant provision of general conditions of contract and before submission of the last or final bill whichever is earlier, the contractor shall furnish to the client/consultant as-built drawings of the works as completed in sufficient details which in the opinion of the client/consultant will enable the Employer to maintain, dismantle, re-assemble and adjust all parts of the works.

The contractor and his specialized sub-contractors shall submit as-built drawings for all the works including electrical and data cabling works and all other services if any, fabrications, installation equipments and their layouts, distribution systems and all other relevant information as required for approval of the client/consultant.

On completion, the contractor shall engage a professional photographer to take external and internal views of the buildings/works. Four copies each (including negatives), of enlarged A4 size of these photographs shall be submitted to the client/consultant.

CARE OF WORKS AND PROPERTIES:

The contractor shall so conduct his operations so as to not damage, close or obstruct any utility, highway, road or other property until permits thereof have been obtained.

If facilities are closed, obstructed, damaged or rendered unsafe by contractors' operations, the contractor shall, at his own cost, make such repairs and provide such temporary guards, lights and other signals as necessary or required for safety and as will be acceptable to the client/consultant and/or the owner of the utility, highway, road or other property.

FIRST AID SERVICE:

The contractor shall make his own arrangements for treatment of accident/casualties on the site in such first-aid units as may be thought necessary. The whole of the arrangements for the First Aid Service shall comply with local Health Authority Regulations and shall at all times be subject to the approval of the client/consultant and the contractor shall carry out any instruction given by the client/consultant in this respect.

PROGRESS PHOTOGRAPH:

The contractor shall arrange to take progress photographs fortnightly. The number and positions from which the photographs are to be taken shall be directed by the client/consultant.

FACILITIES, ATTENDANCE ETC., ON NOMINATED SUB-CONTRACTORS

The contractors shall allow for the provision of facilities, attendance, etc., for the nominated sub-contractors.

The facilities, attendance shall include:

- a) Storage facilities for plants, tools and equipment and products and materials
- b) The use of sanitary accommodation, medical and welfare facilities
- c) Facilities as described in clauses keeping site clean, providing drinking and construction water and proper lighting at worksite, access, scaffolding, hoist etc., thereof
- d) Watching and lighting and protection of their work as necessary.

DISPATCH OF MATERIAL:

Material shall not be dispatched from the manufacturer's works or to the site without authority from the client/consultant. The client/consultant shall be informed prior to dispatching the materials.

TECHNICAL SPECIFICATIONS

INTERIOR WORKS:

GENERAL:

This specification is for work to be done, items to be supplied and materials to be used in the works as shown and defined on the drawings and described herein, all under the supervision and to the satisfaction of the client/consultants.

1. The workmanship is to be the best available and of a high standard. Use of special tradesmen should be made in all aspects of the work and allowance must be made in the rates for doing so.
2. Templates, boxes and moulds shall be accurately set out and rigidly constructed so as to remain accurate during the time they are in use.
3. The contractor shall be responsible for providing and maintaining and boxing or other temporary convenes required for the protection of dresses or finished work if left unprotected. He is also to clean out all shelves, out ends and other waste from all parts of the works before coverings.
4. All unexposed surfaces of timber e.g. partition/paneling frames, false ceiling, backing fillets, backs of door frames, cupboard framing, grounds, etc., are to be treated with two coats of approved timber preservative and anti-termite paints before fixing or converging.
5. Only first class workmanship will be accepted. The contractor shall maintain uniform quality and consistency in workmanship throughout.

JOINERY:

1. Joinery is to be prepared immediately after preparing the work order, framed up, bonded and tied up. Any portions that are wrapped or found with other defects are to be replaced before welding up. The whole of the work is to be framed and finished in a workmanlike manner in accordance with the detailed drawings, specifications and wherever necessary, fitted with metal ties, straps, belts, screws, glue etc. Running beaded joints are to be cross-tongued with Teak tongues wherever 1 or 1.5 thick double cross-tongued. Joinery work is to be generally finished with fine sand or glass paper.
2. Joints: All joints shall be standard Mortise and Tenon, dowel, dove tailed and cross-halved. Nailed or glued joints will not be permitted. Screws, nails etc., shall be standard Iron or wire of oxidized metal. Fold tenons should fit the mortises exactly.
3. Nailed or glued butt joints will not be permitted, but in exceptional cases approval of client/consultants has to be taken.
4. Where screws are shown on a finished surface, they will be sunk and the hole plugged with a wood plug of the same wood and grain. The finished surfaces shall be neatly punched and the hole filled with wood filler to match the colour.
5. If joints in joinery work open, or other defects arise within the period stated for defects liability in the contract, then such defective joinery shall be taken down, refilled, redecorated and/or replaced. The defective work, and any work disturbed shall be made good at the contractor's expense.
6. Nails, spikes and bolts shall be of length and weight as approved by the client/consultant. Nails shall comply with IS: 1959-1960 or equivalent approved sample. Brass headed nails are to comply BIS: 1210. Wire staples shall comply with BIS: 1494 or equivalent.
7. The contact surface of dowels, tenons, wedges etc., shall be glued with an approved adhesive.
8. Where glued joinery and carpentry work is likely to come into contact with moisture, the glue shall be water proof.

HARDWARE & METALS:

The hardware, throughout, shall be of approved manufacture or supplier, well made and equal to, in every respect, to the samples to be deposited with the client/consultants. The contractor may be required to produce and provide samples from many different sources before the client/consultant take a decision and he should allow his rates for doing so.

1. Fittings generally shall be brass oxidized unless otherwise specified and shall be suitable for their intended purpose. In any case, it will have to be approved by client/consultants before the contractor procures it for execution at site.
2. Screws are to match the finish of the article to be fixed and to be round or flat headed or counter sunk as required.
3. The contractor shall cover up and protect the brass and bronze surfaces with thick grease or other protective material, renewed as necessary and subsequently clean off on connection.

4. Aluminium and Stainless Steel shall be of approved manufacture and suitable for its particular application. Generally the surface of Al shall have an oxidized finish and both shall comply with the samples approved by the client/consultant. All SS sheets shall be 304 S.S, Japan or equivalent, with gauge as specified but not thinner than 16 G.
5. All steel, bronze, brass and aluminium and SS articles shall be subjected to a reasonable test for strength, if so required by the client/consultant at the contractor's expense.
6. All brazing and welds are to be executed in clean smooth manner, rubbed down and left in the flattest and tidiest way, particularly where exposed.
7. Chromium plating shall be in accordance with IS or as per approved specification for normal outdoor conditions and shall be on a base material of Cu or brass.

GLAZIER:

1. All glass to be of approved manufacturer complying with IS: 3548-1966 as per approved quality and sample to be of the selective qualities specified and free from bubbles, smoke, air holes and other defects.
2. Polished plate glass shall be 'glazing glass' (GG) quality and that for mirror shall be silver quality (SG) confirming to IS: 3438-1965 as per approved sample and quality.
3. The compound for glazing to metal to be special non-hardening compound manufactured for the purpose and of a brand and quality approved by the client/consultants.
4. While cutting glass, proper allowances to be made for expansion. Each square or rectangle of glazing to be of one whole sheet. On completion of work contractor shall clean all glass inside and cut/replace all cracked, scratched and broken panes and leave in good condition.

PAINT & POLISHES:

1. All material required for the works shall be of specified and approved manufacturer, delivered to the site in manufacturer's containers with the seals etc., unbroken and clearly marked with the manufacturer's name or trade mark with a description of the contents and colour. All materials are to be stored on the site of the work.
2. Spray painting with approved machines will be permitted only if written approval has been obtained from the client/consultant prior to painting. No spraying will be permitted in the case of priming coats or where the soiling of adjacent surface is likely to occur. The nozzle and pressure to be so operated as to give an even coating throughout to the satisfaction of the client/consultant. The paint used for spraying is to comply generally with the specification concerned and is to be specially prepared by the manufacturer for spraying. Thinning of paint by brushing will not be allowed.
3. Wood preservation shall be Solignum or other equal and approved impregnating wood preservative and all concealed woodwork shall be treated with wood preservative and anti-termite treatment with Termiseal or equivalent chemical.
4. All brushes, tools, pots, kettles etc., used in carrying out the work shall be clean and free from foreign matter and are to be thoroughly washed out before being used with a different class of materials.
5. All iron or steel surfaces shall be thoroughly scraped and rubbed with wire brushes and shall be entirely free from rust, mill scale, etc., before applying the primary coat.
6. Surfaces of new woodwork to be painted are to be rubbed down and cleaned to the approval of the client/consultant.

UPHOLSTERY:

1. This will be of first class standard workmanship with webbing, no sag springs, coil springs, padding and filling as specified on drawings. Covering fabrics will be sewn, tufted and chorded as shown in the drawing and as approved by the client/consultant.
2. Cushion Vents: Brass cushion vents should be installed at the back or underside of seat cushions (Specially those that are covered in leather, vinyl plastic or very tightly woven fabric) to allow air to escape easily and to prevent tearing.
3. Materials: Finished timber shall be of the type specified. Furnishing fabrics, colour, and pattern, substance to be specified and manufactured or supplied by the company specified. No variation of this will be permitted unless with prior approval of the client/consultant.

POLISH:

French Polish: The basic material shall be shellac dissolved in methylated spirit.

Preparation: The timber should be well sanded and cleaned and the grain filled with grain filler. Any staining must be done before applying the polish.

Equipment: The polishing rubber, the most important implement in French polish, shall consist of a pad of cotton wool, which acts as a reservoir for the polish, and a cover of soft white liner or cotton fabric, similar to a well-worn handkerchief, which acts as a filler. The rubber must never be dipped into the polish. The rubber should be changed by pouring the polish on the pad with the cover removed.

Application: Work evenly over the surface with a slow figure-of-8 motion until the timber is coated with a thin layer of polish. The object is to apply a series of thin coats, allowing only a few minutes for drying between the coats. When a level and even bodied surface is obtained, the work is ready for the second stage i.e. spiriting off. Allow the work to stand for at least 8 hours, then take a fresh rubber with a double thickness of cover material and change it with methylated spirit. The object of spiriting off is to remove the rubber marks and to give the brilliance of finish. Finally, work in the direction of the grain and continue until the surface is free of smears and rubber marks. Then leave to harden off.

Wax Polish: Wax polish shall contain silicones and driers. A good silicon wax is to be used, not a creamy or spray. The timber shall be sealed, first with another finish such as Ronseal, before applying the wax.

Application: Apply a light coat of the sealer by brush or cloth direct to the unfilled timber, working well in and finishing evenly with the grain. Allow to dry thoroughly, then sand lightly with fine abrasive paper. Apply a heavy coat of wax by cloth on a flat surface with a stiff brush. Work it well into the timber and finish off by stroking with the grain before leaving to harden. Leave for several hours before rubbing up with a soft brush. Finally buff the grain with a soft cloth.

Transparent/Coloured Polyurethane (Melamine): This shall be applied where natural grain of the wood is required to be shown. Polyurethane gives tough surface which resists scraping, chipping and boiling water.

Application: Clean off the grease and wax with an abrasive and white spirit. This should not be applied in humid conditions. Apply the first coat preferably off clear hard glaze with a cotton pad. Leave this to dry for at least 6 hours, and then apply further coat with a paint brush. If you wait for longer than 24 hours between coats, rub down the previous coat with fine glass paper or medium grade of steel wool. Obtain a matte finish if require by giving a final coat of clear Ronseal matte coat.

TIMBER:

1. Only seasoned and chemically treated BTC / CPTW / Sal wood/matching wood to be used, as specified.
2. All the wood shall be properly seasoned, natural growth and shall be free from worm holes, loose or dead knots or other defects, saw die square and shall not suffer warping, splitting or other defects.
3. The moisture content shall not exceed 12%
4. All internal frameworks shall be treated with approved wood preservation and anti-termite chemical.
5. All wood brought to site should be cleaned, shall not have any preservative or other coating or covering.
6. All rejected, decayed, bad quality wood shall be immediately removed from site. All wood brought to site must be stack stored properly as per instructions.

PLYWOOD:

1. Marine plywood confirming to IS: 710-1976 as specified in the approved list of manufacturers shall only be used. (Block board/commercial plywood not to be used)
2. Only teak wood particle board shall be used. Particle board shall be phenol formaldehyde bonded and generally confirm to IS: 3087-1965
3. Only 3 mm – 4 mm thick straight-grained groove matching approved veneers shall be used.

MDF confirming to IS: 12406-1988 is a zero wood substitute finding a wide range pf applications in homes and offices. MDF should be of excellent finish. This should have advantage of homogenous construction, design flexibility, unbeatable machinability, no core voids and better value for money.

**LIST OF APPROVED AND NOMINATED MANUFACTURERS/SUPPLIERS OF MATERIALS AND SUB-
CONTRACTORS/INTERIOR WORKS**

Note:

1. All materials to be used should be as per the list given below.
2. Use of equivalent make shall be only with prior approval from clients/consultants in writing. It must be at par with specified list below in all respects. Any additional expenditure/time due to this variation will be on contractors account and no claims shall be entertained.
3. Contractor shall make payment to all suppliers/sub-contractors proportionately as per the payment received from the client/consultant for the particular item of work; otherwise the client/consultant has full rights to make payment directly to the party to avoid hampering progress of work. Such amount paid out shall be deducted in whole against the account of the contractor.
4. Client/consultant reserves the right to select/prefer the material from the approved list.

Sl No.	Material	Approved make/sub-contractor/supplier	Remarks
A	WOOD		
1	Old Burma Teakwood	No specific supplier. Contractor to obtain approval for samples.	Open market material
2	BTC	No specific supplier. Contractor to obtain approval for samples.	Open market material
3	Cp – Teakwood	No specific supplier. Contractor to obtain approval for samples.	Open market material
4	Hardwood	No specific supplier. Contractor to obtain approval for samples.	Open market material
5	Wood to match the veneers to be used	Jalaram, Anchor, Ekbote	
B	PLYWOOD		
1	Marine ply (IS: 710)	Anchor, Kitply, Greenply, Uniply, Archidply.	
2	Soft Board	Jolly Board or approved equivalent	
3	Particle Board	Novopan, Egger, Duratuff, Archid	
4	MDF	Duratuff or approved equivalent (IS approved)	
5	Flush Door	Anchor, Kitply, Anchor, Green, Mayur	Marine grade
C	DECORATIVE VENEERS/LAMINATES		
1	Veneers	Jalaram, Anchor, Ekbote, Archid, Durian.	Group match and lot to be approved
2	Laminate	Kitlam, Greenlam, Merino, Durian, Archid.	
D	GLASS		

1	Glass	Asahi, Modiguard, Saint Gobain, Float Glass India	
2	Mirror	Asahi, Modiguard, Saint Gobain, Float Glass India	
3	Tempering or toughening of glass	Asahi, Modiguard, Saint Gobain, Float Glass India	
E	ADHESIVE & PRESERVATIVES		
1	Adhesive	Fevicol, Vamicol, Kitcol, Araldite, 3M	
2	Preservative	Termiseal, Bison, Solignum.	
F	PAINTS & POLISHES		
1	Interiors Paint: Acrylic, Luster, Enamel	ICI Dulux, Nerolac, Asian, Burger, Oikos.	
2	Fire Retardant paint	Fire Tard, Shalimar, Viper, Nobel	
3	Poly-coating	MRF, Solvosol, Asian	
4	Melamine	MRF, Solvosol, Asian	
G	FALSE CEILING		
1	Gypsum	India Gypsum or equivalent make (IS approved)	
2	Acoustical: 1. Gypsum 2. Fibrous 3. Metal	India Gypsum or approved equivalent AMF, Armstrong or approved equivalent Hunter Dougous or approved equivalent.	Entire, including framework, supports, hanger etc., is to be used of the same make.
3	Calcium Silicate Board	Hilux, Aerolite or approved equivalent	
H	HARDWARE		
1	Screws	GKW, Nettle fold or approved equivalent	
2	Locks for cabinets	Godrej, Vijayan, Dorset, Acme.	
3	Floor Spring – for toughened glass	Dorma or approved equivalent	
4	Floor springs / door closers	Hyper, Everite, Garnish, Hamco or approved equivalent	
5	Handles	Nikki or approved equivalent.	
6	Hinges	Grass, Blum, Hafele	

7	Sliding drawer channels	Grass, Blum, Hafele	
8	Metal side drawer channels	Grass, Blum, Hafele	
9	Aluminium	Jindal or approved equivalent	
10	Lock	Dorset, Vijayan, Godrej, Acme.	
11	Patch fittings	Dorma	
12	Tower Bolt/Stopper	Magnum, Shalimar, Natraj, Ebco	
13	Mobile storage	Safeguard, Godrej or approved make.	
I	SOFT FURNISHING		
1	Carpet	Transasia, Interface, Miliken, Shaw	
2	Glass film for tint/safety/frosting etc	3M or approved equivalent.	
J	BLINDS		
1	Venetian, vertical blinds in fabric/hard wood/bamboo – Roman fold or roll up.	Mac, Aerolux, Vista, AD series, Technofab, Trend Italia	
2	False flooring	Kingspan, Tyco, DG false flooring	
3	Aluminium sections	Jindal, Hindalco	
K	PLUMBING & SANITARY		
1	CPVC Pipes & fittings	Ashirwad, Astral	
2	UPVC Pipes & fittings	Prince. Kisan	
3	Ball Valves	Zoloto, Hawa	
4	G.M Non return valves	Zoloto, Kirloskar	
5	Stoneware Pipes	M.S.L, T.S.L	ISI Marked
6	Sanitary Ware	Hindware/Parryware	
7	Plumbing Fixtures	Jaquar	
8	Toilet Accessories	Jaquar / Kimberly Clarke	
9	Hand driers	Nova-tech	
10	Urinal Sensors	Jaquar	
11	FRC Manhole frames & covers	Southern Concrete Industries/Approved equivalent	
12	CI Gratings & MH Frames & Covers	Neco	

PREAMBLE TO SCHEDULE OF QUANTITIES

1. Abbreviations:

Rmt	Running meter
Sqm	Square meter
Cum	Cubic Meter
QRO	Quote rate only
C/C	Centre to centre
C.P	Chrome Plated
No.	Numbers
Mm	Millimeter
G.I	Galvanized Iron
A.C	Asbestos cement
C.I	Cast Iron

2. All dimensions shown in drawings are in mm unless otherwise stated,
3. The quoted rate shall be all inclusive and cover the cost of materials, samples brought for approval, tools and tackles, plant and equipment, supervision, over heads, profit and any other expenditure incurred for completion of work as per drawings, specifications and to the full satisfaction of the client/consultant.
4. The rates quoted shall be valid for working at all heights, depths and on all floor levels. No extra payment shall be made for scaffolding, staging, ladders etc., for transportation of men and material at higher or lower levels.
5. The item rate specifications are indicative. The contractor will have to carry out the work in accordance with the drawings, technical specifications and/or other conditions laid down in tender document and to the full satisfaction of client/consultants.
6. Quantities mentioned against respective items are approximate and can vary to any extent. Payment shall be made on actual executed quantities.
7. No claims shall be entertained in case of increase or decrease in quantities. Client/consultants reserve the right to increase or decrease in quantities. Client/consultants reserve right to increase/decrease quantities of any item and also to add/delete any item in totality.
8. Client/consultants reserve right of operating any item for any work on any floor.
9. The rate for partition, paneling shall include necessary additional framework supports that may be required to suit site conditions or stability of the item. Decision of client/consultants in regards to the need for such additional supports shall be final. Vertical members or frames of full height partitions shall be fixed with R.C.C floor and roof slab/beam.
10. All wooden frame work/member sizes mentioned shall be full size with maximum planing tolerance of 3mm both ways.
11. Size and type of door closer/floor spring shall be suitable for type of door. The contractor shall give guarantee for performance of door closer/floor spring from him as well as manufacturer.
12. Rate of pelmet fascias and soffits shall include heavy-duty aluminium curtain channels and nylon runners, stoppers, brass hooks fixtures wherever required.
13. Rates for painting and polishing shall include protection and cleaning of glass panels, fans floor etc.
14. After completion of the work, the site shall be handed over absolutely clean, after ensuring that all laminates, floors, walls etc., are spotless clean.

15. Care shall be taken during painting and polishing works to ensure that masking tapes are use and the paint/polish does not smear over neighboring surfaces, switch plates, partitions/paneling etc., and if there is any smearing in spite of care taken, the same shall be made good.
16. Rates of all items shall remain constant irrespective of floor level and no extra cost shall be paid for handling and stacking of material, removing debris etc., from site.
17. The contractor shall clean the site and mark out the lining on the floor with brown adhesive tape for approval. The same shall not be paid for separately.
18. Unless otherwise noted, the method of measurement will be as per IS 1200.
19. Client/consultants reserve the right of operating all '**Quote Rate Only**' items.
20. Construction in medium density particle board/low density particle board/MDF board/Gypsum board etc., shall be as per manufacturer's specifications and instructions including the use of specified screws, bolts, channels etc.
21. Wherever the contractor proposed to use 'equivalent' makes he shall obtain client/consultant's prior approval. Any additional cost and time lost due to this will be on contractor's account and no claims will be entertained.
22. Veneers to be used shall be following types as approved by the client/consultants: Teak, Sycamore, Beech, White Cedar, mahogany, Walnut, Padauk, African mahogany, Golden Cedar or approved by the client/consultant. Only group-matching veneers shall be used.
23. The specification for side unit or rear side credenza unit in any item shall be same as the specification of the table in that item.
24. All keyholes shall be fixed with metallic keyhole rings and adequate stickering with key numbers shall be done prior to hand over of the site.
25. Rates for all plumbing fixtures, pipes etc., should include cost of testing the same under required pressure as per relevant IS code.
26. The rate-concealed pipes should include cost of making good the wall or floor in which it has been concealed.
27. The back of marble slab should be applied with white cement paste before fixing. Granite must be checked for porosity before laying and due treatment should be carried out to avoid patches etc.
28. The contractor should take approval for make 7-manufacture form the client/consultant before using any material, which does not appear in the list of, approved manufacturers.

SCHEDULE OF QUANTITIES

Trade preamble – wood work

Notes:

1. Wherever wood is specified or mentioned, the same to be used shall be of following species for all items of work unless otherwise specified:
For exposed woodwork: wood matching to veneer species cut to size as specified.

For internal woodwork: Sal wood cut to size as specified, coated with wood preservative and fire retardant paint.

Wherever MDF board is to be used, the same shall be of Exterior grade, conforming to IS: 12406 – 1288 or equivalent.

All wooden beading mouldings to match with the veneer shall be used.

2. Rates quoted for all items shall include for cost of materials, labor, testing of materials at laboratory or site, tools & tackle, lift and lead charges, transportation charges, loading-unloading charges, insurance cover as per tender, all types of taxes & duties including Works Contract Tax, polishing & painting charges (wherever applicable), arranging in position, cleaning etc., and completing the item to the satisfaction of client/consultant.
3. Rates quoted for finishes all include for cost of exposed wood moldings or sizes mentioned in drawings and specifications together with 3 coats of Melamine polish. These members will be measured as part of respective finished items. Separate payment for wood moldings will not be made unless specified in the tender.
4. Rate quoted for framework/partitions paneling shall include the cost for cutting charges to accommodate electrical conduits, A/c ducts etc., as per markings given by respective contractors. Rate for frameworks shall also include charges for applying fire retardant and wood preservative.
5. All frameworks for partitions shall be constructed up to main ceiling (R.C.C floor slab). However in case any additional supports are necessary of any size required and as advised by the consultant, the same size shall be provided. Cost of these supports shall be included in the rate quoted for the framework. There will be no separate payment for the additional supports envisaged as above.
6. All drawers used in furniture shall have 'sliding drawer channels' of approved make.
7. Rates quoted for all storage units shall include for cost of shelves with sides made out of 18 mm thick marine ply board and back with 8 mm thick ply. Similarly rates quoted for storage units shall also include for finishing at back of unit wherever specified. Tenderers shall note that storage units with veneer finish will have veneer with melamine polish for rear side. Rates quoted shall include for such finishes.
8. The rates quoted for all items shall include for cost of (unless otherwise stated) fixing required wooden sleeves or supports & making openings for ducts, grills, light fixtures, speakers, all types of detectors, indicators, CCTV cameras, finishing of joints, making grooves in required profile as per details in the false ceiling or between the false ceiling and the wall /partition with required wooden strips, etc. There will be no separate payment on this account. No deductions for providing openings for fittings/fixtures shall be made for false ceiling. However no payment shall be made for column and trap door openings.
9. Rates quoted for fixing MDF/plywood of any thickness shall include for cost of skinning, boxing, paneling, fascia, ledges, etc. These rates shall be valid for all widths.

10. The rates quoted for all items shall include cost for providing & fixing edge binding strips or lipping of 6 mm thickness for exposed edges of plywood, internal framework etc., wherever these materials are used in completing the item.
11. All exposed veneered/wooden surfaces shall be finished with 3 coats of melamine polish of approved shade and color, unless otherwise specified.
12. All materials brought to site for incorporating in work shall be of approved make and manufacture. The material which will not be of approved make & manufacture will be rejected & it shall be removed from site immediately.
13. Colours, shades of laminate, veneer, paints, and polish shall be exclusively approved by consultants. No violation, deviation shall be permitted.
14. Rates for extra items shall be got approved from the Employer prior to executing such items. Payments for extra items will be made only after such approvals. For this purpose the contractor shall submit rate analysis with supporting quotations/invoices duly certified by the consultant.
15. Unless otherwise specified in the working drawings of items or specifications, laminates used in the work shall be 1.5 mm thick & veneer 3.5 mm thick.
16. Hardware such as locks, handles, tower bolts, ball catches etc., shall be as per approved list of makes & manufacturers. Specific separate approvals shall be obtained before using any other accessories in lieu of approved hardware as above.
17. All the drawers & trays of desk units & credenza units shall have telescopic drawer fittings, including stopper systems of approved make.
18. The colors of melamine polish shall be as approved by the consultants. No violation shall be permitted in any of the item. Three or more coats of melamine polish shall be applied for items with melamine polish.
19. Rates for items of doors, such as flush doors laminated or veneered finish and the teak wood frame glass doors shall include the cost of handles, locks, door holder, hinges, wooden door frames etc. Separate payment shall be made for floor springs/door closers.
20. Rates quoted for relevant items shall include for modifications required for running the electrical/telecom/data wire conduits inside partitions/paneling. There will be no separate payment for this purpose.
21. The rates quoted for storage units & credenza units shall include for the cost of hardware such as locks, handles, demountable hinges of approved make, tower bolts, ball catches etc.
22. The mode of measurement for storage units & credenza units shall be front elevation area only.
23. The similar design of glass doors & glass partitions should be adopted. Rates quoted for glass doors shall include the cost of hardware as mentioned in clause 19 above, however rates quoted for glass partitions will not include cost of any hardware as indicated in clause 19 above.

24. Rates quoted for the supply and arranging the tables, credenza units, loose furniture shall include cost of side unit, pedestal drawer unit, accompanying (if any) as shown in the drawings, foot rest, drawer units, pencil trays, tea trays keyboard tray, skirting etc., complete in all respects. The side units provided shall have top drawers, sliding shutters etc., as indicated in drawings. Skirting to be made out of matching wood to veneer and to be finished with minimum three coats of melamine polish or finished with laminate as specified. The exposed surfaces of tables, side units, desk units and other built-in furniture, is required to have finishes as specified. The exposed surfaces of drawers & inside surfaces of furniture shall have finish as shown in the drawing. Reduced rates as approved by the employer will be paid for incomplete and substandard work. **Wherever MDF is used, the screws should be proper chipboard screws or Euroscrews of approved make.**

a) The drawers & trays shall be made out as follows unless otherwise specified:

Front/rear: 19 mm plywood for veneer finish/19mm plywood for laminate finish/18 mm thick MDF finished with post formed laminate externally and 1.5 mm thick laminate internally wherever specified.

Sides: drawer slides

Bottom: 6mm plywood to be finished with wax polish on outside.

Internal sides of the drawers shall be finished with 1mm laminate and trays also shall be finished with 1.5 mm thk laminate. All beadings/mouldings shall be finished with 3 coats of melamine polish. There will be no separate payment for this.

b) The sliding as well as open able shutters shall be made out as follows (All shutters to have post formed laminates/veneers as per drawings externally and 1.5 mm thk laminate internally):

Shutters: 19mm marine plywood for laminate finish/veneer finish.

Guide rails: wood cut to size finished with melamine polish.

Internal sides shall be finished with 1.5 mm thick laminate. All beading/mouldings shall be finished with three coats of melamine polish wherever specified.

All shutters of side unit/pedestal box/storage units etc., to have post formed laminate as per specified profile externally and 1.5 mm thick laminate internally.

c) The foot rest to be made of hard wood section with sizes as shown in the drawing.

25. The payment shall be made based on actual work measured on site by client/consultant's representative.

26. The jamb lining fascia, sill board fascia and skirting shall be made out of wood matching to veneer and to be finished with three coats of melamine polish.

27. The rates quoted for sofas (if any) and lounge chairs (if any) will be including the cost of the upholstery. The tenderer is required to fix the upholstery & the charges for the same shall be included in the rates quoted for items of sofa & lounge chairs.

28. The rates quoted for wire managers shall include the cost of cutting and making hole on the surfaces where the wire managers will be fixed.

29. The rates quoted for soft board item will be for fixing fabric finish on the exposed sides.

30. The rates quoted for veneer and melamine polish finish shall include for cost of providing and fixing inlays of various materials.

31. Desk units and built-in furniture shall be of sizes and finishes indicated in relevant drawings. The rates quoted will include for cost of all provisions made in the drawing and no separate payment will be made.
32. Measurements will be taken as per standard practices and relevant BIS codes for the actually executed quantities. Wastages will not be measure and paid for. Rates quoted shall include for wastages as anticipated.

MODES OF MEASUREMENT

1	Partition frame work, paneling	Sq.Mt area (actual executed) one side only but not above false ceiling level.
2	Finishing Items – laminate, veneer etc.	Actual executed area, including skirting moulding etc.
3	Storage units	Sq. mt area – front elevation for built in units. Per number for modular bought out units.
4	Staff desk units – open office workstations	Sq. mt area – front elevation for built in units. Per number for modular bought out units.
5	False ceiling	Sq. Mt area -- finished length X finished width. No deduction for A/c grills, lights, cutouts. Drops to be measured in separate Sq. mt.
6	Venetian/roller/roman blinds	Total Sq.mt area covered
7	Painting	Sq. Mt. finished area only
8	Carpet and other floor coverings	As laid Sq. Mt area. No wastage will be added.
9	Rounding off measurements	All measurements shall be rounded off to nearest second decimal point. E.g 21.465m will be recorded as 21.47 m.

ARTICLES OF AGREEMENT

Made at this day of between.....
.....(hereinafter referred to as the Employer which expression shall include his, Executors, Administrators and Assigns) of the other part WHEREAS the employer is desirous of "Renovation of Air Lab-Lab furniture" in C.P.C.B building.

WHEREAS the said drawings and the specifications and the priced schedule of quantities have been signed by or on behalf of the parties hereto and WHEREAS the contractor has agreed to execute upon and subject to the conditions at forth herein (hereinafter referred to as "the said conditions") the work shown upon "the said Drawings" and described in "the said specifications" and the said "

Priced Schedule of Quantities"

At the respective rates mentioned in the priced Schedule of quantities attached.

and WHEREAS the contractor has deposited Rs..... Rupees) with the Employer for the performance of the Agreement.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the payments to be made to the contractor as hereinafter provided he shall upon and subject to the said conditions execute and complete the works shown upon the said drawings and such further detailed drawings as may be furnished to him by the said Architects and described in the specifications and the said priced schedule of quantities.
2. The employer shall pay the contractor such sums as shall become payable hereunder at the time and in the manner specified in the said conditions.
3. the plans, agreements and documents mentioned above shall form the basis of this contract and the decision of the said Employer as mentioned in the conditions of contract with reference to all matters of dispute as to the material, workmanship or account and as to the intended interpretation of clauses of this agreement or any other document attached hereto shall be final and binding on both parties and shall be made a rule of court.
4. The said contract comprises the above mentioned buildings and all subsidiary works connected there within the same site as may be ordered to be done from time to time by the said Employer even though such works may not be shown on the drawings or described in the said specifications or the priced schedule of quantities.
5. The said conditions and special conditions, specifications, schedule of quantities, wage schedule of labour and schedule of materials to be supplied by the employer and guarantee bond shall be read with construed forming part of this agreement and the parties hereto will respectively abide by and submit themselves to the conditions and stipulation and perform the agreements on their parts respectively in such conditions contained.
6. The Employer reserves to himself the right of altering the drawings and nature of the work and of adding to or omitting any items of work or of having portions of the same carried out departmentally or otherwise and such alternations or variations shall be carried out without prejudice to this contract.
7. All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen in Delhi and courts in Delhi shall have jurisdiction to determine the same.
8. The several parts of this contract have been read by us and fully understood by us. As witness our hands this day of

Signed by the said

_____ in the presence of witnesses

_____ EMPLOYER

1. Signed by the said

2. _____ In the presence of

SPECIAL CONDITIONS

1. Sealed tenders superscripted with "Renovation of Air and Treatability Lab-Lab furniture" should be submitted at the office of the Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032. The tender documents will be received upto 3.00 p.m. on 19.11.2010.
2. The bids will be opened on 19.11.2010 at 3.30 p.m. at the same address.
3. No tender will be received after 3.00 p.m. on 19.11.2010 under any circumstances whatsoever.
4. Tender shall remain valid for a period of 3 months from the date of opening the tender.
5. CPCB does not bind itself to accept the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part without assigning any reasons for doing so.
6. (a) Each page of tender documents is required to be signed by the person or persons submitting tender in token of his /their having acquainted himself/ themselves with General conditions of contract, General Specification, special conditions, etc., as laid down. Any tender with any of the documents not so signed will be rejected. This also applies in respect of limited and private limited companies.

(b) the tender submitting on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract, otherwise the tender is liable to be rejected.
7. (a) The tender form must be filled in English or Hindi language and all entries must be made by hand written in ink. If any of the documents is missing, or unsigned, the tender will be considered invalid.

(b) The tender shall also submit along with his tender in respect of items wherein make is not specified a list mentioning the names of manufacturers specialized items which he proposes to use in the work if his tender is accepted.
8. All erasures and alternations made while filling the tender must be attested by initials of the tenderer. Overwriting of figures is not permitted. Failure to comply with either of these conditions will render the tender void. No advice of any change in rate of conditions after opening of the tender will be entertained.
9. Intending tenderers shall pay as Earnest Money a sum of Rs 88,925/- by demand draft/FDR in favour of CPCB, Delhi.

A tender which is not accompanied by earnest money will not be considered. The earnest money will be returned without any interest to the tenderer if his tender is not accepted.
10. Within fourteen days of issue of letter of intent from the CPCB of the acceptance of its tender the successful tenderer shall be bound to execute the contract by signing in accordance with the draft agreement and schedule of conditions but written acceptance by the Employer of a tender will constitute a binding contract between the employer and the tenderer whether such formal contract is subsequently entered into or not.
11. All compensation or other sums of money payable by the contractor to the employer under the terms of this contract shall be deducted from its earnest money and the security deposit if the amount to permits and contractor shall unless such deposit has become otherwise payable, within ten days after such deduction make good in cash the amount so deducted.
12. The contractor shall not assign or sublet any portion of the contract. He must not sublet any portion of the contract except with written consent of the Employer, failing which the employer may serve a notice in writing rescinding the contract where upon the security deposit shall stand forfeited at the absolute disposal of the employer.
13. A schedule of probable quantities in respect of such work and specification accompany these special conditions. The schedule of probable quantities are liable to alterations omission, deductions or additions at the discretion of the Employer. Each tender should contain not only the rates but also the value of each item of work entered in a separate column and all the items should be totaled up in order to show the aggregate value of the entire tender. All corrections in the tender rates shall be duly attested by the dated initials of the tenderer. Corrections which are not attested may entail the rejection of the tender. Rates should be quoted both in figures and words in columns specified. In case of discrepancy in the rates in figures and words the rates in words shall be deemed to be correct.
14. The tenderer must obtain for itself on its own responsibility and his own expense all the information which may be necessary for the purpose of making a tender and for entering into a contract and must examine the drawings and must consider and inspect the site of the work and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto and influencing its rates for the work.

15. The rates quoted in the tender shall include all charges for double scaffoldings, marking out and clearing of site, Airing etc., as mentioned in the specifications. The rates quoted shall be deemed to be for the finished work. Tenderer must include in their rates royalty, sales tax, excise duty, octroi and any other tax and duty, or other levy levied by the central government or any state government or local authority if, applicable, no claim in respect of royalty, sales tax, excise duty, octroi or other tax, duty or levy shall be entertained by the Employer.
16. Time shall be considered as the essence of the contract. The entire work must be completed in 3 (three) calendar months. The attention of the tenderer is drawn to clause 10 of the conditions of contract referring to damage for non-completion. The tenderer shall before commencing work prepare a detailed work programme which shall be approved by the employer.
17. The contractor shall not be entitled to any compensation for any loss suffered by him on account of delay in commencing or executing the work whatever the course of delays may be, including delay arising out of modification of the work entrusted to him or any sub-contracts connected therewith or delays in awarding contracts for other trades of the project or in commencement or completion of such works or in procuring government controlled or other building materials or in obtaining Air and power connections for construction purposes or for any other reason, whatsoever and the employer does not accept liability for any sum besides the tender amount subject only to such variations as may be provided for herein.
18. The successful tenderer is bound to carry out any items of work necessary for the completion of job even though such items are not included in the quantities and rates. Schedule and instructions in respect of such additional items and their quantities will be issued in writing by the Employer.
19. If the Head quarters of the successful tenderers are elsewhere than Delhi he shall have a duly authorized agent in Delhi from the commencement of the work until the building is occupied by the employer. Such agent shall be authorized to act on behalf of the successful tenderer to accept service of notice of contract and to agree to extras, omissions and varied item of work and rates for the same. Such agent shall maintain on his staff a qualified Engineer approved by the Employer and such office personnel as may be required for the efficient execution of works. Any notice under the contract shall be deemed to have been served on the successful tenderer if served upon such agent or sent by registered letter to address. Such agent shall not be changed and shall not leave during the duration of the contract, unless the consent of the Employer shall have been previously obtained. If the Employer shall order the tenderer to carry out any rectifications under the terms of the contract after the building is completed, the successful tenderer shall have the same or another duly authorized agent while such rectifications are being carried out.
20. The successful tenderer must co-operate with the CPCB and its decisions so that the work shall proceed without any delay and to the satisfaction of the employer.
21. The contractor shall be supplied Air and electrical connection free of cost.
22. The security deposit of the successful tenderer will be forfeited if he fails to comply with any of the conditions of the contract.
 - On completion of the work, the contractor shall clear away and remove from the site all surplus materials, rubbish and temporary works of every kind and leave the whole of site and permanent works clean and in a workman like condition into the satisfaction of employer.
 - The contractor shall also submit the wage schedule for all classes of labourers required in the work, for information of the department and necessary action in case the department desires to engage its labour for minor works to be done departmentally.

S.N.	Classification of Labour	Unit	Rate/day in figures words
1	Diploma holder	Each	
2	Foremen Ist grade	Each	
3	Electrician Ist grade	Each	
4	Fitter Ist grade	Each	
5	Khalasi	Each	
6	Mason	Each	

CONDITIONS OF CONTRACT

1. Interpretations

In Construing these conditions, the specifications, the priced schedule of quantities, tender and agreement, the following words shall have the meanings herein assigned to them except where the subject or contact otherwise required:-

“Employer” shall mean

..... And his (their) heirs, legal representatives, assigns and successors.

“ Contractor” shall mean

..... and his (their) heirs, legal representatives, assigns and successors.

“Site” shall mean the site of the contract works as shown bounded on the site plan attached hereto including any buildings and erections thereon and any other land adjoining thereto (inclusively) as aforesaid allotted by the Employer for the Contractor’s use.

“This Contract” shall mean the Articles of Agreement, special conditions, these conditions, the priced schedule of quantities, the specifications, and the appendix and the drawings, additional instructions issued till the receipt of the tender and subsequently correspondence if any till the date of acceptance of tender, and the letter of acceptance of contract.

“Act of Insolvency” shall mean any act of Insolvency as defined by the Presidency town Insolvency Act, or the provincial act or any amending statute.

“Notice in writing” or written notice shall mean a notice typed or printed characters sent (unless delivered) personally or otherwise provide to have been received by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.

“Virtual completion” shall mean that building is in the opinion of Employer fit for occupation.

“Words imputing persons” include firms and corporations. Words imputing the singular only also include plural and vice versa where the context so required.

2. Scope of work

The contract in brief covers civil works for the “Renovation of Air Lab-Lab furniture” in CPCB at Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032.

The contractor shall carry out and complete the works in every respect in accordance with this contract and in accordance with the directions and to the satisfaction of the employer. The employer in their absolute discretion from time to time issue further drawings and / or written instructions, details, directions and explanations which are hereafter collectively referred to as the “Employer’s Instructions” in regard to:-

- a) The variation or modification of the design, quality of works or the additions or omission or substitution of any work.
- b) The removal from the site of any materials brought there on by the contractor and the substitution of other materials therefore.
- c) The removal and/or re-execution of any works executed by the contractor.
- d) The dismissal from the works of any persons thereupon.
- e) The opening up for inspection of any work covered up.
- f) The amending and making good of any defects under clause (11)

4. Authorities, Notice and Patents

The contractor shall confirm to the provisions of any acts of the legislature relating, to the works and to the regulations and bye-laws of any authority, and of any Air, lighting and other companies and /or authorities with whose system the structure is proposed to be connected, and shall, before making any variations from the drawings or specifications that may be necessitated by so confirming give to the Employer written notice, specifying the variation proposed to be made and the reason for making it, and apply for instructions, thereon. In case the contractor shall not within in seven days receive such instruction he shall proceed with the work confirming with the provisions, regulations or bye-laws in question.

The contractor shall arrange to give all notice; required by the said acts, regulations or bye-laws to be given to any authority, and to pay to such authority, or to any public officer all fees that may be properly chargeable in respect of the works, and lodge the receipts with the employer.

The contractor shall identify the Employer against all claims in respect of patent rights and shall defend all actions arising from such claims unless he has informed the employer before any such infringement received their permission to proceed and shall himself pay all royalties license fees, damages, costs and charge of all and every sort that may be legally incurred in respect thereof.

5. Access

The employer, their representative shall at all reasonable times have free access to the work and / or to the workshop factories, or other places where materials are being prepared or construct the contract and also to any other place where

the materials are lying or from which they are being obtained, and the contractor shall give every facility to Employer and their representative necessary for inspections and examinations and tests of the materials and workmanship. Except the representatives of public authorities no person shall be allowed on the works at any time without the written permission of the employer.

If any work is to be done at the place other than the site of works, the contractor shall obtain the written permission of the employer for doing so. The work during the progress / on completion can also be inspected by the employer.

6. Dismissal of workmen

The contractor shall on the request of the employer immediately dismiss from the works any person employed thereon who may, in the opinion of the employer, be unsuitable or incompetent or who may misconduct himself, and such person shall not be again employed or allowed on the work without the permission of Employer.

7. Date of Commencement and completion

The contractor shall be allowed admittance to the site on the "Date of commencement" stated in the Appendix, and he shall thereupon and forthwith begin the works and shall regularly proceed with and complete the same on or before the "Date of Completion" stated in the Appendix subject nevertheless to provisions for extension of time hereinafter contained.

The time being the essence of contract, the contractor will adhere to time and progress chart and will give proportionate progress in proportionate time i.e. 1/8th of work in 1/4th of the time, 3/8th of the work in 1/2 of the time and 3/4th of the work in 3/4th of the time and commensurate with the progress as envisaged in the bar chart based on the analogy had accepted by the employer. In case of failure on the part of the contractor to give proportionate progress in proportionate time then the employer may recover by way of liquidated damages the amount calculated as described in the appendix shall however be refunded in case the individual items and the entire works are completed by the target dates, as decided by the employer, whose decision shall be binding.

8. Assignment

The whole of the works included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share interest therein nor shall he take a new partner without the written consent of the employer, and no subletting shall relieve the contractor from the full and entire responsibility of the contractor or from active superintendence of the work during its.

9. Schedule of quantities

The schedule of quantities unless otherwise stated shall be deemed to have been prepared in accordance with the method of measurement mentioned in the specifications and shall be considered to be approximate and no liability shall attach to the employer for any error that may be discovered therein.

10. If in the opinion of the employer the work be delayed

- a) By force of nature such as incessant rain, flood, fire and like natural calamities or
- b) Reason of any exceptionally inclement of weather or
- c) By reason of proceeding taken or threatened by or dispute with adjoining or neighboring owners or public authorities or
- d) By the works or delays of other contractor or tradesman engaged by the employer and not referred to in the schedule of quantities and /or specification or
- e) By reason of employer's instructions as per clause No.2 or
- f) By reason of civil commotion, local combination of workmen or strike of lockout affecting any of the building trades or
- g) By consequence of the contractor not having received in due time necessary instructions from the employer for which he shall have specially applied in writing or
- h) From other causes which the employer may certify as beyond the control of the contractor or
- i) In case of strike or lock out the contractor shall give written notice thereof to the employer, but the contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of employer to proceed with the work. The employer shall make a fair and reasonable extension of time for the completion of the contractor work.

11. Damage for non-completion

If the contractor fails to complete the work by the date of completion stated in the appendix or within any extended time under clause 9 thereof and the employer certify in writing that in their opinion the same ought reasonably so to have been completed, the contractor shall pay or allow the employer the sum named in the appendix as "liquidated Damaged"

for the period during which the said works shall so remain incomplete and the employer may deduct such damage from any moneys due to the contractor.

12. Failure by Contractor to comply with employer's instructions

If contractor after receipt of written notice from the employer requiring compliance, with such further drawings and / or employer's instructions fails within seven days to persons to execute any such work whatsoever may be necessary to give effect thereto and all costs incurred in connection therewith shall be recoverable from the contractor by the employer as a debt or may be deducted by him from any moneys due to the contractor.

13. Certificate and payment

The contractor shall be paid by the employer from time to time by installments under interim certificates to be issued by the employer to the contractor on account of the works carried when in the opinion of the employer work to the approximate value named in the appendix as value of works for interim certificates (less at the reasonable discretion of the employer) has been executed in accordance with this contract, subject however to a retention of the percentage of such value named in appendix hereto as "Retention percentage of interim certificates". The employer may in their discretion include in the interim certificate such amount as per standard CPWD procedure on account of material delivered upon the site by the contractor for use in the works.

And when the works have been virtually completed and the employer shall have certified in writing that they have been so complete the contractor shall be paid by the employer in accordance with the certificate to be issued by the employer the sum of money named in the appendix as 'Installment after virtual completion' and the contractor shall be entitled to the payment of the final balance in accordance with the final certificate to be issued in writing by the employer at the expiration of the period referred to as "Defects Liability period" in the appendix hereto from the date of virtual completion or soon after the expiration of such period as the works shall have been finally completed and all defects made good according to the true intent and meaning hereof whichever shall last happen. Provided always that the issue of the employer of any certificate during the progress of the work set or after their completion shall not relieve the contract or from his liability in case of fraud, dishonesty or fraudulent concealment relating to the works or materials or to any matter dealt. Within the certificate and in case of all defects and insufficiencies in the works or materials which a reasonable examination would not have disclosed. No certificate of the employer shall of itself be conclusive evidence that any works or materials to which it relates are in accordance with the contract.

The employer shall have power to withhold any certificate if the works or any parts thereof are not being carried out to their satisfaction.

Payments on interim certificate shall be made within the period named in the appendix "Period of honoring Certificate" after such certificate have been delivered to the employer and vetted by the CPCB.

14. Certificate of Virtual completion

The works shall not be considered as completed until the employer have certified in writing that they have been virtually completed and the defects liability period shall commence from the date of such certificate.

15. Employer delay in progress

The employer may delay the progress of the works without vitiating, the contract and grant such extension of time for the completion of contract as they may think proper and sufficient in consequence of such delay, and the contractor shall not make any claim for compensation of damages in relation thereto.

16. Restriction of work to be carried out

if at any time after commencement of the work, the employer shall for any reason what so ever not require the whole work or part thereof as specified in the tender to be carried out, the contractor shall have no claim to any payment of compensation whatsoever on account of any profit / advantage / on which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out nor shall he have any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated.

Provided that the contractor shall be paid the charges on the cartage only of materials actually and bonafide brought to the site of work by the contractor and tendered surplus as result of abandonment or curtailment of the work or any portion thereof and then taken back by the contractor, provided however, that the employer shall have in such cases the option of taking over all or any such materials at their purchase price or at local current rates which ever may be less.

In case of such stores having been issued from employer stores and returned by the contractor to employer stores, credit shall be given to the contractor at rates not exceeding those at which they were originally issued to him after taking in to consideration and deduction for claims on account of any deterioration or damage while in custody of the contractor and in this respect the decision of the employer shall be final.

17. Suspension

If the contractor except on account of any legal restraint upon the employer preventing the continuance of work shall suspend the works or in the opinion of the employer shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default in respect of clause No.2 the employer shall have the owner to give notice in writing to the contractor requiring that the work be proceeded within reasonable manner and with reasonable dispatch, such notice shall purport to be a notice under this clause. After such notice shall have been given the contractor shall not be at liberty to remove from the site of the work or from any ground contiguous thereto any plant and materials belonging to him which will have been placed there on for the purpose of the works and the employer shall have a lien upon all such plant and materials subsist from the date of such notice being given until the notice shall have been complied with. If the contractor shall fail for seven days after such notice have been given to proceed with the works as therein prescribed the employer may proceed as provided in clause No.17.

18. Termination of contract by employer

Termination of contractor (being an individual or a firm) commit any "Act of insolvency" or shall be adjudged insolvent, shall make an assignment or composition for the benefit of the greater part in number or amount of his creditors or shall enter into a deed of assignment with his creditors or (being an incorporated company) shall have an order made against him or pass an effective resolution of winding up either compulsorily or subject to the supervision of the court or voluntarily or if the official assignee of the contractor shall repudiate the contractor if the official assignee or the days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfill the contract and if required by the employer to give security therefore or if the contractor (whether an individual, firm or incorporated company) shall suffer execution to be issued, or if the contractor shall suffer any payment contractor shall assign or sublet the contract, without the consent in writing of the Employer first obtained, or any payments due or which may become due to the contractor there under, of if the employer shall certify in writing that in their opinion the contractor;

- I. Has abandoned the contract.
 - II. Has failed to commence the work, or has without any lawful excuse under these conditions suspended the progress of the work for fourteen days after receiving from the employer written notice to proceed, or
 - III. Has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or
 - IV. Has failed to remove materials from the site or to pull down and replace works within seven days after receiving from the employer written notice that the said materials or work were condemned and rejected by the employer under these conditions, or
 - V. Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor to observe perform the same, or
- Any other decision, opinion, direction, certificate or valuation of the employer to give any of the same shall be subject to the right of Arbitration and review in the same way in all respects (including the provision as to opening the reference) as if it were a decision of the employer.

19. Deposit

The amount deposited by the contractor along with his tender shall be retained with the employer and it shall be returned to the contractor on the virtual completion of the works. In case of default in any of the foregoing conditions the deposit amount shall be forfeited the employer.

20. The contractor undertakes to ensure due and complete compliance with all laws, regulations, rules etc. whether of the central government or the state government or of any other competent authority applicable to the workmen employed or whose services, are otherwise availed of by the contractor whether in connection with the construction work at the site or otherwise. The employer shall have the right to inspect the records maintained by the contractor concerning such workmen from time to time and contractor shall whenever required by the employer produce such records as the employer's may call upon the contractor produce for the employer inspection in order to ascertain whether or not the requirement of all such laws, regulations, rules etc., have been complied by the contractor. In the event of any contravention of such laws, regulations, rules etc., coming to light as a result of such inspection or otherwise the employer shall have the right to require the contractor effect such.

21. The employer shall not be responsible if any accident or death is caused during the continuer of work the contractor shall be responsible to pay the compensations.

Settlement of Dispute and Arbitration

- I. All disputes and differences arising out of or in connection with the contract and works of any nature assigned under the same (whether during the progress of the works or after their completion), determination, abandonment or breach of the contract shall be referred to a team of three men arbitrator appointed by the Chairman, CPCB. The arbitrators shall elect an umpire among them. In case of conflicting findings by the arbitrators, the decision of the umpire shall be final and binding. It will not be an objection to any such appointment that the arbitrators are the government servants and had any interest in the board or the contract entered into directly or indirectly. In all cases, the arbitrators shall state their decision in writing and if amount of claims in dispute is Rs.50,000/- and above, the arbitrators shall give reasons for award.
Subject as aforesaid the provisions of the arbitrations cancellation act or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.
- II. It is a term of the contract that the party involving the arbitration shall specify the dispute or dispute to be referred to the arbitrator under this clause together with the amount or amounts claimed in respect of each such dispute.
- III. It is also a term of the contract that if the contractor's do not make any demand for arbitration in respect of any claims in writing within 90 days of receiving the intimation from the CPCB that final bill is ready for payment, the claim of the contractor's will be deemed to have been waived and absolutely barred and the board will be discharged and released of all liabilities under the contract in respect of these claims.
- IV. The decision of the employer regarding the quantum of reduction as well as justification thereof in respect of rates for sub-standard work which may be decided will be final and would not be open to arbitration. Provided always that no compensation shall be payable for any loss in always that no compensation shall be payable for any loss in consequence of hostilities or war-like operation (a) unless the contractor had taken all such precautions against Air raid as are deemed necessary by A.R.P officers or the Engineers In Charge, (b) for any materials etc., not on the site of work or for any tools and plant, machinery, scaffolding temporary buildings and other things not intended for the work.
In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the employer compliance within such time as the employer may prescribe in that behalf and in the event of the contractor failing to effect such compliance within the time prescribed by the employer then the employer shall without prejudice to his other rights be entitled to withhold from the amount payable to the contractor any amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen. The employer shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to their employer under the contract as a result of termination.

CPCB

CONTRACTOR

Witnesses

- 1.
- 2.

APENDIX

1.	Date of Commencement	10 th day from the date of issue of letter of award.
2.	Date of completion	4 months from the date of commencement.
3.	Insurance	As directed.
4.	Liquidated damages	1% of the contract value per week subject to a maximum of 10% of the contract value.
5.	Period of final measurements	Within 03 months from the date of completion.
6.	Value of work for Interim Certificate	Two running payment of 80% of the work completed
7.	Security deposit	10% of the contract amount subject to a maximum upto Rs. 4.5 lakhs. The security deposit will be collected by deductions from the running bills of the contractor at the rate of 10%.
8.	Defects liability period	One year

TENDER DOCUMENT

Renovation of Air Lab and Treatability Lab

Lab Furniture

At

**Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi - 110 032**



**Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi - 110 032**