

For official use only

TENDER FORM

for

Instruments/ Equipment/ Other Items

for

College of Food Processing Technology and Bio-Energy

Last date for online tender submission
27-01-2015 before 5:00 pm

Submission of hard copy of technical tender bid, EMD and
tender fees
From 28-01-2015 to 30-01-2015 before 5:00 pm



COLLEGE OF FOOD PROCESSING TECHNOLOGY AND BIOENERGY
ANAND AGRICULTURAL UNIVERSITY, ANAND - 388 110 (GUJARAT)

Tel. /Fax No.: 02692 -261302

- **Name of supplier / firm:**
- **Complete postal address:**
- **Telephone Number:**
- **FAX Number:**
- **e-mail address:**
- **Details of EMD:**

D. D. Number:

Amount:

Date :

- **Sales Tax No. :**
- **Registration No. :**
- **Any other details**

We agree to abide by all the terms and conditions of supply mentioned in this tender document

Signature of Tenderer

(With Stamp, Name & Designation)

Terms & Conditions

1. E-tendering and two bid (commercial and technical) procedure through www.nprocure.com has to be followed for quoting the rates.
2. Validity of the quotation should be of at least 90 days from the opening date of financial bid. The rates quoted by the bidder shall remain firm till the completion of the job and price variation shall not be entertained.
3. This tender document may be procured / downloaded from (n) **code solutions** website www.nprocure.com and the last date for on-line tender filling is **27th January, 2015**.
4. The Commercial bid / quotation rate/ bidding rates for the items have to be uploaded / submitted through www.nprocure.com on or before **27nd January, 2015**.
5. The tender fees of Rs. **2500** (Rs. Two thousand five hundred only) and EMD amount as indicated against each item should be paid through bank DD made in favour of “**Anand Agricultural University fund account**“ payable at Anand.
6. Technical details/ specifications/ compliances, DDs of tender fees and EMD have to be scanned and should also be submitted online.
7. The Quotation rates or commercial/financial bid for the items must be submitted online only.
8. The **Hard copy of technical details/ specifications/compliances (i.e. Technical bid only), the original DDs for Tender fees and EMD** have to be submitted to the Principal, College of Food Processing Technology & BioEnergy, Anand Agricultural University, Anand, between **28th January to 30th January, 2015** by **RPAD/Speed Post only**.
9. Quotations / tenders without tender fees, earnest money deposit (EMD) will not be considered.
10. Conditional tender shall not be accepted.
11. Prices should be quoted FOR our laboratory at Anand and inclusive of all expenses including taxes and levies, custom clearance (if any), installation and commissioning, etc..
12. Total cost must be inclusive of all intended accessories.
13. The university being a research organisation is authorized for exemption in Custom Duty and Central Excise Duty and accordingly the exemption certificates will be provided by the University to successful bidder, on demand.
14. The dimensions of the instrument, its photograph/drawing, original colour catalogue of the product and other technical details be provided with the technical bid.
15. Tin no, PAN no, etc of the vendor should be enclosed with the tender.
16. If any query to the quotation is raised, an E-mail / written reply must reach this department immediately, else the quotation will be treated as cancelled.
17. All quotations and correspondences should be addressed by designation only and not by name.

18. The technical bids along with all other details received physically as per clause (8) will be scrutinised. The financial bid for only bidders/items technically qualified will be opened.
19. Payment shall be made only after satisfactory completion of the job in toto. No advance/ pre-payment/part payment will be considered.
20. The supply should be made within the stipulated time as mentioned in the purchase order followed by installation and commissioning.
21. Manufacturer's / Distributorship's / Dealership's valid certificate from the principal, if any, may be submitted.
22. The quantities specified in the document are only indicative and for the purpose of estimate only. The university will be at liberty to vary (delete/reduce/increase) the quantum of the item. Also the university has the full right to order or not to order the items even for the successful Tenderer, depending upon latest budgetary situations or any other reasons.
23. Losses/damage of the instrument in transit, demurrage charges at airports, if any, shall be at the risk and account of the vendor / supplier.
24. Price of Annual Maintenance Contract for next two years after expiry of three years warranty period could be quoted separately in technical bid.
25. The successful tenderer shall furnish **Performance Guarantee** equal to 5% of the invoice value, within 10 days from the receipt of Purchase/supply order, which will be returnable only after successful completion of the warranty period of three years, failing the FDR will be encashed by AAU. The FDR should be from Nationalised Bank for a minimum duration of three years. No Bank Guarantee will be accepted.
26. **Bidder should give specification compliance statement point wise showing / highlighting items part no., serial no. as quoted in their quotation for comprehensive technical comparison. Proof of compliance should be mentioned point wise in the catalogue. Failing in compliance and proof of compliance will cause cancellation of the bid without any further notice.**
27. The University shall be empowered to reject any one or all the tenders without giving any reason for doing the same. This shall not be challengeable in court.
28. In case of dispute, the decision of Vice Chancellor, AAU, Anand shall be final. For any legal remedies, the courts of Anand shall only have the jurisdiction.

S. No.	Specifications	Quantity	EMD (Rs.)
1.	<p>Biomass Briquetting & Gasifier System</p> <p>It should consist of the following and quote single rate for both the items (inclusive of all taxes).</p> <p>Biomass briquetting machine of nominal rated capacity of 100-225 kg/h for dry and powdery biomass complete with the Crank type reciprocating, Briquetting press of 16 T capacity complete with flywheels, punch and internal lubrication piping, Die system including die holder, clamps, one set of dies and feeder box, Biomass vertical feed hopper, lubrication system complete with oil pump, oil filter and transfer oil piping. It should produce briquettes of 35 mm diameter. Complete with all electrical motors, connections, piping etc. Price should include all erection, testing, and commissioning charges of the machine, VAT taxes and FOR AAU, Anand.</p> <p>Biomass Gasifier: A downdraft gasifier coupled with engine & generator set to produce 5 kW power at rated producer gas flow rate 20-25 Nm³ /h, rated thermal output 24000-25000 kcal/h for woody biomass consumption rate around 8-10 kg with continuous ash removal facility, water seal, gas cooling venture scrubber/promisor with water recirculation. The gasifier reactor should complete with automated ash auger, platform & ladder for fuel feeding access, cyclone separator, gas cooling filter unit with cooling fan, water storage tank with water pump & water connections, moisture trap, interconnecting gas pipes, condensate water collector, electrical startup blower, valves for gas flow control, filter media and all other necessary accessories and should be skid mounted.</p> <p>The system should include all taxes, transportation charges, supervision of installation, erection, testing and commissioning charges, complete in all aspects and FOR at our College site.</p>	01 set	45,000/-
2.	<p>Water Activity Meter</p> <p>A hand held precision equipment for measurement of a_w values (water activity) in all kind of fresh and processed food stuffs and have following specifications: Measuring Range: 0.0 to 1.0 a_w Accuracy: ± 0.03 a_w Resolution: ± 0.01 a_w Relative Humidity : 0 -90% RH Non condensing Power: DC Li Coin cells battery with additional main power adaptor for long term measurement</p>	1 set	10,000/-

	<p>Display: Large and clear LC Display RS232 port (optional)</p> <p>Instrument should be complete in itself and delivered with proper study carrying case with other accessories like sample cups and lid etc.</p>		
3.	PLC and Sensor system	1 set	10,000/-
	<p>(A)PLC Set consisting of following</p> <p>(i) PLC with 14 Digital and 2 An.log I/Ps and 10 Digital and 1 Analog O/Ps preferably Siemens PLC CPU Type : CPU-224XP (AC/DC/Relay), Digital Input : 14, Digital Output : 10, Analog Input : 2, Analog Output : 1 Internal Memory Bits : 256, Program Size : 4096 words, Boolean Execution, Speed : 0.37ms/ instruction, No. of ports : 2 No Interface : USB, Expansion module : Expandable</p> <p>(ii) Analog Module with 4 Channel Analog Input and 1 Channel Analog Output preferably Siemens Analog input-Total Channel : 4 Input ranges- Voltage (Unipolar) : 0 to 10 V, 0 to 5 V, 0 to 1 V, 0 to 500 mV, 0 to 100 mV, 0 to 50mV Voltage (bipolar) : 10V, 5V, 2.5V, 1V, 500 mV, 250 mV, 100 mV, 50 mV, 25 mV Analog Output- Total Channel : 1 Signal range, Voltage output : ± 10 V, Current output : 0 to 20 mA It should be compatible with above specification (i).</p> <p>(iii) Data Acquisition Card It should be useful for sensing and controlling Analog and Digital signals of any process control application. For ease of connection it should have screw terminals. All pins are multifunction and user can change the operation of particular pins as per the requirements. It should be available with either a USB and/or Ethernet interface. Data Card should include following specifications:- Analog Input 8, Analog output 8, Digital Input 8 Digital Output 8 ADC Resolution (In Bit) 24</p> <p>(iv) Signal Conditioning circuit for above PLC</p> <p>(v) Sample Modules like Motor & Switches Control by PLC, Temperature Control by PLC, Conveyer Belt by PLC, Water Level Control by PLC, Speed Control of DC Motor by PLC should be provided.</p> <p>(vi) Latest model of branded computer with licensed Windows 8 and other accessories.</p>		

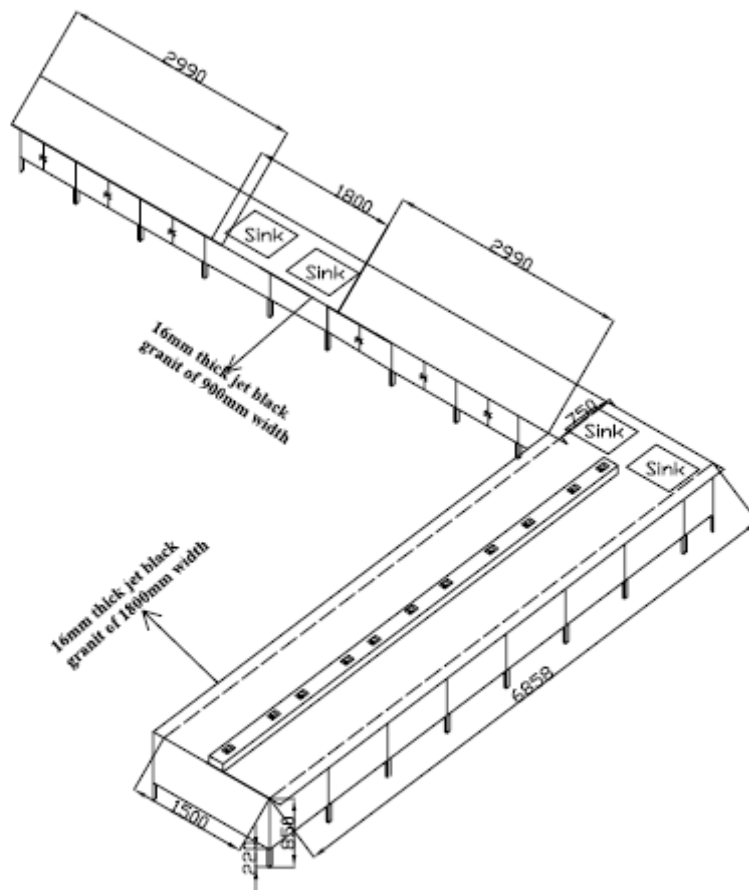
	<p>(B) Sensor Lab</p> <p>It should have graphical touch LCD with inbuilt processor for viewing the output waveforms, reading the operating manual, tutorial videos etc., Inbuilt DAQ, Stand alone TechBook, Inverting Amplifier, Non – Inverting Amplifier, Power Amplifier</p> <p>Optional Sensor Modules Temperature Sensor, Light Sensors, IR Sensors Pressure Sensor LVDT Coil</p> <p>Load Cell, Strain Guage, Piezo Electric Sensor Gas Sensor, Alcohol Sensor, PIR Sensor Humidity Sensor, Magnetic Sensor (Hall Sensor) color sensor, Capacitive Proximity Sensor, Inductive Proximity Sensor Opto coupler sensor, Reed switch Thumb wheel switch Level Sensor, Clap Sensor, Slotted opto sensor and Tacho generator, Fire sensor, Flow sensor, Smoke Sensor, Optical Proximity Sensor, Potentiometric Displacement sensor, Types of Temperature Sensor, Galvanic skin response (GSR), Relay, Heater Capacitive Displacement Sensor, Touch Sensor.</p> <p>Training for 2 persons at our site</p> <p>The system should be complete with all accessories.</p>		
4.	Gas flow meter and multiplexer / switcher	1 set	10,000/-
	<p>Gassampling is to be done from 10 chambers each of size 300 x 300 x600 mm which is to be used to measure the respiration rates of fruits and vegetables.</p> <p>Gas Switcher/ multiplexer shall collect gas sample from a from all 10 sample chambers, select one line for analysis and vents the other lines to the atmosphere. The flow in each channel being controlled by needle valves and measured by separate mass flow monitor. Gas Flow Controllers may be provided to control the flow into the multiplexer. Gas enters the measuring chamber which may or may not be temperature controlled. A sensor interphase for connecting the gas multiplexer with the CO2 / O2 sensor may be provided.</p> <p>Gas from each chamber enters the Gas Switcher / multiplexer (10 channel) that selects one of the channels for analysis, and vents the others to the atmosphere. Alternatively, the gas flow through the non-selected channels may be stopped, sealing that channel. A Stop Flow Mode may also be incorporated wherein the switcher seals the sample chambers for a user-defined period. The chamber is then flushed sequentially for gas analysis to provide time-integrated measurements of gas exchange rates. The switcher may also be provided with an on-board micro for use without a</p>		

	<p>separate computer.</p> <p>Plumbing the system for either mode should be fast and easy.</p> <p>Weatherproof Rating: Tested to IEC IP55 standard</p> <p>Operating Range Temperature: –20 to 45 °C</p> <p>Humidity: 0 to 95% RH, non-condensing</p> <p>Flow rate to/from chambers: 1.0 - 5.0 lpm (user adjustable)</p> <p>Sampling time should be user defined and adjustable.</p> <p>The gas switcher/ multiplexer can also to be used in conjunction with any gas exchange system and/or data acquisition software and datalogger (eg. Datalogger DT85).</p>		
5.	MS Laboratory Fixtures for Food Processing Technology Lab	1 set (as per line diagram)	15,000/-
	<p>Providing and fixing laboratory working tabular fixtures of different sizes and designs as indicated. The fixtures should be comprised of under bench storage cabinets, reagent shelves, working platform and sink, electrical points, gas/water/drainage provisions with piping, etc complete in all respect.</p> <p>Quote total for modules for Figure-A.</p> <p>The working table should be sturdy with a load bearing capacity of minimum 1000 kg/sqm with a high quality knockdown type modular under bench steel cabinet having sturdy frame, panels, legs, one drawer, two shutters and shelves fabricated using GMP of the scientific laboratory equipment from cold rolled, cold annealed sheet steel (TATA or equivalent make) of prime grade having minimum 20 gauge thickness. The cabinet should have cleanable smooth interior and with adjustable legs to provide easy floor cleaning. There should be strong brackets and stiffeners. All metal be epoxy powder coated with minimum 50 micron and finished with desired colour shades as per ASTM/BS/DIN/IS. All the hardware be BIS grade of reputed make including drawer pull of double extension telescopic slide channels, auto closing spring loaded hinges with cathode electrode deposition for better corrosion resistance, Godrej make locks, shelf support clips, stainless steel handles, etc. The drawer & cabinet should be strong enough to carry about 50 kg load of different articles.</p> <p>The working platform be made of Jet black granite having thickness of 17±1mm completely polished, edges molded and surface levelled to be laid over 12mm thick ISI marked marine grade ply or 6mm thick neoprene mat. The granite should be of full length having minimum 8</p>		

	<p>feet length or otherwise as required with overhang as indicated in drawing.</p> <p>The sink should be either SS304 of size as indicated complete with two/three ways service fittings of BIS grade brass alloy or bronze forging.</p> <p>The reagent racks be made from CRCA sheet duly powder coated as mentioned above. The size, design & fitting be as indicated.</p> <p>The system should be complete with service pipings/valves/fittings for PNG, water, drainage, electrical points with plug sockets & switches, etc. as per the site and laboratory requirement. The supplier has to quote for complete work where only one source point of water/PNG/electricity/drain, etc will be provided.</p> <p>The indicative specifications are given below and the line diagram of each lab with dimensions are attached at drawing A.</p>		
6	MS Laboratory Fixtures for Fixtures for Preparation Lab	1 set (as per line diagram)	10,000/-
	<p>Providing and fixing laboratory working tabular fixtures of different sizes and designs as indicated. The fixtures should be comprised of under bench storage cabinets, reagent shelves, working platform and sink, electrical points, gas/water/drainage provisions with piping, etc complete in all respect.</p> <p>Quote total for modules shown at drawing B</p> <p>The indicative specifications are given in item S. No. 5 and the line diagram with dimensions is attached at drawing B.</p>		
7	MS Laboratory Fixtures for Fixtures for Analysis Lab	1 set (as per line diagram)	10,000/-
	<p>Providing and fixing laboratory working tabular fixtures of different sizes and designs as indicated. The fixtures should be comprised of under bench storage cabinets, reagent shelves, working platform and sink, electrical points, gas/water/drainage provisions with piping, etc complete in all respect.</p> <p>Quote total for modules shown at drawing C.</p> <p>The indicative specifications are given in item S. No. 5 and the line diagram with dimensions is attached at drawing C.</p>		
7	MS Laboratory Fixtures for Fixtures for Product Testing	1 set (as per line diagram)	10,000/-
	<p>Providing and fixing laboratory working tabular fixtures of different sizes and designs as indicated. The fixtures should be comprised of under bench storage cabinets, reagent shelves, working platform and sink, electrical points, gas/water/drainage provisions with piping, etc complete in all respect.</p> <p>Quote total for modules shown at drawing D.</p>		

	The indicative specifications are given in item S. No. 5. and the line diagram with dimensions is attached at drawing D.		
8	Lab fixtures	01 set	40,000/-
a)	Fixture-1 of desired length and height as well as width 750 mm. It should consist of frame work made from kota stone sandwiches at every 750 mm interval with one shelf. The kota stone should be single or double polished as required and one side full moulded of at least 25 mm thick and of about 600 mm X 700 mm size. The top will be made of Jetblackgranite having thickness of 17±1mm completely polished, edges molded and surface levelled to be laid over 25mm thick kota stone. The granite should be of full length having minimum 8 feet length or otherwise as required. Two or Three sink of about 900 X 600mm made using kota stone and granite or food grade 304 SS with drainage system fitting as per the site and laboratory requirement. The bottom will be about 75mm high otaa type and laid with ISO mark glazed tiles and also having skirting in front made up of same tiles. All the joints will be sealed with silicon. The open part of the fixtures is to be covered by lid fabricated with frame prepared using 1 sq. inch pipes of 18 gauge food grade 304 stainless steel, into that fit one drawer and two shutters made from 20 gauge food grade 304 stainless steel. All the necessary hardware to be fitted of BIS grade of reputed make including, Godrej make locks, shelf support clips, stainless steel handles, etc. The drawer & cabinet should be strong enough to carry about 50 kg load of different articles. The rate should be included with materials & complete erection at our laboratory.	500 sq ft	
b)	Fixture-2 of desired length and height as 900mm and width as 750 mm. It should consist of frame work made from kota stone sandwiches at every 750mm interval and with one shelf. The kota stone should be single or double polished as required and one side full moulded of at least 25mm thick and of about 600X850 mm size. The top will be made from A-grade white hard marble having 19mm thickness with edges molded and surface levelled to be laid over 25mm thick kota stone. Two or Three sink of about 900 X 600 mm with made using kota stone and granite or food grade 304 SS with drainage system fitting as per the site and laboratory requirement. The bottom will be about 75mm high otaa type and laid with ISO mark glazed tiles having skirting in front made up of same tiles. All the joints will be sealed with silicon. The rate should be included with materials & complete erection at our laboratory.	500 sq ft	
c)	Storage fixtures of desired length and width (normally 20' to 25' L X 1' to 2' W) with required support (usually at 1000mm interval). It should consist of kota stone frame work. The kota stone should be double side completely polished and edged moulded of at least 25mm thick. The bottom will be about 75mm high otaa type and laid with ISO mark glazed tiles having skirting in front made up of same tiles. The rate should be included with materials & complete erection at our laboratory.	1000 sq ft	
d)	SS laboratory fixtures of desired length and height as 750/900mm and width as 750 mm. The working table should be sturdy with a high quality modular, under bench 20 gauge food grade 304 stainless steel cabinet having sturdy frame of atleast 1 sq. inch pipes of 18 gauge food grade 304 stainless steel, panels, legs, one drawer, two shutters and	500 sq ft	

	<p>shelves fabricated using GMP of the scientific laboratory equipment. The cabinet should have a cleanable smooth interior and with adjustable legs to provide easy floor cleaning. There should be strong brackets and stiffeners. All the hardware be BIS grade of reputed make including drawer, Godrej make locks, shelf support clips, stainless steel handles, etc. The drawer & cabinet should be strong enough to carry about 50 kg load of different articles. The working platform be made of Jet black granite having thickness of 17 ± 1 mm completely polished, edges molded and surface levelled to be laid over 12mm thick ISI marked marine grade ply or 6mm thick neoprene mat. The granite should be of full length having minimum 8 feet length or otherwise as required. Two or Three sink of about 900 X 600 mm made using kota stone and granite or food grade 304 SS with drainage system fitting as per the site and laboratory requirement. The rate should be included with materials & complete installation at our laboratory.</p>		
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All the dimensions are in mm

Fig. A. MS Laboratory Fixtures for Food Processing Technology lab.

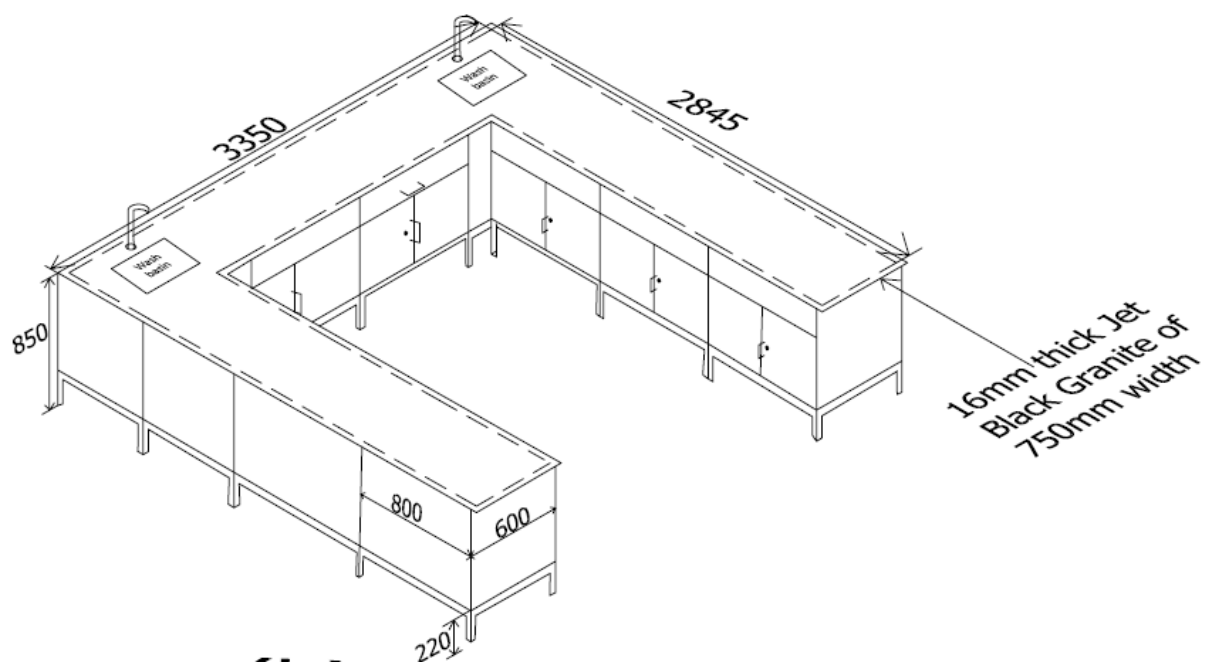


Fig. B. MS Laboratory Fixtures for Preparation lab (All dimensions are in mm).

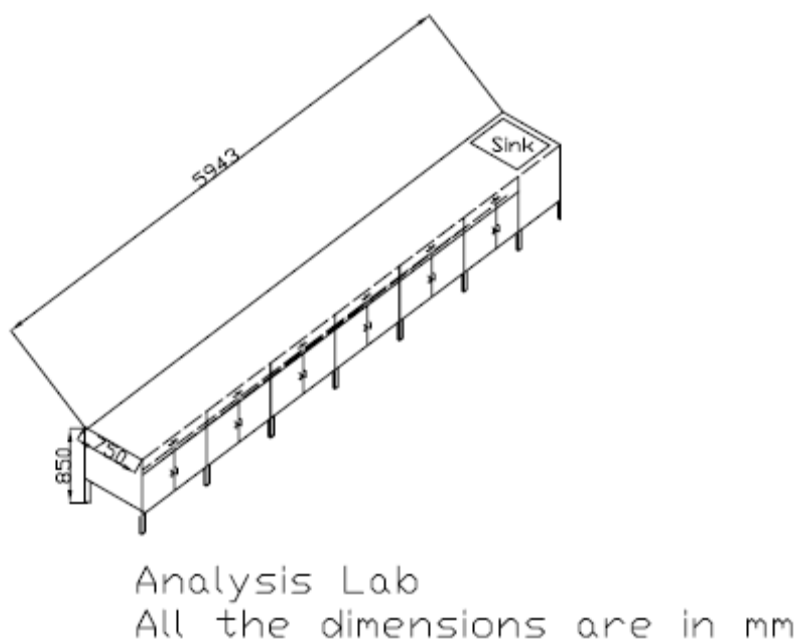


Fig. C. MS Laboratory Fixtures for Analysis lab (All dimensions are in mm).

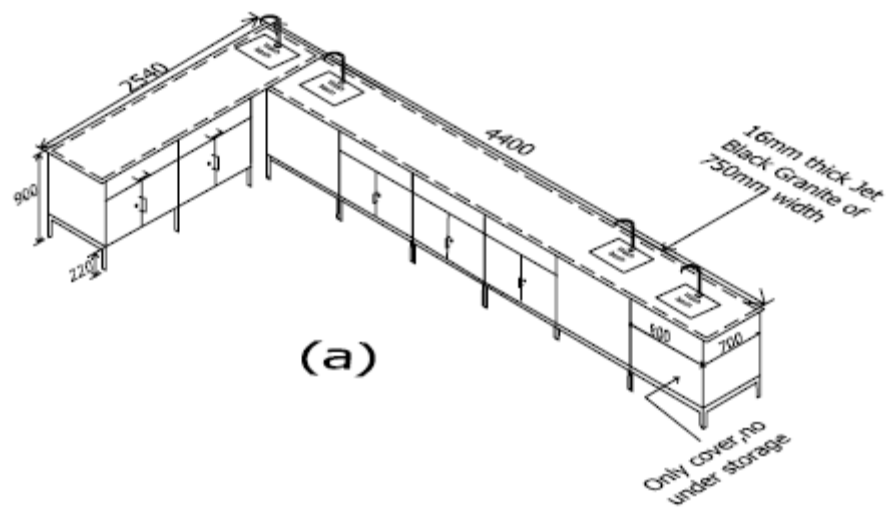


Fig. D. MS Laboratory Fixtures for Product Testing lab (All dimensions are in mm).