भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान पुणे
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH PUNE
डॉ. होमी भाभा मार्ग, पुणे 411008, महाराष्ट्र, भारत | Dr. Homi Bhabha Road, Pune 411008, Maharashtra, India
T +91 20 2590 8001 W www.iiserpune.ac.in
IISER PUNE

No: 54(2) /IISER/Pune/2024-25/ 181 Dated 15/10/2024

कोटेशन आमंत्रित करने की सूचना

NOTICE INVITING QUOTATION

नीचे दिए गए कार्य के लिए निदेशक, आईआईएसईआर पुणे की ओर से नीचे दिए गए कार्य के लिए 23/10/2024 को दोपहर 3.00 बजे तक अनुमोदित और योग्य मान्यता प्राप्त ऊर्जा लेखा परीक्षक से मुहरबंद कोटेशन आमंत्रित किए जाते हैं, जिनके पास वाटर कूल्ड सेंट्रलाइज्ड एयर कंडीशन सिस्टम (चिलर, पंप, कूलिंग टावर, एएचयू और आदि) के लिए एचवीएसी ऑडिटिंग का अनुभव है, जिसमें 1 चिलर की न्यूनतम क्षमता 470 टीआर है। कोटेशन उसी दिन दोपहर 3.30 बजे खोले जाएंगे।

Sealed quotations are hereby invited by the undersigned on behalf of the Director, IISER Pune for the work mentioned below up to 3.00 PM on 23/10/2024 from approved and eligible accredited energy auditor having experience of HVAC auditing for water cooled centralized air condition system (chillers, pumps, cooling towers, AHU & Etc.) having minimum capacity for 1 chiller is 470 Tr. The quotations will be opened at 3.30 PM on the same day.

कार्य का नाम: - आईआईएसईआर पुणे में एचवीएसी प्रणाली का ऑडिट।

NAME OF WORK: - Audit of HVAC system at IISER Pune.

जारी करने के लिए - एजेंसी का नाम और पता -

Issue to – Name and address of the agency –

नियम और शर्तें:

Terms and Conditions:

1. आवेदक को मान्यता प्राप्त ऊर्जा लेखा परीक्षक होना चाहिए, जिसके पास वाटर कूल्ड सेंट्रलाइज्ड एयर कंडीशन सिस्टम (चिलर, पंप, कूलिंग टावर, एएचयू और इत्यादि) के लिए एचवीएसी ऑडिटिंग का अनुभव हो, जिसमें 1 चिलर की न्यूनतम क्षमता 470 टीआर हो। आवेदक को ग्राहक विभाग से पिछले 3 वर्षों में पूरे किए गए कार्य के अनुभव प्रमाण पत्र की सत्यापित या नोटरीकृत प्रतियां, उद्धरण के साथ पूर्णता प्रमाण पत्र के साथ प्रस्तुत करनी चाहिए। न्यूनतम पात्रता मानदंडों को पूरा नहीं करने वाले बोलीदाताओं को सरसरी तौर पर खारिज कर दिया जाएगा। उद्धरण के साथ निम्नलिखित दस्तावेज जमा करना अनिवार्य है। ए) एजेंसी की ओर से ऑडिट करने वाले कर्मचारियों की सूची। बी) समान कार्य का पूर्णता प्रमाण पत्र। समान कार्य का अर्थ है एजेंसी की मुहर और हस्ताक्षर के साथ एचवीएसी प्रणाली का ऊर्जा/बिजली ऑडिट।

   The applicant should be accredited energy auditor having experience of HVAC auditing for water cooled centralized air condition system (chillers, pumps, cooling towers, AHU & Etc.) having minimum capacity for 1 chiller is 470 Tr. Applicant should submit attested or notarized copies of the experience certificate for the work completed within last 3 years from client department with

completion certificate along with the quotation. Bidders not meeting the minimum eligibility criteria shall be summarily rejected.

Following documents are mandatory to submit along with quotations.

A) List of employees carrying out an audit on behalf of the agency.

B) Completion certificate of similar work. Similar work means energy / power audit of HVAC system with stamp and sign of agency.

2. कार्य पूरा करने की समयावधि आईआईएसईआर पुणे द्वारा कार्य आदेश देने की तिथि से 3 माह होगी। कोटेशन खोलने के बाद बैक-आउट का कार्य ऐसी एजेंसियों को आईआईएसईआर पुणे के भविष्य के कोटेशन में भाग लेने से वंचित कर देगा। बोलीदाता, maintenance@iiserpune.ac.in पर प्रश्न ई-मेल कर सकते हैं या उपरोक्त निर्दिष्ट कोटेशन जमा करने की तिथि से एक दिन पहले सभी कार्य दिवसों में हार्ड कॉपी में आईआईएसईआर पुणे कार्यालय में जमा कर सकते हैं।

Time period for completion of work shall be 3 Month from the date of placing the work order by IISER Pune. The act of backing-out after opening of quotation will debar such agencies for participating in the future quotations of IISER PUNE. Bidder may e-mail queries on maintenance@iiserpune.ac.in or submit to IISER PUNE office in hard copy on all working days one day before submission date of quotation as specified above.

3. नोटिस आमंत्रण (एनआईक्यू) दस्तावेज आईआईएसईआर पुणे से 121, इंजीनियरिंग अनुभाग, मुख्य भवन, आईआईएसईआर पुणे परिसर, डॉ होमी भाभा रोड, पाषाण, पुणे - 411008 में सभी कार्य दिवसों से पहले सुबह 10 बजे से शाम 4 बजे के बीच प्राप्त किया जा सकता है। प्रस्तुत करने की तारीख। आवेदक आईआईएसईआर पुणे की वेबसाइट http://www.iiserpune.ac.in/links/tender-notices-and-eoi से एनआईक्यू दस्तावेज प्राप्त करके कोटेशन जमा कर सकते हैं।

Notice Inviting Quotation (NIQ) document may be obtained from IISER PUNE at 121, Engineering Section, Main Building, IISER PUNE Campus, Dr.Homi Bhabha Road, Pashan, Pune - 411008 between 10 AM to 4 PM on all working days before date of submission. Applicant may submit quotation by obtaining NIQ document from IISER PUNE website at http://www.iiserpune.ac.in/links/tender-notices-and-eoi

4. सभी एजेंसियों को 23/10/2024 को अपराह्न 3 बजे तक और उससे पहले सीलबंद लिफाफे में हार्ड कॉपी में अपना कोटेशन जमा करना होगा। ऊपर निर्दिष्ट तिथि और समय के बाद प्राप्त कोटेशन को स्वीकार नहीं किया जाएगा। किसी भी देरी, डाक देरी आदि पर विचार नहीं किया जाएगा। एजेंसी को सभी मदों के लिए कोट करना चाहिए बीओक्यू। शब्दों में उद्धृत दरों को एल1 बोली लगाने वाले के निर्णय के लिए अंतिम माना जाएगा। बोली मूल बोली दस्तावेज (जैसा कि आईआईएसईआर, पुणे या वेबकॉपी द्वारा जारी किया गया है) में जमा किया जाना चाहिए, जिसमें काम का नाम लिखा हो। कोट की गई दरें कोटेशन खुलने की तारीख से 60 दिनों के लिए वैध होंगी। एनआईक्यू दस्तावेज़ में उपलब्ध कराए गए स्थानों पर दरों को हाथ से लिखकर उद्धृत किया जाएगा।

All agencies need to submit their quotation in hard copy in sealed envelope on and before 3 PM on 23/10/2024. Quotation received after the date & time specified above shall not be accepted. Any delays, postal delay etc. will not be entertained. Agency should quote for all the items in the BOQ. Rates quoted in words shall be treated as Final for deciding L1 bidder. The bid shall be submitted in the original bid document (as issued by the IISER, Pune or Webcopy) super scribing the name of work. Quoted rates shall be valid for 60 days from the date of opening of quotations. Rates shall be quoted in hand writing at the spaces provided in NIQ document.

5. कोटेशन उसी दिन अपराह्न 3.30 बजे एजेंसी या उनके अधिकृत प्रतिनिधियों, यदि कोई हो, की उपस्थिति में खोली जाएगी। एजेंसी का प्रस्ताव व्यावसायिक रूप से स्पष्ट होना चाहिए जिसमें एजेंसी द्वारा इस कोटेशन के सभी नियमों और शर्तों की स्वीकृति शामिल है। आईआईएसईआर पुणे बिना कोई कारण बताए कोटेशन को स्वीकार या अस्वीकार करने का अधिकार सुरक्षित रखता है।
Quotations will be opened on the same day at 3.30 PM in the presence of agency or their authorized representatives, if any. The offer of the agency should be commercially clear including acceptance of all terms and conditions of this Quotation by the agency. IISER Pune reserves the right to accept or reject the quotation/s without assigning any reasons.

6. किसी भी शर्त के साथ जमा किए गए कोटेशन को सशर्त कोटेशन माना जाएगा और आईआईएसईआर पुणे द्वारा सरसरी तौर पर खारिज कर दिया जाएगा।
Quotations submitted with any conditions shall be treated as conditional quotations and shall be summarily be rejected by IISER PUNE.

7. उद्धृत दरों में सभी सामग्रियों की लागत, श्रम लागत, जीएसटी, सभी कर, चुंगी, शुल्क, नमूने की लागत और प्रयोगशालाओं में सामग्री के परीक्षण के लिए शुल्क, रॉयल्टी आदि शामिल होना चाहिए। अतिरिक्त कुछ भी अलग से भुगतान नहीं किया जाएगा। नहीं, बोलीदाता अपनी बोली से संबंधित किसी भी मामले में बोली खुलने के समय से कार्य आदेश जारी करने के समय तक आईआईएसईआर, पुणे से संपर्क करेगा। बोलीदाता द्वारा आईआईएसईआर के बोली मूल्यांकन, बोली तुलना या अनुबंध पुरस्कार निर्णयों को प्रभावित करने के किसी भी प्रयास के परिणामस्वरूप उसकी बोली को अस्वीकार किया जा सकता है।

Quoted rates should be inclusive of cost of all the materials, labour cost , GST ,all taxes, octroi ,duties , cost of sample and fees towards testing of materials in labs ,royalties etc. complete. Nothing extra shall be paid separately. No, Bidder shall contact the IISER, Pune on any matter relating to his bid from the time of the bid opening to the time of issue of work order. Any effort by the Bidder to influence the IISER's bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.

8. सभी स्वीकृत निर्माण बीओक्यू में निर्दिष्ट के अनुसार होंगे और सीपीडब्ल्यूडी विनिर्देशों के अनुसार, एजेंसी को तकनीकी डेटा डालना चाहिए और कार्य शुरू करने से पहले आईआईएसईआर पुणे की विभिन्न सामग्रियों के निर्माण पर पूर्व अनुमोदन प्राप्त करना चाहिए। सफल एजेंसी कार्य पूरा होने के मद्देनज कार्य आदि के लिए सभी

उपकरण और टैकल की अपनी व्यवस्था स्वयं करेगी। एजेंसी को एक स्रोत पर बिजली निःशुल्क उपलब्ध कराई जाएगी, एजेंसी को स्रोत से कार्य स्थल तक सुरक्षित रूप से बिजली के दोहन की व्यवस्था स्वयं करनी चाहिए। आईआईएसईआर पुणे द्वारा कोई अग्रिम भुगतान नहीं किया जाएगा। कोट की गई दरें जीएसटी, टीडीएस और अन्य लागू करों सहित होनी चाहिए। काम के बिल से इनकम टैक्स और लेबर सेस की कटौती की जाएगी।

All approved makes shall be as specified in BOQ and as per CPWD specifications, agency should put-up technical data and obtain prior approval on makes of various materials of IISER PUNE before taking-up work. The successful agency shall make his own arrangement for all Tools & tackles for work etc complete in view of completion of work. Electricity shall be provided free of cost to agency at one source, agency should make own arrangement to safely tap of power from source to work location. No advance payment shall be made by IISER Pune. Quoted rates should be including GST, TDS and other applicable taxes. Income Tax and labour cess will be deducted from the bills of the work.

9. बीओक्यू, नवीनतम सीपीडब्ल्यूडी विनिर्देश, आईएस विनिर्देशों और आईआईएसईआर पुणे के निर्देश के अनुसार जब भी सीपीडब्ल्यूडी / आईएस विनिर्देश उपलब्ध नहीं हैं, के अनुसार किए जाने वाले कार्य के लिए विशिष्टता। Specification for the work to be carried out as per BOQ, latest CPWD specification, IS specifications & as per instruction of IISER PUNE whenever specification CPWD/ IS specification are not available.

10. ठेकेदार यह सुनिश्चित करेगा कि श्रमिकों और कर्मचारियों को श्रम कानूनों के अनुसार न्यूनतम मजदूरी का भुगतान किया जाना चाहिए। सभी आवश्यक सुरक्षा उपकरणों आदि के साथ काम के निष्पादन के दौरान निर्धारित मानदंडों के अनुसार एल 1 एजेंसी द्वारा मापी गई सभी सुरक्षा का पालन किया जाएगा। निष्पादन एजेंसी सुरक्षा मानदंडों और संबद्ध मुआवजे आदि के सख्त पालन के लिए एकमात्र तकनीकी-व्यावसायिक रूप से जिम्मेदार होगी। The contractor shall ensure that minimum wages should be paid to the labours and employees in accordance with labour laws. All the safety measured shall be followed by the L1 agency as per prescribed norms during execution of work with all the necessary safety tools etc. Executing Agency shall sole techno-commercially responsible for the strict adherence of safety norms and allied compensations etc.

11. एजेंसी को काम पूरा होने के 30 दिनों के भीतर भुगतान के लिए आईआईएसईआर पुणे को माप और सार पत्रक प्रस्तुत करना चाहिए।
Agency should submit measurements and abstract sheets to IISER PUNE for the payments within 30 days from completion of work.

अधीक्षण अभियंता
आईआईएसईआर पुणे
Superintending Engineer
IISER Pune

Schedule of Work

Name of Work : - Audit of HVAC system at IISER Pune.

Sr.No.	Desciption	Qty	Unit	Rate/unit in words & Figures	Amount
	HVAC system performance checking with referance to design parameters of Chillers plant,Pumping system, cooling tower, AHUs (40Nos),Split Acs, VRF system. Equipment list is attached separtely, please refer Annexure. The scope of work is given below. Deatiled Audit report copy should be submitted after completion of work within 07 days.				
	Chillers (4 X 470 TR) : Measurements to evaluate kW/TR 1.Refrigerant pressures & temperatures, w.r.t. its design parameters – Pressure-enthalpy curves 2.Chilled water flow measurement across primary & secondary circuits, supply & return temperature measurements and comparison with design. 3.Chiller Power consumption recording Chiller Health Check Observation 4.CPM Review 5.Vibration analysis 6.Corrosion visual inspection 7.Logbook improvisation 8.SOP review. Analysis report should include following Calculation of TR delivered (For system more than 100TR) Opportunities in increasing the efficiencies of the system Measurement of COP and kW/TR for Chillers having capacity more than 100TR (Ton of Refrigeration)				
	Cooling tower for 4X 470 TR chillers. 1. Collecting actual parameters of cooling tower Measurement of water flow with the help of ultrasonic water flow meter 2.Measurement of water in and out temp, DBT and WBT with the help of digital thermometer, sump temperature, relative humidity, TDS etc. 3.Measurement of electrical power input of fan 4.Cooling Tower Health Check 5.TDS and pH Check 6.Vibration analysis 7.Corrosion visual inspection 8.Cooling tower line check 9. Chemical dosing requirements Analysis report should included following 1 Exploring EnCon opportunities in cooling tower 2.Calculation of performance of Cooling tower, Estimation & evaluation of cooling tower performance (range, approach, and effectiveness) and comparing it with designed data. 4. opportunity to increase effectiveness of cooling tower 5. Study of water parameters 6. Identification and suggestions for performance improvement and energy saving potential.				
1	**Water Pumping system of chiller plant** 1.Collecting inventory / design details of pumps 2. Measurement of water flow with the help of ultrasonic water flow meter, Analysis of pump flow rate, pressure and power consumption with respect to their rated/design conditions. 3.Measurement of pressure with the help of pressure gauge 4. Measurement of input power 5.Analysis of water requirement at user ends to optimize the water flow rate in turn to reduce the pumping power consumption. 5 Pump efficient operation study and analysis - Performance Evaluation of chilled water pumping and condenser water pumping systems to optimize pumping power. Analysis report should included following 1 Calculation of pump efficiency, overall efficiency 2 Exploring EnCon options in pumping system 3. Head & flow utilization w.r.t. design parameters.	1	Lot		
	Split Acs and VRV system (Copy of list of AC units attached here with). :- Measurement of Performance (With workable accuracy) Taking Inventory data from customer Checking Electrical power for 5% sample measurements Checking possibility of envelop modification. List of VRV sysetm and split Acs attached. Analysis should included following 1.Comparing performance with best technology in the mark.				
	AHUs: Only 40 nos of AHUs data collection and audit to be done as per instruction of Enginerer In charge. Copy of list of AHUs attached here with. 1. Actual Measurement of air flow (for AHUs) with the help of digital anemometer, air in and out temperature and humidity with the help of digital hygrometer in return and supply air duct. 2.AHU air flow measurements will be taken on Sample basis. 3. Type Blower (centrifugal with Belt Driven or Direct Coupled) Or EC Fan. 4.Measurement of Static Pressure with the help of digital manometer in return and supply air duct Sample basis 5.BMS review w.r.t. automation 6. Type of Cooling Source- Chilled water/ DX Unit. 7. Visual Inspection. Analysis report should included following. 1. Exploring EnCon opportunities in AC system Opportunities in increasing the efficiencies of the system Suggestions regarding control philosophy (For temperature and Humidity) suggestions for AHU fan power reduction and automation.				
	Total Amount (Inclusive of All taxes)			**Rs.**	

Note: - Quoted rates should be inclusive of cost of all the materials, labour cost , GST ,all taxes, octroi ,duties , cost of sample and fees towards testing of materials in labs, royalties etc. complete. Nothing extra shall be paid separately.

Superintending Engineer
IISER Pune

Annexure (Total pages -18)

Plant Room Details of Maintenance Purpose					
Sr. No.	Location	Item Name	Make	Unit No.	Capacity
1	Service Block	Chiller	Kirloskar Chillers	1	470 TR/285 KW/500 A/R134 A/506 Kg
2	Service Block	Chiller	Kirloskar Chillers	2	470 TR/285 KW/500 A/R134 A/506 Kg
3	Service Block	Chiller	Kirloskar Chillers	3	470 TR/285 KW/500 A/R134 A/506 Kg
4	Service Block	Chiller Pump	Grundfoss	1	100 HP/75 KW/cosϕ-0.87/1480 RPM/285 m^3/Hr/1255 GPM/54 M/115 A/η-94.0%
5	Service Block	Chiller Pump	Grundfoss	2	100 HP/75 KW/cosϕ-0.87/1480 RPM/285 m^3/Hr/1255 GPM/54 M/115 A/η-94.0%
6	Service Block	Chiller Pump	Grundfoss	3	100 HP/75 KW/cosϕ-0.87/1480 RPM/285 m^3/Hr/1255 GPM/54 M/115 A/η-94.0%
7	Service Block	Chiller Pump	Grundfoss	4	100 HP/75 KW/cosϕ-0.87/1480 RPM/285 m^3/Hr/1255 GPM/54 M/115 A/η 94.0%
8	Service Block	Condenser Pump	Grundfoss	1	75 HP/45 KW/cosϕ-0.88/1480 RPM/412 m^3/Hr/1816 GPM/26 M/69 A/η-93.1%
9	Service Block	Condenser Pump	Grundfoss	2	75 HP/45 KW/cosϕ-0.88/1480 RPM/412 m^3/Hr/1816 GPM/26 M/69 A/η-93.1%
10	Service Block	Condenser Pump	Grundfoss	3	75 HP/45 KW/cosϕ-0.88/1480 RPM/412 m^3/Hr/1816 GPM/26 M/69 A/η-93.1%
11	Service Block	Condenser Pump	Grundfoss	4	75 HP/45 KW/cosϕ-0.88/1480 RPM/412 m^3/Hr/1816 GPM/26 M/69 A/η-93.1%
12	Service Block	Cooling Tower	Paharpur (Motor - Marathon Electric)	1	1800 GPM/20 HP/27.3 A/1460 RPM/η-91.8%
13	Service Block	Cooling Tower	Paharpur (Motor - Marathon Electric)	2	1800 GPM/20 HP/27.3 A/1460 RPM/η-91.8%
14	Service Block	Cooling Tower	Paharpur (Motor - Marathon Electric)	3	1800 GPM/20 HP/27.3 A/1460 RPM/η-91.8%
15	Service Block	Tillu Pump	DAB Pumps	1	0.8 HP/240 M/3.8 A/3.6 m^3/Hr
16	Service Block	Tillu Pump	DAB Pumps	2	0.8 HP/240 M/3.8 A/3.6 m^3/Hr

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
1	1	3285	6.5	Chemistry G.Flr	Aloke Das Laser Lab	21-23 °C	24 Hrs	24	2.2	1	2.2
2	2	1510	8	Chemistry G.Flr	Aloke Das Wet Lab	24 °C	24 Hrs	15	2.2	1	2.2
3	3	5000	10	Chemistry G.Flr	Faculty Cabins	24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
4	4	4440	9	Chemistry G.Flr	Partha Hazra Laser Lab	21-23 °C	24 Hrs	24	4	1	4
5	5	2600	14	Chemistry G.Flr	Partha Hazra & Mrinalini Puranik wet Lab area	24 °C	24 Hrs	15	1.1	1	1.1
6	6	6375	12	Chemistry G.Flr	Mrinalini Puranik Laser Lab	20-22 °C	24 Hrs	15	4	1	4
7	7	13225	22	Chemistry G.Flr	Nirmal Ballave Laser Lab	21-23 °C	8.30 AM To 6.00 PM	9.5	7.5	1	7.5
8	8	14000	28	Chemistry G.Flr	Jeet Kalia, Sandana Britto & Shabana Khan Labs	22-24 °C	24 Hrs	24	7.5	1	7.5
9	9	3170	7	Chemistry G.Flr	Pankaj Mandal Laser Lab	21-23 °C	24 Hrs	24	2.2	1	2.2
10	10	3605	17	Chemistry G.Flr	Pankaj Mandal & Nirmal Ballave wet Labs	24 °C	24 Hrs	15	2.2	1	2.2
11	11	3200	10	Chemistry G.Flr	Faculty Cabins	24 °C	8.30 AM To 6.00 PM	9.5	1.5	1	1.5
12	12	6850	19	Chemistry F.Flr	Dr. Anand Lab	24 °C	24 Hrs	15	5.5	1	5.5
13	13	5000	10	Chemistry F.Flr	Faculty Cabins towards LHC-lab Arun venkatnathan	24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
14	14	17850	45	Chemistry F.Flr	Labs - 1) Dr. Jayakannan 2) Dr.Jagan 3) Dr. Sujit Ghosh	24 °C	24 Hrs	15	22	1	22
15	15	19750	44	Chemistry F.Flr	Labs - 1) Dr. Pinakin 2) Dr. Vaidyanathan 3) Dr. Bhoomi	24 °C	24 Hrs	15	11	2	22
16	16	5000	10	Chemistry F.Flr	Faculty Cabins corridor side	24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
17	17	6200	16	Chemistry S.Flr	Dr. KNC Lab	24 °C	24 Hrs	15	5.5	1	5.5
18	18	5000	10	Chemistry S.Flr	Faculty Cabins & Aumab Mukherji lab - LHC side	24 °C	8.30 AM To 6.00 PM	9.5	11	1	11
19	19	19200	44	Chemistry S.Flr	Labs - 1) Dr. Srivatsun 2) Dr. R.G Bhatt 3) Dr. Kikkeri	24 °C	24 Hrs	15	11	2	22
20	20	21050	47	Chemistry S.Flr	Labs - 1) Dr. Hotha 2) Dr.Hari 3) Dr. Gopi	24 °C	24 Hrs	15	15	2	30
21	21	5000	10	Chemistry S.Flr	Faculty Cabins corridor side	24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
			124.5		**UPS/Server /Labs**						
	22	5000	12.5	Cipla Ground floor	Demo Lab		8.30 AM To 6.00 PM	9.5			
	23	4000	10	Cipla First floor	Offices		8.30 AM To 6.00 PM	9.5			
	24	3000	10	Cipla Second floor	Meeting room		8.30 AM To 6.00 PM	9.5			
			27	Cipla 1st & 2nf Floor	Labs		24 Hrs				

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
			5	Cipla 1st Floor	Labs		8.30 AM To 6.00 PM	9.5			
			587.5							**24**	**161.2**
22	22	12700	30	Entry G.Flr	Libray,Admin & some cabins	24 °C	8.30 AM To 10.00 PM	13.5	7.5	1	7.5
23	23	10000	25	Entry F.Flr	Director,Registrar office & 2 Board rooms and some cbins	23-24 °C	8.30 AM To 6.00 PM	9.5	5.5	1	5.5
24	24	10000	25	Entry S.Flr	Seminar Halls 31 To 34 & some cabins	23-24 °C	8.30 AM To 6.00 PM	9.5	5.5	1	5.5
25	25	4000	10	Entry T.Flr	Seminar halls 41 & 42	23-24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
			90							**4**	**20.7**
26	26	19250	36	Physics G.Flr	Engineering,IT, Purchase & Accounts Department	24 °C	8.30 AM To 6.00 PM	9.5	5.5	2	11
27	27	12000	25	Physics G.Flr	Director's,Registrar's office & Board room & some cbins	24 °C	8.30 AM To 6.00 PM	9.5	7.5	1	7.5
34	33A	9200	20	Physics G.Flr	NMR Lab	21-23 °C	24 Hrs	24	3.7	1	3.7
28	28	23000	56	Physics F.Flr	For UG,PG,SCXRD labs & some cabins	21-23 °C	24 Hrs	24	5.5	2	11
29	29	2100	5	Physics F.Flr	Faculty cabins	24 °C	8.30 AM To 6.00 PM	9.5	2.2	1	2.2
35	33B	18000	36	Physics F.Flr	Energy Lab (Panel Side)	21-24 °C	24 Hrs	24	7.5	1	7.5
36	33C	11000	22	Physics F.Flr	Physics Lab	21-24 °C	24 Hrs	24	5.5	1	5.5
30	30	17500	34	Physics S.Flr	Faculty Cabins (Raiser Side)	24 °C	8.30 AM To 6.00 PM	9.5	11	1	11
31	31	20000	42	Physics S.Flr	Faculty Cabins (Panel Side)	24 °C	8.30 AM To 6.00 PM	9.5	5.5	2	11
32	32	19250	36	Physics T.Flr	Faculty Cabins (Raiser Side)	24 °C	8.30 AM To 6.00 PM	9.5	5.5	2	11
33	33	17500	34	Physics T.Flr	Faculty Cabins (Panel Side)	24 °C	8.30 AM To 6.00 PM	9.5	5.5	2	11
		Total	**346**							**16**	**92.4**
			49.5		**UPS / Server Room**		**24 Hrs**				
		Total	**395.5**								
37	34	12750	23	Biology 2 G.Flr	SD lab,Histology, Plant growth chamber& flow sorter	24 °C	24 Hrs	24	7.5	1	7.5
38	35	3600	12	Biology 1 G.Flr	Microscopy 1 (Inside)	22 °C	24 Hrs	24	1.5	1	1.5
39	36	4400	15	Biology 1 G.Flr	Microscopy 2 (Passage)	22 °C	24 Hrs	24	3.7	1	3.7
40	37	3200	7	Biology 1 G.Flr	Instrumentation Near AHU Room	22 °C	24 Hrs	24	1.1	1	1.1
41	38	6500	14	Biology 1 G.Flr	Instrumentation	22-24 °C	24 Hrs	24	4	1	4
42	39	10000	25	Biology 1 G.Flr	Research lab & scholar research	22-24 °C	8.00 AM To 11.00 PM	15	5.5	1	5.5

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
43	40	12000	30	Biology 2 F.Flr	Research lab & scholar research	22-24 °C	8.00 AM To 11.00 PM	15	7.5	1	7.5
44	41	6500	14	Biology 2 F.Flr	Instrumentation Near AHU Room	22-24 °C	24 Hrs	24	4	1	4
45	42	6500	14	Biology 2 F.Flr	Instrumentation	22-24 °C	24 Hrs	24	4	1	4
46	43	12750	30	Biology 1 F.Flr	Research lab & scholar research	22-24 °C	8.00 AM To 11.00 PM	15	7.5	1	7.5
47	44	6500	14	Biology 1 F.Flr	Instrumentation Near AHU Room	22-24 °C	24 Hrs	24	4	1	4
48	45	6500	14	Biology 1 F.Flr	Instrumentation	22-24 °C	24 Hrs	24	4	1	4
55	51C	9945	39	Biology F.Flr	Plant Tissue Culture	21-23 °C	24 Hrs	24	7.5	1	7.5
56	51B	4530	9	Biology F.Flr	Animal Cell Culture	22-24 °C	24 Hrs	24	3.7	1	3.7
49	46	12000	30	Biology 2 S.Flr	Research lab & scholar research	22-24 °C	8.00 AM To 11.00 PM	15	7.5	1	7.5
50	47	6500	14	Biology 2 S.Flr	Instrumentation Near AHU Room	22 °C	24 Hrs	24	4	1	4
51	48	6500	14	Biology 2 S.Flr	Instrumentation	22 °C	24 Hrs	24	4	1	4
52	49	12700	30	Biology 1 S.Flr	Research lab & scholar research	22-24 °C	24 Hrs	15	7.5	1	7.5
53	50	6500	14	Biology 1 S.Flr	Instrumentation Near AHU Room	22-24 °C	24 Hrs	24	4	1	4
54	51	6500	14	Biology 1 S.Flr	Instrumentation	22-24 °C	24 Hrs	24	4	1	4
57	51A	9675	18	Biology S.Flr	Fly Lab	22-24 °C	24 Hrs	24	5.5	1	5.5
58	51D	2100	10	Biology S.Flr	Cell culture Lab	22-24 °C	24 Hrs	24	2.2	1	2.2
			404							**22**	**104.2**
			56.6		**UPS / Server Room**		24 Hrs				
		Total	**460.6**								
59	52	4000	11	Lecture Basement	Auditorium - Basement	24 °C	As per Requirement-avg-9 hrs	9	1	1	1
60	53	4000	11	Lecture Basement	Auditorium - Basement	24 °C	As per Requirement-avg-9 hrs	9	1	1	1
61	54	7500	18	Lecture G.Flr	Rooms Nos. -105/ 106/107/108/109	24 °C	As per Requirement-avg-9 hrs	9	5	1	5
62	55	9200	21	Lecture F.Flr	Room Nos. - 201/205/206/207	24 °C	As per Requirement-avg-9 hrs	9	7	1	7
63	56	6200	18	Lecture F.Flr	Room No. - 101	24 °C	As per Requirement-avg-9 hrs	9	5	1	5
64	57	5800	14.5	Lecture F.Flr	Auditorium - Balcony	24 °C	As per Requirement-avg-9 hrs	9	4	1	4
65	58	6200	18	Lecture F.Flr	Room No. - 103	24 °C	As per Requirement-avg-9 hrs	9	5	1	5

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
66	59	5800	14.5	Lecture F.Flr	Auditorium - Balcony	24 °C	As per Requirement-avg-9 hrs	9	4	1	4
67	60	5000	12	Lecture F.Flr	Room No. - 203	24 °C	As per Requirement-avg-9 hrs	9	3	1	3
68	61	7200	18	Lecture S.Flr	Room Nos. - 303/304/305	24 °C	As per Requirement-avg-9 hrs	9	5	1	5
69	62	6100	16	Lecture S.Flr	Room Nos. - 301/306	24 °C	As per Requirement-avg-9 hrs	9	4	1	4
70	63	2000	5	Lecture G.Flr	Auditorium - Stage	24 °C	As per Requirement-avg-9 hrs	9	2.2	1	2.2
71	64	2000	5	Lecture G.Flr	Auditorium - Stage	24 °C	As per Requirement-avg-9 hrs	9	2.2	1	2.2
72		2500	6.5	Lecture Basement	Canteen						
73		2500	6.5	Lecture Basement	Canteen						
			195							**13**	**44**
			9		**Control room/Greeen room**		As per Requirement-avg-9	8			
			204								
		632960	**1737.6**								
72	1	3056	13	Animal Gr. Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	3.7	1	3.7
					Heater	Run during raini season(Avg-1hr/day)		1	2	4	8
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	15	1	15
73	2	4152	17	Animal Gr. Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	7.5	1	7.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	7.5	1	7.5
					Heater	Run during raini season(Avg-1hr/day)		1	3	3	9
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	0		0
74	3	2418	10	Animal Gr. Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	5.5	1	5.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	3	6
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	15	1	15
75	4	2048	8.5	Animal Gr. Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	3.7	1	3.7

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
					Heater	Run during raini season(Avg-1hr/day)		1	2	2	4
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	12	1	12
76	5	6384	24	Animal 1st Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	9.3	1	9.3
					Clean rooms-Return	20-22 °C	24 Hrs	24	9.3	1	9.3
					Heater	Run during raini season(Avg-1hr/day)		1	2	7	14
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	30	1	30
77	6	4506	17	Animal 1st Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	7.5	1	7.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	7.5	1	7.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	4	8
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	0	0	0
78	7	1540	7	Animal 1st Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	3.7	1	3.7
					Heater	Run during raini season(Avg-1hr/day)		1	1.5	2	3
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	7.5	1	7.5
79	8	4864	18	Animal 1st Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	7.5	1	7.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	7.5	1	7.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	6	12
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	24	1	24
80	9	2904	13	Animal 1st Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	5.5	1	5.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	3	6
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	15	1	15
81	10	6384	24	Animal 2nd Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	9.3	1	9.3
					Clean rooms-Return	20-22 °C	24 Hrs	24	9.3	1	9.3
					Heater	Run during raini season(Avg-1hr/day)		1	2	7	14
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	30	1	30
82	11	4506	17	Animal 2nd Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	7.5	1	7.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	7.5	1	7.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	4	8
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	0	0	0

A) Total AHU's Details (Central Air-Conditioning)

Sr. No.	AHU No.	AHU Capacity in CFM	AHU Capacity in TR	Location	Lab Name	Actual Condition			Motor Size KW	No. of Motors	Total KW
						Temp Requirement Range	Run Time	No of Hours			
83	12	1540	7	Animal 2nd Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	3.7	1	3.7
					Heater	Run during raini season(Avg-1hr/day)		1	1.5	2	3
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	7.5	1	7.5
84	13	4864	18	Animal 2nd Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	7.5	1	7.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	7.5	1	7.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	6	12
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	24	1	24
85	14	2904	13	Animal 2nd Flr	Clean rooms-Supply	20-22 °C	24 Hrs	24	5.5	1	5.5
					Clean rooms-Return	20-22 °C	24 Hrs	24	5.5	1	5.5
					Heater	Run during raini season(Avg-1hr/day)		1	2	3	6
					Humidifier	Run during winter & summer season(Avg-1.5hr/day)		1.5	15	1	15
										22	**490**
			206.5								
			27		**Offices**		8.30 AM To 6.00 PM	**9.5**			
		52070	**233.5**							**101**	**912.5**
		685030	**1971.1**								
	4th floor Expected load		143.5								
	Balan Center Expected		150								
		Total Load	**2264.6**								

VRF Circuits

Location	VRF Circuits	Make	Capacity HP	No. of units	Total HP
PEB-1	C - 01	Blue Star	18	2	36
	C - 02	LG	18	1	18
		Toshiba	30	1	30
		Toshiba	22	1	22
				3	**106**
PEB-2	C - 03 Group 1	Blue Star	21	2	42
	C - 04 Group 2	Blue Star	14	2	28
	C - 05 Group 3	Blue Star	21	2	42
				6	**112**
PEB-3	C - 06	LG	20	4	80
	C - 07	LG	12+14	1+1	26
	C - 08	LG	12	1	12
	C - 09	LG	10	1	10
	C - 10	LG	10	1	10
	C - 11	LG	20	4	80
	C - 12	LG	18	1	18
		Toshiba	12	1	12
				14	**248**
NX Lab	C - 13	LG	10	1	10
	C - 14	LG	20	1	20
				2	**30**
Main Building	C - 15 Chemistry	Toshiba	12	1	12
	C - 16 Entry	Toshiba	12	1	12
	C - 17 Biology	Daikin	10	1	10
	Chemistry XRD lab	Toshiba	18	1	18
				4	**52**
Green House	C - 18	LG	20	1	20
	C - 19	LG	20	1	20
	C - 20	LG	20	1	20
	C - 21	LG	10	1	10
				4	**70**

VRF Circuits					
Location	VRF Circuits	Make	Capacity HP	No. of units	Total HP
HR-4	C - 22 A - 1st Flr	LG	18	1	18
	C - 23 A - 1st Flr	LG	22	1	22
	C - 24 A - Terrace	LG	14	1	14
	C - 25 A - Terrace	LG	14	1	14
	C - 26 B - 1st Flr	LG	20	1	20
	C - 27 B - 1st Flr	LG	20	1	20
	C - 28 B - Terrace	LG	20	1	20
	C - 29 B - Terrace	LG	20	1	20
	C - 30 C - 1st Flr	LG	20+14	2+1	54
	C - 31 C - Terrace	LG	14	1	14
	C-32 Dining Area	Toshiba	12	2	24
				14	**240**
Director Bungalow	C - 33	LG	14	1	14
Total			**Total in HP**		**872**
			Total in TR		**697.6**

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
1	PEB 1	A 107	1.5H-01	Hi wall	LG	1.5	1	TR	1.5
2		Server room	2.0H-1	Hi wall	Toshiba	2	1	TR	1.82
3		Server room	2.0H-2	Hi wall	Toshiba	2	1	TR	1.82
4		UPS room	2.0H-3	Hi wall	Toshiba	2	1	TR	1.82
5		UPS room	2.0H-4	Hi wall	Toshiba	2	1	TR	1.82
6		Earth Science Lab	2.0H-5	Hi wall	Blue Star	2	1	TR	1.82
7		Earth Science Lab	2.0H-6	Hi wall	Blue Star	2	1	TR	1.82
8		Lab- 102		Hiwall	Toshiba	2	1	TR	1.82
9	PEB 2	Lab-210	2.0H-7	Hi wall	Blue Star	2	1	TR	1.82
10		Lab-210	2.0H-8	Cassette	Daikin	2	1	TR	1.82
11		Lab-211	2.0H-9	Cassette	Daikin	2	1	TR	1.82
12		Lab-211	2.0H-10	Cassette	Daikin	2	1	TR	1.82
13		Lab-212 Passage	2.0H-11	Hi wall	Blue Star	2	1	TR	1.82
14		Lab-212 FESEM Room	2.0H-12	Hi wall	Blue Star	2	1	TR	1.82
15		Lab-212 UPS Room	2.0H-13	Hi wall	Blue Star	2	1	TR	1.82
16		Lab-212 UPS Room	2.0H-14	Hi wall	LG	2	1	TR	1.82
17		Lab-215 Room	1.5H-02	Hi wall	LG	1.5	1	TR	1.5
18		Lab-216	2.0H-15	Hi wall	Blue Star	2	1	TR	1.82
19		Lab-217	1.0H-1	Hi wall	Blue Star	1	1	TR	1.005
20		Lab-218	1.0H-2	Hi wall	Blue Star	1	1	TR	1.005
21		Lab-224 Passage	2.0H-16	Hi wall	LG	2	1	TR	1.82
22		Lab-224	2.0H-17	Hi wall	LG	2	1	TR	1.82
23		Server Room	2.0H-18	Hi wall	Blue Star	2	1	TR	1.82
24		Server Room	2.0H-19	Hi wall	Blue Star	2	1	TR	1.82
25		UPS Room	5.5PG-1	Package	Blue Star	5.5	1	TR	11
26		UPS Room	5.5PG-2	Package	Blue Star	5.5	1	TR	11
27		UPS Room	5.5PG-3	Package	Blue Star	5.5	1	TR	11
28		Lab 213			Toshiba	2	1		
29		Lab 213			Toshiba	2	1		
30		Lab 213			Toshiba	2	1		
31		Lab 213			Toshiba	2	1		
32		lab 215				2	1		
33		lab 215				2	1		
34		Lab 221		Ductable	Carrier	11	1		
35		Lab 221		Ductable	Carrier	11	1		
36		Lab 223		hiwall		2	1		

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
37		Lab 223		hiwall		2	1		
38	PEB 3	PEB-3/Server Room	2.0H-20	Hi wall	LG	2	1	TR	1.82
39		PEB-3/Server Room	2.0H-21	Hi wall	LG	2	1	TR	1.82
40		PEB-3/UPS Room	2.0H-22	Hi wall	LG	2	1	TR	1.82
41		PEB-3/UPS Room	2.0H-23	Hi wall	LG	2	1	TR	1.82
42		PEB-3/UPS Room	2.0H-24	Hi wall	LG	2	1	TR	1.82
43		PEB-3/Aquarium Lab	2.0H-25	Hi wall	LG	2	1	TR	1.82
44		PEB-3/Microscopy Lab		Hi wall	Toshiba	2	1	TR	1.82
45		PEB-3/Aquarium Lab		Casstte	Carrier	2	1	TR	1.82
46		Fish lab		Hi wall		2	1		
47		Fish lab		Hi wall		2	1		
48		NGS facility(Krish lab)		Hi wall		2	1		
49		SD lab		Hiwall	Voltas	2	1		
50	PEB NX	NX/Lab Passage Area	2.0H-26	Hi wall	LG	2	1	TR	1.82
51		NX/Lab Passage Area	2.0H-27	Hi wall	LG	2	1	TR	1.82
52		NX/Laser lab	2.0H-28	Hi wall	LG	2	1	TR	1.82
53		NX/Laser lab	2.0H-29	Hi wall	LG	2	1	TR	1.82
54		NX/Laser lab	2.0H-30	Hi wall	LG	2	1	TR	1.82
55	Helium Room	Canteen	2.0H-31	Hi wall	LG	2	1	TR	1.82
56		Canteen	2.0H-32	Hi wall	LG	2	1	TR	1.82
57		Canteen	2.0H-33	Hi wall	LG	2	1	TR	1.82
58	Outreach Center Near LHC	Outreach Center		Tower AC	Carrier	3.5	1	TR	4.5
59		Outreach Center		Tower AC	Carrier	3.5	1	TR	4.5
60		Outreach Center		Tower AC	Carrier	3.5	1	TR	4.5
61		Outreach Center		Tower AC	Carrier	3.5	1	TR	4.5
62		Outreach Center		Tower AC	Carrier	3.5	1	TR	4.5
63	Insectorium lab	Insectorium lab		Hiwall	Toshiba	2	1	TR	
64		Insectorium lab		Hiwall	Toshiba	2	1	TR	
65		Insectorium lab		Hiwall	Toshiba	2	1	TR	
66		Insectorium lab		Hiwall	Toshiba	2	1	TR	
67		Insectorium lab		Hiwall	Toshiba	2	1	TR	
68		Insectorium lab		Hiwall	Toshiba	2	1	TR	
69		Insectorium lab		Hiwall	Toshiba	2	1	TR	
70				Tower AC	Carrier	3.5	1	TR	4.5
71	Lecture	UPS room	2.0H-34	Hi wall	LG	2	1	TR	1.82
72		UPS room	2.0H-35	Hi wall	LG	2	1	TR	1.82

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
73	Block	Green Room		Hi wall	Toshiba	2	1	TR	1.82
74		VIP guest room		Hiwall	Toshiba	1.5	1		
75		UPS Near HPC Cluster	2.0H-36	Hi wall	LG	2	1	TR	1.82
76		UPS Near HPC Cluster	2.0H-37	Hi wall	LG	2	1	TR	1.82
77		UPS room Near J.C office	1.5H-03	Hi wall	Blue Star	1.5	1	TR	1.5
78		Dr. Aloke Das Lab	3.0H-01	Hi wall	Daikin	3	1	TR	3.2
79		Dr. Aloke Das Lab	3.0H-02	Hi wall	Daikin	3	1	TR	3.2
80		Dr. Mrinalini Puranik Lab	3.0H-03	Hi wall	Daikin	3	1	TR	3.2
81		Dr. Mrinalini Puranik Lab	3.0H-04	Hi wall	Daikin	3	1	TR	3.2
82		Dr. Nirmal Ballave Lab	3.0H-05	Hi wall	Daikin	3	1	TR	3.2
83		Dr. Nirmal Ballave Lab	2.5H-01	Hi wall	Mitsubishi	2.5	1	TR	2.6
84		Dr. Nirmal Ballave Lab		Hiwall	Toshiba	2	1		1.82
85		Dr. Partha Hazra Lab	2.0H-38	Hi wall	Blue Star	2	1	TR	1.82
86		Dr. Partha Hazra Lab	2.0H-39	Hi wall	Blue Star	2	1	TR	1.82
87		Dr. Pankaj Mandal Lab	2.5H-02	Hi wall	Mitsubishi	2.5	1	TR	2.6
88		Dr. Pankaj Mandal Lab	3.0H-06	Hi wall	Blue Star	3	1	TR	3.2
89		Dr. Pinaki talukdar Lab	2.0H-40	Hi wall	Daikin	2	1	TR	1.82
90		Terrace Fume Hood panel room	2.0H-41	Hi wall	Blue Star	2	1	TR	1.82
91		Terrace Fume Hood panel room	2.0H-42	Hi wall	Blue Star	2	1	TR	1.82
92		Terrace Fume Hood panel room	2.0H-43	Hi wall	Blue Star	2	1	TR	1.82
93		Dr. Jeetendra Chugh Lab	1.5C-01	Cassette	Daikin	1.5	1	TR	1.5
94		Dr. Jeetendra Chugh Lab	1.5C-02	Cassette	Daikin	1.5	1	TR	1.5
95		Ground Flr. HPC Room	10PN-01	PAC	GEA Ecoflex	10	1	TR	38
96		Ground Flr. HPC Room	10PN-02	PAC	GEA Ecoflex	10	1	TR	38
97		Ground Flr. HPC Room	10PN-03	PAC	GEA Ecoflex	10	1	TR	38
98		Ground Flr. HPC Room	10PN-04	PAC	GEA Ecoflex	10	1	TR	38
99		1st Flr. HPC Room (Future)	10PN-05	PAC	Blue Box	10	1	TR	38
100		Dr. Jeet Kalia Lab	2.0PN-01	PAC	Blue Box	2	1	TR	5.3
101	Chemistry Block	Dr. Jeet Kalia Lab	2.0PN-02	PAC	Blue Box	2	1	TR	5.3
102		Cipla 2nd flr-Dr. Angshuman nag lab		Ductable	Carrier	8.5	1		
103		Chemistry g flr lab 122		Hiwall		2	1		
104		Chemistry g flr lab 122		Hiwall		2	1		
105		Chemistry g flr lab 122		Hiwall		2	1		
106		Chemistry g flr lab 122		Hiwall		2	1		
107		Chemistry 1st flr UPS room		Hiwall		2	1		
108		Chemistry 1st flr UPS room		Hiwall		2	1		

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
109		Chemistry 2nd flr UPS room		Hiwall		2	1		
110		Cipla g flr lab		Hiwall		2	1		
111		Cipla g flr lab		Hiwall		2	1		
112		Cipla g flr lab		Hiwall		2	1		
113		Cipla g flr lab		Hiwall		2	1		
114		Cipla g flr meeting room		Cassette		2	1		
115		Cipla g flr meeting room		Cassette		2	1		
116		Cipla 2nd flr Director's lab		Hiwall		2	1		
117		Cipla 2nd flr Director's lab		Hiwall		2	1		
118		Cipla 2nd flr Director's lab		Hiwall		2	1		
119		Cipla 2nd flr Debansu sillab		Cassette		2	1		
120		2nd flr - Prof Hotha office		Hiwall		1	1		
121		Dr.Shabana khan instrument lab		Hiwall		2	1		
122		Lab C124		Hiwall		2	1		
123		Lab 301 - chemistry 2nd floor		Cassette		2	1		
124		Lab 301 - chemistry 2nd floor		Cassette		2	1		
125		Tissue culture lab chemistry 2nd flr		Ductable		4	1		
126		Grnd flr Jeetender chugh lab				1	1		
127		Grnd flr C 129 lab		Hiwall		3	1		
128	Entry Block	3rd Floor Cafeteria	2.5H-03	Hi wall	Mistubishi	2.5	1	TR	2.6
129		3rd Floor Cafeteria	2.5H-04	Hi wall	Mistubishi	2.5	1	TR	2.6
130		3rd Floor Cafeteria	2.0H-44	Hi wall	Daikin	2	1	TR	1.82
131	Physics Block	SCXRD LAB	2.0H-45	Hi wall	Blue Star	2	1	TR	1.82
132		SCXRD LAB	2.0H-46	Hi wall	Blue Star	2	1	TR	1.82
133		Ground Flr. HPC Room	2.0H-47	PAC	Emerson	11	1	TR	40
134		FIB		Ductable	Carrier	4	1		
135		FIB		Ductable	Carrier	4	1		
136		Room 325-2nd flr		Hiwall	Voltas	2	1		
137		Quantumlab		PAC	Blue Box	4.5	1		
138		Quantumlab		PAC	Blue Box	4.5	1		
139		Quantumlab		PAC	Blue Box	4.5	1		
140		Quantumlab		PAC	Blue Box	4.5	1		
141		Quantumlab		PAC	Blue Box	4.5	1		
142		Quantumlab		PAC	Blue Box	4.5	1		
143		Quantumlab		PAC	Blue Box	4.5	1		
144		Quantumlab		PAC	Blue Box	4.5	1		

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
145	Biology Block	G. Flr.Radiography Lab	2.0H-48	Hi wall	Daikin	2	1	TR	1.82
146		G. Flr.Radiography Lab	1.5H-04	Hi wall	Daikin	1.5	1	TR	1.5
147		G. Flr.S.D. Lab-Left side	1.5H-05	Hi wall	Daikin	1.5	1	TR	1.5
148		G. Flr.S.D. Lab-Right side	1.5H-06	Hi wall	Daikin	1.5	1	TR	1.5
149		2ndFlr. Fly Lab	2.5H-05	Hi wall	Mitsubishi	2.5	1	TR	2.6
150		2ndFlr. Fly Lab	2.0H-49	Hi wall	Daikin	2	1	TR	1.82
151		2ndFlr. Fly Lab	2.0H-50	Hi wall	Blue Star	2	1	TR	1.82
152		Terrace Fume Hood panel room	2.0H-51	Hi wall	Blue Star	2	1	TR	1.82
153		Dr. Sai Krishnan Lab	4.5PN-01	PAC	Blue Box	4.5	1	TR	18
154		Dr. Sai Krishnan Lab	4.5PN-02	PAC	Blue Box	4.5	1	TR	18
155		X-RAY Diffraction	2.0H-52	Hi wall	Daikin	2	1	TR	1.82
156		X-RAY Diffraction	2.0H-53	Hi wall	Daikin	2	1	TR	1.82
157		X-RAY Diffraction	2.0H-54	Hi wall	Daikin	2	1	TR	1.82
158		Bio 2- Ground Floor	1.25CR-01	Cold Room	Carrier	3	1	HP	2.3
159		Bio 2- Ground Floor	1.25CR-02	Cold Room	Carrier	3	1	HP	2.3
160		Bio 1 gnd flr Director lab		Hiwall	Toshiba	2	1	TR	1.82
161		Bio 1 gnd flr Director lab		Hiwall	Toshiba	2	1	TR	1.82
162		Bio 2 gnd flr Director lab		Hiwall	Toshiba	2	1	TR	1.82
163		Bio 2- First Floor	1.25CR-03	Cold Room	Carrier	3	1	HP	2.3
164		Bio 2- First Floor	1.25CR-04	Cold Room	Carrier	3	1	HP	2.3
165		Bio 1- First Floor	1.25CR-05	Cold Room	Carrier	3	1	HP	2.3
166		Bio 1- First Floor	1.25CR-06	Cold Room	Carrier	3	1	HP	2.3
167		Bio 2- Second Floor	1.25CR-07	Cold Room	Carrier	3	1	HP	2.3
168		Bio 2- Second Floor	1.25CR-08	Cold Room	Carrier	3	1	HP	2.3
169		Bio 2 -Third Floor		Ductable	Carrier	5.5	1	TR	8.0
170		Bio2-1st floor UPS room		Hiwall	Toshiba	2	1	TR	1.8
171		Bio2-2nd floor UPS room		Hiwall	Toshiba	2	1	TR	1.8
172		Plant growth chamber lab		Hiwall		2	1		
173		Plant growth chamber lab		Hiwall		2	1		
174		Lab 110 g flr		Hiwall		2	1		
175		Lab 110 g flr		Hiwall		2	1		
176		Lab 110 g flr		Hiwall		2	1		
177		Lab 110 g flr		Hiwall		2	1		
178		New Prof Siddesh kamat lab g flr		Hiwall		2	1		
179		New Prof Siddesh kamat lab g flr		Hiwall		2	1		
180		New Prof Siddesh kamat lab g flr		Hiwall		2	1		

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
181	Animal House	Ground Floor-Near Lift	1.25CR-09	Cold Room	Carrier	3	1	HP	2.3
182		Ground Floor-Near Lift	1.25CR-10	Cold Room	Carrier	3	1	HP	2.3
183		Ground floor-Niear cold room		Hi wall	Toshiba	2	1	TR	1.82
184		Ground floor-Breed room		Hi wall	Toshiba	2	1	TR	1.82
185	HR 4	A wing 401	1.5H-07	Hi wall	Blue Star	1.5	1	TR	1.5
186		A wing 402	1.5H-08	Hi wall	LG	1.5	1	TR	1.5
187		A wing 403	1.5H-09	Hi wall	LG	1.5	1	TR	1.5
188		A wing 404	1.5H-10	Hi wall	LG	1.5	1	TR	1.5
189		A wing 405	1.5H-11	Hi wall	LG	1.5	1	TR	1.5
190		A wing 405	1.5H-12	Hi wall	LG	1.5	1	TR	1.5
191		A wing 406	1.5H-13	Hi wall	LG	1.5	1	TR	1.5
192		A wing 407	1.5H-14	Hi wall	LG	1.5	1	TR	1.5
193		A wing 408	1.5H-15	Hi wall	LG	1.5	1	TR	1.5
194		A wing Cresch	2.0H-55	Hi wall	LG	2	1	TR	1.82
195		C wing 303	2.0H-56	Hi wall	LG	2	1	TR	1.82
196		C wing 303	2.0H-57	Hi wall	LG	2	1	TR	1.82
197		C wing 304	2.0H-58	Hi wall	LG	2	1	TR	1.82
198		C wing 304	2.0H-59	Hi wall	LG	2	1	TR	1.82
199		Lunch TV room	2.0H-60	Hi wall	LG	2	1	TR	1.82
200		Avinash sir office	2.0H-61	Hi wall	LG	2	1	TR	1.82
201		Opp.to Avinash sir office	2.0H-62	Hi wall	LG	2	1	TR	1.82
202		UPS room	2.0H-63	Hi wall	LG	2	1	TR	1.82
203		UPS room	2.0H-64	Hi wall	LG	2	1	TR	1.82
204		C wing E class	2.0H-65	Hi wall	LG	2	1	TR	1.82
205		C wing server room	2.0H-66	Hi wall	Blue Star	2	1	TR	1.82
206		HR 4 Fly lab	1.5H-16	Hi wall	LG	1.5	1	TR	1.5
207		HR 4 Fly lab	2.0H-67	Hi wall	Blue Star	2	1	TR	1.82
208		HR 4 Fly lab	2.0H-68	Hi wall	Blue Star	2	1	TR	1.82
209		202- Study room c wing	2.0H-69	Hi wall	Carrier	2	1	TR	1.82
210		202- Study room c wing	2.0H-70	Hi wall	Carrier	2	1	TR	1.82
211		Science Media Center	1.5H-17	Hi wall	Blue Star	1.5	1	TR	1.5
212		HR-4 Fly Lab UPS room	2.0H-71	Hi wall	LG	2	1	TR	1.82
213		HR-4 Fly Lab UPS room	2.0H-72	Hi wall	LG	2	1	TR	1.82
214				Hi wall	Toshiba	2	1	TR	1.82
215				Hi wall	Toshiba	2	1	TR	1.82
216		2nd flr C wing new office(Old gym)- Towards B wing		Hi wall		2	1		

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
217		2nd flr C wing new office(Old gym)- Towards B wing		Hi wall		2	1		
218		2nd flr C wing new office(Old gym)- Towards B wing		Hi wall		2	1		
219		2nd flr C wing new office(Old gym) - Towards B wing		Hi wall		2	1		
220		A wing Room 405		Hiwall		2	1		
221		A wing Room 405		Hiwall		2	1		
222		A wing Room 405		Hiwall		1.5	1		
223		2nd flr C wing new office(Old gym) - Towards A wing		Hiwall		2	1		
224		2nd flr C wing new office(Old gym) - Towards A wing		Hiwall		2	1		
225		2nd flr C wing new office(Old gym) - Towards A wing		Hiwall		2	1		
226		Guest house A wing Room No. 110		Hiwall		1	1		
227		Guest house A wing Room No. 110		Hiwall		1	1		
228		Guest house A wing Room No. 106		Hiwall		1	1		
229		Guest house A wing Room No. 106		Hiwall		1	1		
230		Guest house A wing Room No. 406		Hiwall		1	1		
231		Guest house A wing Room No. 407		Hiwall		1	1		
232		Guest house A wing Room No. 408		Hiwall		1	1		
233		Guest house A wing Room No. 103		Hiwall		1	1		
234		Guest house A wing Room No. 103		Hiwall		1	1		
235		Guest house A wing Room No. 401		Hiwall		1	1		
236		Guest house A wing Room No. 402		Hiwall		1	1		
237		Guest house A wing Room No. 403		Hiwall		1	1		
238		Guest house A wing Room No. 404		Hiwall		1	1		
239	Director Bungalow	Director Bungalow (G Fllr)	2.0H-73	Hi wall	LG	2	1	TR	1.82
240		Director Bungalow (G Fllr)	2.0H-74	Hi wall	LG	2	1	TR	1.82
241		Director Bungalow (G Fllr)	2.0H-75	Hi wall	LG	2	1	TR	1.82
242		Director Bungalow (G Fllr)	2.0H-76	Hi wall	LG	2	1	TR	1.82
243		Director Bungalow (1st Flr) Director Bed room	2.0H-77	Hi wall	LG	2	1	TR	1.82
244		Director Bungalow (1st Flr) Director hall		Hi wall	Carrier	1.5	1	TR	
245		Director Bungalow (1st Flr) Director hall		Hi wall	Carrier	1.5	1	TR	
246		Director Bungalow (1st Flr)	2.0H-78	Hi wall	LG	2	1	TR	1.82
247				Hi wall	LG	2	1	TR	1.82
248		G. FLR/MANAGER CABIN	1.5H-18	Hi wall	Blue Star	1.5	1	TR	1.5
249		F. FLR/MANAGER CABIN	1.5H-19	Hi wall	Blue Star	1.5	1	TR	1.5
250		S.Flr. Faculty Dining Area	8.5D-01	Ductable	Carrier	8.5	1	TR	12
251		S.Flr. Faculty Dining Area	8.5D-02	Ductable	Carrier	8.5	1	TR	12

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
252	Dining Block	S.Flr. VIP Dining Area	8.5D-03	Ductable	Carrier	8.5	1	TR	12
253		S.Flr. VIP Dining Area	8.5D-04	Ductable	Carrier	8.5	1	TR	12
254		New Manager Cabin	2.0H-79	Hi wall	Blue Star	2	1	TR	1.82
255		G Flr (-20 Degree)		Cold Room	Carrier	3	1	HP/LT	3
256		G. Flr		Cold Room	Carrier	3	1	HP/MT	2.3
257		G. Flr		Cold Room	Carrier	3	1	HP/MT	2.3
258		F. Flr		Cold Room	Carrier	2	1	HP/MT	2.3
259		S. Flr		Cold Room	Carrier	2	1	HP/MT	2.3
260				Hi wall	Blue Star	2	1	TR	1.82
261	HB 1	UPS room	2.0H-80	Hi wall	LG	2	1	TR	1.82
262		UPS room	2.0H-81	Hi wall	LG	2	1	TR	1.82
263		Music room	1.5H-22	Hi wall	Carrier	1.5	1	TR	1.5
264		Music room	1.5H-23	Hi wall	Carrier	1.5	1	TR	1.5
265		Music room	1.5H-24	Hi wall	Carrier	1.5	1	TR	1.5
266		Music room	1.5H-25	Hi wall	Carrier	1.5	1	TR	1.5
267		Wellness Clinic	1.5H-26	Hi wall	Blue Star	1.5	1	TR	1.5
268		Wellness Clinic	2.0H-82	Hi wall	Blue Star	2	1	TR	1.82
269		Manager Hall	2.0H-83	Hi wall	Blue Star	2	1	TR	1.82
270		Manager Hall	2.0H-84	Hi wall	Blue Star	2	1	TR	1.82
271	HB 2	UPS room	2.0H-85	Hi wall	Blue Star	2	1	TR	1.82
272		UPS room	2.0H-86	Hi wall	Blue Star	2	1	TR	1.82
273		Multipurpose Hall	2.0H-87	Hi wall	Blue Star	2	1	TR	1.82
274		Multipurpose Hall	2.0H-88	Hi wall	Blue Star	2	1	TR	1.82
275		Multipurpose Hall	2.0H-89	Hi wall	Blue Star	2	1	TR	1.82
276		Visitors Room	2.0H-90	Hi wall	Blue Star	2	1	TR	1.82
277		Visitors Room	2.0H-91	Hi wall	Blue Star	2	1	TR	1.82
278		Dance room	2.5H-06	Hi wall	Mitsubishi	2.5	1	TR	2.6
279		Dance room	2.5H-07	Hi wall	Mitsubishi	2.5	1	TR	2.6
280		Dance room	2.5H-08	Hi wall	Mitsubishi	2.5	1	TR	2.6
281	HB 3	Server room		Hiwall		1	1		
282	Faculty Housing A	Vegetable Market	1.5H-27	Hi wall	Blue Star	1.5	1	TR	1.5
283	250 Seater Hall	250 Seater Hall		Ductable	Carrier	11	1	TR	16
284		250 Seater Hall		Ductable	Carrier	11	1	TR	16
285		250 Seater Hall		Hiwall Split	Mitsubishi	2	1	TR	
286		250 Seater Hall		Hiwall Split	Mitsubishi	2	1	TR	
287		250 Seater Hall		Hiwall Split	Mitsubishi	2	1	TR	

All Details of DX Type Cassete, Hiwall,PAC's, Cold room, Ductable and Package Units

Sr. No.	Building	Location	Unit Nos.	Type	Make	Capacity (Ton)	No. of Units	Unit	KW
288		250 Seater Hall		Hiwall Split	Mitsubishi	2	1	TR	
289		Outreach Center		Ductable	Carrier	8.5	1	TR	12
290		Outreach Center		Hi wall	Toshiba	2	1	TR	1.82
291		Outreach Center		Hi wall	Toshiba	2	1	TR	1.82
Total Load In TR						**750.5**	**TR**