

## **Notice Inviting Tender**

**Name of Work** : **Operation and Comprehensive maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre and V.C. office at IGNOU Campus, Maidan Garhi, New Delhi.**

**Estimated Cost** : **₹ 60,90,740/-**

**Earnest Money** : **₹ 1,21,815/-**

**Performance Guarantee** : **5% of tendered cost**

**Security Deposit** : **5% of tendered cost**

**Period of Contract** : **One year**

**Certified that this NIT contains \_\_\_\_\_ pages.**

**Executive Engineer (E)**

**INDIRA GANDHI NATIONAL OPEN UNIVERSITY  
CONSTRUCTION & MAINTENANCE DIVISION  
MAIDAN GARHI, NEW DELHI  
NOTICE INVITING TENDER**

No. IG/CMD/EE(E)/NIT/2015-16/  
Dated: 26.05.2015

The Executive Engineer (E) Construction Maintenance Division invites on behalf of Vice-Chancellor, Indira Gandhi National Open University, sealed item rate tenders for the following work from the approved and eligible contractors those of appropriate class of CPWD/PWD/DOT/DDA/DJB/BSNL/MES/specialized agencies who have already executed at least one similar work costing 80% or two similar works costing 60% each or three similar works costing 40% each of estimated cost during the last seven years. The tenders will be sold only on production of Original Registration, PAN No., TIN No., Service tax, latest paid challan of VAT, ESI & EPF and proof for satisfactory completion of similar works duly certified by the competent authority of the client department.

Name of Work	Estimated Cost (in ₹)	Earnest Money (in ₹)	Cost of Tender (in ₹) N/R	Last date of receipt & sale of Tender	Date of Opening of tender	Time Allowed
<b>Operation and comprehensive maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre and V.C. office at IGNOU Campus, Maidan Garhi, New Delhi.</b>	<b>60,90,740/-</b>	<b>1,21,815/-</b>	<b>500/-</b>	<b>11.06.2015</b>	<b>15.06.2015</b>	<b>One Year</b>

Tender documents can be obtained from the office of the undersigned, Construction & Maintenance Division Indira Gandhi National Open University, Maidan Garhi, New Delhi-68 on any working day upto 2.30 pm on the date given above. The time for submission of Tenders are upto 3.00 pm which shall be opened on the same day at 3.30 pm on the date given above. The undersigned reserves the right to accept or reject any or all tenders without assigning any reason.

**Note:- The tender documents in the website are for information only. Downloaded tender documents will not be considered for bidding. The contractor shall quote their rates in the NIT issued by the department only. If rates quoted in other form will not be considered. Contractors/Agencies have to act as per above NIT.**

**(U. P. Sharma)**  
**Executive Engineer (E)**

**INDIRA GANDHI NATIONAL OPEN UNIVERSITY**  
**CONSTRUCTION & MAINTENANCE DIVISION**  
**MAIDAN GARHI: NEW DELHI- 110 068**  
**NOTICE INVITING TENDER**

1. Item Rate tenders are invited on behalf of Vice Chancellor, IGNOU from approved and eligible contractors and those of appropriate list of CPWD/PWD/DOT/DDA/DJB/BSNL/MES/ Specialized agencies for the work of “Operation and Comprehensive maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre and V.C. office at IGNOU Campus, Maidan Garhi, New Delhi.”
2. The enlistment of the contractor should be valid on the last date of sale of tenders.
3. In case only the last date of sale of tender is extended, the enlistment of contractor should be valid on the original date of sale of tenders.
4. In case both the last date of receipt of application and sale of tenders are extended, the enlistment of contractor should be valid on either of the two dates i.e. original date of sale of tender or the extended date of sale of tenders.
5. The work is estimated to cost ₹ 60,90,740/- (Rupees Sixty Lac Ninety thousand seven hundred forty only). This estimate, however, is given merely as a rough guide.
6. The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NIT's for calling the tenders. He will also nominate Division, which will deal with all matters relating to the invitation of tenders. For composite tenders, besides indicating the combined estimated cost put to tender, should clearly indicate the estimated cost of each component separately. The eligibility of tenderer will correspond to the combined estimated cost of different components put to tender.
7. The tenders will be issued to eligible contractors provided they produce definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority of having satisfactorily completed similar works of magnitude as specified in the advertisement.
8. Agreement shall be drawn with the successful tenderer on prescribed Form No. CPWD-8, which is available as a Govt. of India publication. Tenderer shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
9. The time allowed for carrying out the work will be one year from the date of start as defined in the Schedule ‘F’ or from the first date of handing over the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
10. The site for the work shall be made available in parts as specified below:  
  
Site is available.
11. Applications for issue of forms shall be received by ----- (2:30 PM) and tender documents shall be issued by Executive Engineer (E) (upto 2.30 p.m.). Tender documents consisting of plans, specifications, the schedule of quantities of various classes of work to be done and the set of terms and conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of the Executive Engineer between hours of 11.00 a.m. & 4.00 p.m. from \_\_\_\_\_ to \_\_\_\_\_ everyday except on Saturdays/Sundays and Public Holidays. Tender documents, excluding standard form, will be issued from his office, during the hours specified above, on payment of ₹ 500/- in cash (non-refundable) as cost of tender.

12. Earnest Money of ₹ 1,21,815/- in shape of Pay Order/Demand Draft of a schedule Bank issued in favour of IGNOU, New Delhi should accompany the tender.
13. Tenders, which should always be placed in sealed envelope, with the name of work and due date written on the envelopes, will be received by the Executive Engineer (E) upto 3.00 p.m. on ----- and will be opened by him or his authorized representative in his office on the same day at 3.30 p.m.
14. The contractor, whose tender is accepted, will be required to furnish Performance Guarantee of 5% (Five percent) of the tendered amount within the period specified in Schedule 'F'. This guarantee shall be in the form of cash (in case guarantee amount is less than ₹ 10,000/-) or Deposit at call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than ₹ 1,00,000/-) or Government securities of Fixed deposit receipts or Guarantee bonds of any Scheduled bank or the State Bank of India in accordance with the prescribed form.
15. Description of work is given at Page No. 1 may be seen. Copies of other drawings and documents pertaining to the works will be open for inspection by the tenderers at the office of the above mentioned officer. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools and plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plants etc will be issued to him by the IGNOU and local conditions other factors having a bearing on the execution of work.
16. The competent authority on behalf of Vice Chancellor, Indira Gandhi National Open University does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all tenders received without assignment of any reasons. All tenders in which any of the prescribed condition is not fulfilled or any conditions including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
17. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractor who resorts to canvassing will be liable to rejection.
18. The competent authority on behalf of Vice Chancellor, Indira Gandhi National Open University reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
19. The contractor shall not be permitted to tender for work in IGNOU (responsible for award and execution of contracts) in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grade of Suptd. Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relative to any gazetted officer in the University. Any breach of this condition by the contractor would render him liable to be removed from the approved list of the contractors of this department.
20. No Engineer of gazetted rank or other gazetted officer employed in Engineering or Administrative duties in an Engineering deptt. of the University is allowed to work as a contractor for a period of one year after his retirement from service, without the previous permission of the University authorities in writing. The contract is liable to be cancelled if either

the contractor or any of his employees is found any time to be such person who had not obtained the permission of the University as aforesaid before submission of the tender or engagement in the contractor's service.

21. The tender for the works shall remain open for acceptance for a period of ninety (90) days from the date of opening of tenders. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the deptt, then the University shall, without any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the re-tendering process of the work.
22. This Notice Inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the Accepting authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of :
  - (a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - (b) Standard CPWD form 8.
23. For composite tenders
  - (i) The tenderer must associate with himself agencies of the appropriate class eligible to tender for the other components individually.
  - (ii) It will be obligatory on the part of the tenderer to sign the tender document for all the components. (The schedule of quantities, conditions and special conditions etc).
  - (iii) After the work is awarded, the contractor will have to enter into separate agreements for each component with the officer concerned.
  - (iv) Executive Engineer in charge of minor component shall make interim payments in respect of minor component of work. Executive Engineer-In-charge of the major component shall make the payment against final bill of the composite work
  - (v) The Executive Engineer-In-charge of the major component will call tenders for the composite work. The cost of tender document and earnest money will be fixed with respect to the combined estimated cost put to tender for the composite tender. Security deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works. The earnest money will become part of the security deposit of the major component of work.
  - (vi) On acceptance of composite tender by the competent authority, the letter of award will be issued by the Executive Engineer-In-charge of the major component on behalf of Vice Chancellor, IGNOU, making it clear in the letter of award that the contractor will have to execute separate agreements for different components of work with the concerned officers of the respective discipline.

**EXECUTIVE ENGINEER (E)**  
**Engineer-In-charge**  
**For and on behalf of Vice Chancellor, IGNOU**

**INDIRA GANDHI NATIONAL OPEN UNIVERSITY  
CONSTRUCTION & MAINTENANCE DIVISION  
MAIDAN GARHI: NEW DELHI- 110 068**

**Item Rate Tender**

(A) Tender for the work of **Operation and comprehensive maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre and V.C. office at IGNOU Campus, Maidan Garhi, New Delhi.**

- (i) To be submitted by 3.00 p.m. on \_\_\_\_\_
- (ii) To be opened in presence of tenderers who may be present at 3.30 p.m. \_\_\_\_\_ in the office of the Executive Engineer (E).

Issued to \_\_\_\_\_

Signature of the officer issuing the documents \_\_\_\_\_

Date of issue \_\_\_\_\_

**TENDER**

I/We have read and examined the Notice Inviting Tender schedule A, B, C, D, E & F. Specifications applicable, drawings and design, General Rules and Directions of contract, clauses of contract, special conditions, Schedule of Rate and other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Vice Chancellor, IGNOU within the time specified in Schedule 'F' viz. schedule of quantities and in accordance in all respect with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and directions and in clause 11 of the conditions of the contract with such materials as are provided for, by, and in respect in accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for ninety (90) days from the due date of its opening and not to make any modifications in its terms and conditions.

A sum of ₹ 1,21,815/- has been deposited in Pay order/Demand Draft of a scheduled bank as earnest money. If I/We fail to furnish the prescribed Performance guarantee within prescribed period, I/We agree that the said Vice Chancellor, IGNOU or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that Vice Chancellor, IGNOU or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in clauses of the tender form.

Further, I/We agree that in case of forfeiture of earnest money or both earnest money and Performance guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work. We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the satisfy of the state.

Dated:

Signature and address of the contractor

Witness:

Address:

Occupation

### ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Vice Chancellor, IGNOU for a sum of ₹\_\_\_\_\_ (Rupees

The letters referred to below shall form part of this contract Agreement.

(a)

(b)

(c)

For and on behalf of Vice Chancellor, IGNOU

Signature and Designation

## SCHEDULE 'F'

Reference to General conditions of the contract.

Name of work: - **Operation and comprehensive maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre and V.C. office at IGNOU, Campus, Maidan Garhi, New Delhi.**

Estimated cost of work	₹ 60,90,740/-
Earnest Money	₹ 1,21,815/-
Performance Guarantee:	5% of tendered value
Security deposit	5% of tendered value

### General Rules & Directions

Officer Inviting tender	Executive Engineer (E), IGNOU
Maximum percentage for quantity of items of work to be Executed beyond which rates are to be determined in Accordance with Clauses 12.2 and 12.3	30%

### Definitions

2(i) Engineer Incharge	Executive Engineer (E), IGNOU
2(ii) Accepting Authority	VC (IGNOU)
2(iii) Percentage on cost of material and labour to cover all overheads and profits	15%
2(iv) Standard Schedule of Rates	Market Rates
2(v) Department	CMD (IGNOU)
9(vi) Standard CPWD contract form	CPWD form 8 as Modified upto date

### Clause-1

(i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	15days
(ii) Maximum allowable extension beyond the period provided in 1 (i) above	10 days

### Clause-2

Authority for fixing compensation under clause-2	VC (IGNOU)
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**Clause-2 A**

Whether clause 2-A shall be applicable.

NO

**Clause 5**Number of days from the date of issue of letter of acceptance  
For reckoning date of start

10 days

Mile stone (s) as per table given below:

**Table of Mile Stone(s)**

S.N.	Description of Milestone (Physical)	Time allowed in days (from dt of start)	Amount to be withheld in case of non-achievement of milestone
1.	NA	NA	NA
2.	NA	NA	NA
3.	NA	NA	NA

Time allowed for execution of work

One year

**Clause 6,6A**

Clause applicable 6 or 6A

6 A

**Clause-7**Gross work to be done together with net payment/adjustment  
of advances for material collected, if any, since the last  
such payment for being eligible to interim payment

NA

**Clause-10A**

List of testing equipments to be provided by the contractor at site lab

1. \_\_\_\_\_ NA \_\_\_\_\_

2. \_\_\_\_\_ NA \_\_\_\_\_

3. \_\_\_\_\_ NA \_\_\_\_\_

4. \_\_\_\_\_ NA \_\_\_\_\_

**Clause-10B**

Whether clause 10-B (ii) shall be applicable

No

**Cause-10 CA**

Material covered under this clause	Nearest material for which All India wholesale price index is to be followed
1. NA	NA
2. NA	NA
3. NA	NA

**Clause-10CC**

Clause 10-CC to be applicable in contract with stipulated period of completion exceeding the period shown in next column

NA

**Clause-11**

Specification to be followed for execution of work

As Per CPWD general specifications Electrical works part-I & II 2007 part-IV (sub-station) & Air-Conditioning amended upto date i/c scope of work & Special conditions of Tender

**Clause-12**

12.2 & 12.3 – Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work

30%

12.5 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work.

N.A

**Clause-16**

Competent authority for deciding reduce rates

VC (IGNOU)

**Clause-18**

List of mandatory machinery, tools and plants to be deployed by the contractor at site.

As per site requirement

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_  
4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_

**Clause 36 (i)**

Requirement of Technical Representative(s) and recovery rates

S.N	Minimum Qualification of Technical Representative	Discipline	Description (Principal Technical/ Technical Representative)	Minimum Experience	Number	Rate of recovery shall be made from the contractor in the event of not fulfilling provisions of clause 36(i)	
						Figure	Words
1	Graduate Engineer	E/M		Nil	1	₹ 10,000/-	Ten Thousand
2	Or Diploma Engineer	E/M		5Yrs	-do-	-do-	-do-

Assistant Engineers retired from Govt services that are holding Diploma will be treated at Par with Graduate Engineers.

**Clause-42**

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of DSR 2007 printed by CPWD.
- (ii) Variations permissible on theoretical quantities.
  - (a) Cement for works with estimated cost put to tender not more than ₹ 5 lakh  
  
for works with estimated cost put to tender more than ₹ 5 Lakh
  - (b) Bitumen all works
  - © Steel reinforcement and structural steel sections for each diameter, section and category
  - (d) All other material

} N.A

**RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION**

S.N.	Description of item	Rate in figures and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1	Cement	-N.A-	-N.A-
2	Steel Reinforcement		
3	Structural sections		
4	Bitumen issued free		
5.	Bitumen issued at stipulated fixed price		

## NOTE

In this Agreement wherever the word mentioned under Column 'A' appear the same may be construed to mean the word opposite to it in Column 'B' except for CPWD Contractor Labour Regulation, CPWD Safety Code, CPWD Specification and Delhi Schedule of Rates CPWD.

**'A'**

**'B'**

Central PWD, CPWD

Indira Gandhi National Open University

President of India

Vice –Chancellor, IGNOU

Chief Engineer

Chief Project Officer, IGNOU

Superintending Engineer

Chief Project Officer, IGNOU

Divisional Officer)  
Engineer In charge)

Executive Engineer (E), CMD, IGNOU

Sub-Divisional Officer

Assistant Executive Engineer (E), CMD, IGNOU

## Annexure 'A'

### **MAJOR EQUIPMENT DETAILS (High & Low side) Meant for Academic Block.**

a) 300 TR Centrifugal Chiller	-03 Nos. (York make)
b) 300 TR Screw Chiller	-01 No. (York make)
c) Condenser Pumps with motor 50 HP	-04 Nos. (Kirloskar & ABB make)
d) Chilled Water Pumps with motor 30 HP	-04 Nos. (Kirloskar, ABB & CG make)
e) Cooling Tower with motor 300 TR	-04 Nos. (Paharpur & Motor Kirloskar make)
f) Electrical Panels and control Panels in Main A.C. plant room for operation of Chillers Chilled/ Condensate pump sets, Cooling tower etc.	
g) Electrical Panels & control panels in the zonal Pump rooms & AHU rooms	-01 lot -01 lot
h) AHU (Installed in different location of Academic blocks)	-32 Nos.
i) Zonal pumps	-12 Nos. (7.5HP-6 nos., 10HP-6 Nos. Kirloskar make)
j) Water Softening Plant-1200 ltrs. Capacity	-01 No. (Water softener-ION Exchange)
I. Media tank	-01 No.
II. 5 HP pump sets	-02 Nos.
III. 2 HP pump sets	-02 Nos.
IV. Electrical panel for water softening plant	-01 No.

### **MAJOR EQUIPMENT DETAILS (High & Low side) Meant for Convention Centre.**

a) 100 TR Reciprocating Chiller	-02 Nos. (Blue Star make)
b) Condenser Pumps with motor 15 HP	-03 Nos. (CG make)
c) Chilled Water Pumps with motor 12.5 HP	-03 Nos. (CG make)
d) Cooling Tower with motor 100 TR	-02 Nos. (Paharpur)
e) AHU	-04 Nos.
f) Water Softening Plant	-01 Nos. (in the pump house near CMD office)
g) TFA units	-03 Nos.
h) Exhaust Blowers	-03 Nos.
i) Electrical Panels in main A/C plant i/c Basement AHU room	-01 lot

### **MAJOR EQUIPMENT DETAILS (High & Low side) Meant for V.C. office.**

a) 102 TR Screw Chiller Model-LCAX1-102 Sl. No.-8851AA11 & 8851BA11	-02 Nos. (Blue Star make)
b) Chilled water pump set 3phase, 7.5 KW	-02 Nos.(Armstrong make)
c) AHU	-04 Nos.
d) In liner/Propeller fans	-20 Nos.
e) Electrical Panels in main A/C plant i/c AHU rooms	-01 lot

## SCOPE OF WORK (HIGH SIDE)

### **(CENTRIFUGAL, SCREW & RECIPROCATING CHILLER PLANTS OF WATER COOLED TYPE FOR ACADEMIC BLOCKS, CONVENTION CENTRE)**

1. All in Comprehensive maintenance of 4 Nos. x 300 TR and 2x100 TR capacity, water chilling machines as per the requirement and to obtain the desired water flow rate and chilled water temperature.
2. Checking/replacement of starters, contractors or any other type of electrical spares, checking and cleaning of all related electrical panels pertaining to HVAC, cooling towers, expansion tank, y-strainers, pot-strainers.
3. Checking/cleaning/replacement of all part/components found defective.
4. The A/C plant will be operational as in the schedule times and the services should be operational Sundays and Holidays or as required and the services should be available accordingly as mentioned in overtime schedule.
5. The material like k-oil, dhoti etc. and lubricated items like grease, mobile oil, gland dori, mechanical seal etc. for pumps will be provided by the contractor within quoted rates.
6. The jobs I/c routine checkup of equipment and attending to its preventive as well as breakdown maintenance.
7. Procurement of Refrigerant and Spares of any kind shall be the responsibility of the contractor and no T & P shall be issued by the IGNOU.
8. Painting (spray/brush) of all equipments, pipes, installed in the plant room and at cooling tower complete as required as per the direction of Engineer-in-charge by using ISI mark synthetic enamel paint yearly or as and when directed by engineer in charge.
9. Plant will be handed over to the contractor in running condition at the time of start of the contract and the same should be handed over in good & running condition to the department after the expiry of the contract.
10. Since the services are specialized and the contractor shall responsible in deploying the, skilled/duly trained/qualified employees who can maintain comprehensively & operation the A.C. plants.
11. The Engineer of the agency shall visit each A.C plant periodically and submit status report of satisfactory working of the system as & when desired by Engineer-in-charge.
12. Any breakdown of minor nature shall have to be attended within 24 hours and major breakdown i.e repairing/overhauling of compressor, pumps and rewinding of motor major repair of pipe lines within 10 days except York compressor otherwise a penalty of Rs. 2000/- per day shall be imposed on the contractor for major and Rs. 500/- per day for minor repairs and recovery will be made from the contractor bill subject to maximum for 10 days and work shall be carried out at the risk and cost of the contractor. The maximum time allowed is 30 days for over hauling of York compressor otherwise a penalty of Rs. 5000/- per days shall be imposed will be made from the contractor bill subject to maximum for 30 days and work shall be done by the department at the risk and cost of the contractor.

13. Records to be maintained.

- I. Maintenance Register
- II. Individual Job card of each equipment
- III. Any other Registers as directed by engineer in charge

14. Keeping of records:

The following checks and compliance are required to be carried out by the contractor within quoted rates.

**A. WEEKLY CHECK:**

- a) Check all the pumps, motors, cooling towers, chillers, and electrical panels are in working conditioning, if not so repair them and put into service in the minimum time.
- b) Check the pressure in Refrigeration circuit and water circuit.
- c) Check the oil level in the compressors.
- d) Check the water level in the cooling tower and makeup water tank.
- e) Checking of cooling tower strainers.
- f) Checking of all the controls.
- g) Cleaning of dust from equipment and plant room.
- h) Check for any abnormal noise in the system.
- i) Check the water distribution system of chilled water and cooling towers.
- j) Cleanliness of the cooling tower.
- k) Cleanliness the strainers.
- l) Checking of all electrical connections.

**B. MONTHLY CHECK:**

- a) Lubrication of all the bearings.
- b) Cleaning of all the electrical contracts.
- c) Check and adjust all the controls.
- d) Check and repair all the pump seal.
- e) Check and tighten the C.T. fan nut-bolts.
- f) Check all electrical connections/ground connections.

**C. QUARTERLY CHECK:**

- a) Checking of bearing and rectification.
- b) Checking of chilled/condenser water if required.
- c) Tightening of foundation bolts of entire equipment.

**D. IN WINTER SEASON AS PER SITE REQUIREMENT:**

- a) Checking and replacement of compressor oil and filter driers.
- b) Cleaning and lubricating of all motors and pumps.
- c) De-scaling of entire water line valves.
- d) Checking of entire electrical panels, carrying out servicing for Air circuit breakers and fault rectifications.
- e) Checking and repairing of chillers and associated controls.
- f) Carrying put cleaning of cooling tower fins and replacing the same if required.
- g) Leak test of refrigerant and rectification.
- h) De-scaling of condenser/chillers if required.

## **SCOPE OF WORK (LOW SIDE) MEANT OF ACDEMIC BLOCKS, CONVENTION CENTRE**

1. The checking/replacement of starters, contractors or any other type of electrical spare pertains to A.C. system.
2. To check and replace/repair the control devices like modulating motor, thermostats, humidistats and solenoid-switches, pre filter etc.
3. The material like kerosene oil, dhoti, grease, mobil oil, nut-bolts, washer, and vibration pads shall be within the quoted rates.
4. The job includes routine check up of equipment and attending to its preventive as well as break down maintenance.
5. Checking of bearings, bushes, 'V' belts, shaft, and blower their rectification/replacement etc.
6. Checking and rectification of electrical panel, and faultfinding.
7. To check and replace/repair the safety devices like fire damper and all safety measures.
8. To check and replacement of strip heaters of required capacity in the plenum of AHU's i/c their controls, safety devices for satisfactory operation during winter for heating purpose.
9. The contractor shall not be allowed to change the specification of repaired/replaced material during the course of maintenance with out the approval of Engineer in charge.
10. Checking/replacement of water pressure Gauges, Thermometers and any other control devices.
11. Checking/replacement of shaft & blower, rewinding of motors, replacement of bearings, bushes shall be inclusive in the comprehensive maintenance.
12. Any major breakdown shall be attended with in 5 days like replacement of shaft and blower, rewinding of motors, replacement of main panel switches etc. otherwise penalty of Rs. 1000/- per/day subject to maximum of Rs.5000/- for five days shall be deducted from the contractor bill and work shall be carried out at the risk and cost of the contractor.
13. Rest of the minor work shall have to attend with in on same day otherwise the penalty of Rs. 500/- per/day shall be deducted from the contractor bill subject to maximum Rs.2000/- and work shall be carried out at the risk and cost of the contractor.
14. The replacement of spare parts like Contractors, Overload Relay, Switches, Cabling, Fuses, Thimbles, Bearings, 'V' belts, shaft, blower, nut-bolts, washers, and any other kind of safety devices, control devices, monitoring devices etc. during the contact period shall have to arranged with in quoted rates by the agency and material should be genuine as exist at site.
15. After the contract is over, the installation shall be jointly inspected and if any shortcomings or defaults pointed out shall have to be attended by the firm before handing over the installation other wise work shall be carried out at the risk and cost of the contractor.
16. The drain line of all AHU's shall be flushed as and when required to avoid the water seepage/choking in the existing system.
17. The following records to be maintained by the contractor with providing necessary T&P with in quoted rates.



- a) Maintenance/Service Register.
  - b) Complaint Register.
  - c) Any other register desired by the Engineer-in-charge.
18. The contractor shall be responsible for the functioning of all the equipments as per the site requirement to maintain the required temperature conditions.
  19. The coil cleaning shall be carried out yearly with Poly treat/C-shine make chemical or as and when required to maintain the inside temperature with required T&P.
  20. The cleaning of Grills/Diffusers/Dampers is inclusive in the scope of work.
  21. The replacement AHU pre-Air filters shall be carried out departmentally as per the instruction of Engineer-in-charge and contractor has to intimate to the department 30 days before to procure the filters.
  22. The contractor shall be responsible to maintain the desired inside temperature conditions.
  23. All chilled water lines shall be painted with approved colour synthetic enamel paint/snochem yearly or as and when required as per the site requirement without any extra charges.
  24. The agency shall responsible for air-distribution system if any required for proper air circulation in the rooms/areas.
  25. The material like kerosene oil, dhonis and log books should be arranged by the firm within the quoted rates.
  26. Cleaning of laminar flow diffusers, grills, diffusers, equipments, AHU Plant rooms are also included in the scope of work on weekly basis/as and when required or as directed by the Engineer-in-charge.
  27. The contractor shall record 4 hours readings of various parameters of the Equipments in the logbook.

## **ROUTINE WORK**

### **1. Weekly check & compliance:**

- a) Check the low side equipments, accessories and required parameters.
- b) Check the control device, safety device etc.
- c) Check any abnormal noise in the system.
- d) Cleaning of the dust from the equipment and AHU room.
- e) Cleanliness of entire washable filters, strainer, valves, etc.
- f) Check the 'V' belt tension, bearings, blowers etc.
- g) Check the electric control panel, power switches, and accessories.

### **2. Monthly check & compliance:**

- a) Lubrication of all the bearings.
- b) Clean and tighten all electrical contacts.
- c) Check and adjust all safety and control devices.

### **3. Quarterly check & compliance:**

- a) Checking of 'V' belts/bearings and rectification.
- b) Chemical washing of cooling coils if required at site.
- c) Cleaning and lubrication entire electric control panel.
- d) Checking of servicing entire electric control panel.

### **4. Annually check & compliance:**

- a) Check and clean the all-cooling coils.
- b) De-scaling of valves strainers etc. as required.

Name of Work:- Operation and Comprehensive Maintenance of Air-Conditioning plants meant for Academic blocks, Convention Centre at IGNOU Campus, Maidan Garhi New Delhi.

**The following works are excluded from the scope of work as per schedule of item no. 1 to 5:-**

1. Replacement/modification to water piping, sheet metal ducting, grills/diffusers masonry work, and carpenter work with reference to existing air conditioning system.
2. Replacement/modification of electrical cabling, electrical switch boards/panels.
3. Repair/replacement of insulation, false ceiling works.
4. Replacement of any chilled/condensate M.S. pipes as a whole i/c AHU filters.  
(Minor leakages has be rectified by the agency with in the quoted rates)
5. Replacement of any major equipment such as compressor, condenser, chillers, pumps, motor, cooling tower, AHU's as a whole, However, minor repair are to be carried out by the contractor within the quoted rates.

## **SCOPE OF WORK (HIGH SIDE)**

### **(AIR- COOLED SCREW CHILLER PLANTS MEANT FOR V.C. OFFICE)**

1. All in Comprehensive maintenance of 2 x 102 TR capacity Air-Chilling machine as per the requirement and to obtain the desired water flow rate and chilled water temperature.
2. Checking/replacement of starters, contractors or any other type of electrical spares, checking and cleaning of all related electrical panels pertaining to HVAC, expansion tank, y-strainers.
3. Checking/cleaning/replacement of all part/components found defective.
4. The A/C plant will be operational as in the schedule times and the services should be operational Sundays and Holidays or as required and the services should be available accordingly as mentioned in overtime schedule.
5. The material like k-oil, dhoti etc. and lubricated items like grease, mobile oil, gland dori, mechanical seal etc. for pumps will be provided by the contractor within quoted rates.
6. The jobs I/c routine checkup of equipment and attending to its preventive as well as breakdown maintenance.
7. Procurement of Refrigerant and Spares of any kind shall be the responsibility of the contractor and no T & P shall be issued by the IGNOU.
8. Painting (spray/brush) of all equipments, pipes, installed for the A.C. plant complete as required as per the direction of Engineer-in-charge by using ISI mark synthetic enamel paint yearly or as and when directed by engineer in charge.
9. Plant will be handed over to the contractor in running condition at the time of start of the contract and the same should be handed over in good & running condition to the department after the expiry of the contract.
10. Since the services are specialized and the contractor shall responsible in deploying the, skilled/duly trained/qualified employees who can maintain comprehensively & operation of the A.C. plant.
11. The Engineer of the agency shall visit the A.C plant periodically and submit status report of satisfactory working of the system as & when desired by Engineer-in-charge.
12. Any breakdown of minor nature shall have to be attended within 24 hours and major breakdown i.e repairing/overhauling of compressor, pumps and rewinding of motor major repair to pipe lines within 10 days otherwise a penalty of Rs. 2000/- per day shall be imposed on the contractor for major and Rs. 500/- per day for minor repairs and recovery will be made from the contractor bill subject to maximum for 10 days and work shall be carried out at the risk and cost of the contractor. The maximum time allowed for overhauling the screw is 15 days otherwise a penalty of Rs. 5000/- pending shall be carried out at the risk and cost of the contractor.

13. Records to be maintained.

- I. Maintenance Register
- II. Individual Job card of each equipment
- III. Any other Registers as directed by engineer in charge

14. Keeping of records:

The following checks and compliance are required to be carried out by the contractor within quoted rates.

**A. WEEKLY CHECK:**

- a) Check all the pumps, motors, chillers, and electrical panels are in working conditioning, if not so repair them and put into service in the minimum time.
- b) Check the pressure in Refrigeration circuit and water circuit.
- c) Check the oil level in the compressors.
- d) Check the water level in the makeup water tank.
- e) Checking of all the controls.
- f) Cleaning of dust from equipment and plant room.
- g) Check for any abnormal noise in the system.
- h) Check the water distribution system of chilled water.
- i) Cleanliness the strainers.
- j) Checking of all electrical connections.

**B. MONTHLY CHECK:**

- a) Lubrication of all the bearings.
- b) Cleaning of all the electrical contracts.
- c) Check and adjust all the controls.
- d) Check and repair all the pump seal.
- e) Check all electrical connections/ground connections.

**C. QUARTERLY CHECK:**

- a) Checking of bearing and rectification.
- b) Checking of chilled water if required.
- c) Tightening of foundation bolts of entire equipment.

**D. IN WINTER SEASON:**

- a) Checking and replacement of compressor oil and filter driers.
- b) Cleaning and lubricating of all motors and pumps.
- c) De-scaling of entire water line valves.
- d) Checking of entire electrical panels, carrying out servicing and fault rectifications by repair/replacement of defective parts..
- e) Checking and repairing of chillers and associated controls.
- f) Leak test of refrigerant and rectification.
- g) De-scaling of chillers if required.

## **SCOPE OF WORK (LOW SIDE) MEANT OF V.C. OFFICE**

1. The checking/replacement of starters, contractors or any other type of electrical spare pertains to A.C. system.
2. To check and replace/repair the control devices like modulating motor, thermostats, humidistats and solenoid-switches, pre filter etc.
3. The material like kerosene oil, dhoti, grease, mobil oil, nut-bolts, washer, and vibration pads shall be within the quoted rates.
4. The job includes routine check up of equipment and attending to its preventive as well as break down maintenance.
5. Checking of bearings, bushes, 'V' belts, shaft, and blower their rectification/replacement etc.
6. Checking and rectification of electrical panel, and faultfinding.
7. To check and replace/repair the safety devices like fire damper and all safety measures.
8. To check and replacement of strip heaters of required capacity in the plenum of AHU's i/c their controls, safety devices for satisfactory operation during winter for heating purpose.
9. The contractor shall not be allowed to change the specification of repaired/replaced material during the course of maintenance with out the approval of Engineer in charge.
10. Checking/replacement of water pressure Gauges, Thermometers and any other control devices.
11. Checking/replacement of shaft & blower, rewinding of motors, replacement of bearings, bushes shall be inclusive in the comprehensive maintenance.
12. Any major breakdown shall be attended with in 5 days like replacement of shaft and blower, rewinding of motors, replacement of main panel switches etc. otherwise penalty of Rs. 1000/- per/day subject to maximum of Rs.5000/- for five days shall be deducted from the contractor bill and work shall be carried out at the risk and cost of the contractor.
13. Rest of the minor work shall have to attend with in 6 hours otherwise the penalty of Rs. 500/- per/day shall be deducted from the contractor bill subject to maximum Rs.2000/- and work shall be carried out at the risk and cost of the contractor.
14. The replacement of spare parts like Contractors, Overload Relay, Switches, Cabling, Fuses, Thimbles, Bearings, 'V' belts, shaft, blower, nut-bolts, washers, and any other kind of safety devices, control devices, monitoring devices etc. during the contact period shall have to arranged with in quoted rates by the agency and material should be genuine as exist at site.
15. After the contract is over, the installation shall be jointly inspected and if any shortcomings or defaults pointed out shall have to be attended by the firm before handing over the installation other wise work shall be carried out at the risk and cost of the contractor.
16. The drain line of all AHU's shall be flushed as and when required to avoid the water seepage/choking as in the existing system.
17. The following records to be maintained by the contractor with providing necessary T&P with in quoted rates.
  - a) Maintenance/Service Register.
  - b) Complaint Register.
  - c) Any other register desired by the Engineer-in-charge.
18. The contractor shall be responsible for the functioning of all the equipments as per the site requirement to maintain the required temperature conditions.
19. The coil cleaning shall be carried out yearly with Poly treat/C-shine make chemical or as and when required to maintain the inside temperature with high pressure pump.
20. The cleaning of Grills/Diffusers/Dampers is inclusive in the scope of work.
21. The replacement AHU pre-Air filters shall be carried out departmentally as per the instruction of Engineer-in-charge and contractor has to intimate to the department 30 days before to procure the filters.
22. The contractor shall be responsible to maintain the desired inside temperature conditions.

23. All chilled water lines shall be painted with approved colour synthetic enamel paint/snochem with two or more coat yearly or as and when required as per the site requirement without any extra charges.
24. The agency shall responsible for air-distribution system if any required for proper air circulation in the rooms/areas.
25. The material like kerosene oil, dhotis and log books should be arranged by the firm within the quoted rates.
26. Cleaning of laminar flow diffusers, grills, diffusers, equipments, AHU Plant rooms are also included in the scope of work on weekly basis/as and when required or as directed by the Engineer-in-charge.
27. The contractor shall record 4 hours readings of various parameters of the Equipments in the logbook.[]

## **ROUTINE WORK**

### **1. Weekly check & compliance:**

- a) Check the low side equipments, accessories and required parameters.
- b) Check the control device, safety device etc.
- c) Check any abnormal noise in the system.
- d) Cleaning of the dust from the equipment and AHU room.
- e) Cleanliness of entire washable filters, strainer, valves, etc.
- f) Check the 'V' belt tension, bearings, blowers etc.
- g) Check the electric control panel, power switches, and accessories.

### **2. Monthly check & compliance:**

- a) Lubrication of all the bearings.
- b) Clean and tighten all electrical contacts.
- c) Check and adjust all safety and control devices.

### **3. Quarterly check & compliance:**

- a) Checking of 'V' belts/bearings and rectification.
- b) Chemical washing of cooling coils if required at site.
- c) Cleaning and lubrication entire electric control panel.
- d) Checking of servicing entire electric control panel.

### **4. Annually check & compliance:**

- a) Check and clean the all-cooling coils.
- b) De-scaling of valves strainers etc. as required.

Name of Work:- Operation and Comprehensive Maintenance of Air-Conditioning plants meant for V.C office at IGNOU Campus, Maidan Garhi New Delhi.

**The following works are excluded from the scope of work as per schedule of item no. 1 to 3:-**

1. Replacement/modification to water piping, sheet metal ducting, grills/diffusers masonry work, and carpenter work with reference to existing air conditioning system.
2. Replacement/modification of electrical cabling, electrical switch boards/panels.
3. Repair/replacement of insulation, false ceiling works.
4. Replacement of any chilled/condensate M.S. pipes as a whole i/c AHU filters.  
(Minor leakages has be rectified by the agency with in the quoted rates)
5. Replacement of any major equipment such as compressor, condenser, chillers, pumps, motor, AHU's as a whole, However, minor repair are to be carried out by the contractor within the quoted rates.

**Name of work:- Operation and Comprehensive Maintenance of Air-Conditioning plants meant for Academic Blocks, Convention Centre and V.C. office at IGNOU Campus, Maidan Garhi, New Delhi.**

**SPECIAL TERMS & CONDITIONS**

1. The work shall be carried out as per CPWD specifications for electrical & Air conditioning works amended up to date and conforming to statutory Act, Rules, Regulations Standards and safety Rules etc.
2. The agency is advised to visit the site of work to acquaint them with the type and details of work.
3. The plant high & low side should be maintained in perfect and running condition to the entire satisfaction of the Engineer-In-Charge.
4. No claim on account of wastage of labour etc. shall be entertained on this or any other account.
5. The contractor will generally act as per the instruction and directions of the Engineer-in-charge however may be accepted the instructions from the representative of Engineer-in-Charge for carrying out the work.
6. The contractor shall not be allowed to change the specifications of repair/replaced components during the course of maintenance without approval of competent authority.
7. The contractor shall make good any damages caused to the IGNOU property during the course of execution of the work within the quoted rates.
8. The contractor will get the site cleared after the completion work in all respect after joint inspection and handover the entire system in perfect working condition to the department failing which penalty @10000/- p/day shall be imposed maximum for a period 05 days and after that, the university will take over the system on as is where is basis and will rectify the defects & discrepancies at the risk & cost of the contractor.
9. Before the commencement of the work, the contractor shall have sign the inventory of all the equipments and accessories being acceptable of physical existence and normal working of the same and all the new Components/control/accessories to be provided during the course of maintenance shall be the responsibility of the contractor within the quoted rates.
10. The contractor will be responsible for the safety of his staff during the performance of their duty at site.
11. IGNOU will have the liberty to discontinue the contract any time if the performance is found unsatisfactory in opinion of the Engineer-in-charge or without assigning any reason.
12. The contractor will display the Telephone/mobile numbers and mail ID which shall be contacted in the event of emergency.
13. Free Electricity and water will be provided by IGNOU for bonafide use to carry out the work.
14. Comprehensive maintenance will cover the functioning of all the equipment to maintaining the required temperature year round, all type of break down and routine service of the A.C. plant and accessories as required at site.
15. All the material i/c imported material to be arranged by the contractor, no custom duty exemption certificate will be provided for the import of any material by the department. Contractor has to get the same within the quoted rates.
16. Replacement of equipment/components is to be done with the same make as installed or equipment with the prior approval of Engineer-in-charge. No other makes will be accepted. The repair/replacement of parts of the chillers shall be processed by the agency from the respective manufacturers only. Necessary proof towards purchase shall be submit by the agency before its repair/replacement.
17. The contractor has to depute manpower at site during the period of contract as in item no.4 to 9 of the schedule.
  - a. A.C. plant Operator
  - b. Khallasi/Helper



18. Following recoveries shall be made due to non deployment of staff at site from the contractor.
  - a. A.C. plant Operator -Rs. 700/- per day
  - b. Khallasi/Helper -Rs. 500/- per day
19. The rates quoted by the agency shall be inclusive of all taxes & duties. Service tax component is not payable to the contractor. ESI & EPF will reimburse subject to submit proof of paid challan to the department with respect to cited subject work & detail staff engaged.
20. The rates should be i/c of all the freight transportation, insurance, supervision charges etc.
21. No Sub-standard work will be accepted in any case and no payment will be made for the sub standard work.
22. The watch and ward of installation and accessories shall be the responsibility of the contractor till these are handed over back to the department.
23. No execution under clause 10c and 10cc shall be payable.
24. No advance payment shall be made.
25. The quantities shown in the schedule are tentative subject to variation. However, the payment shall be made accordingly to the actual work done at site.
26. In case of any dis-obedience by the staff of the contractor with the authorities/ Engineer-in-charge/his authorized representatives or to the users then the contractor shall be fully responsible for such consequence and the staff shall be removed from the site immediately.
27. The agency has to furnish the detail qualifications & experiences for the skilled & unskilled staff to be deployed within 10days of start of work. The decision of Engineer-in-charge shall be final in respect to the deploy of the staff.
28. The contractor has to submit quarterly healthy status/functionary reports of the chillers from the respective manufacturers. All the preventive/periodical maintenances, major/minor break downs if in the chillers occur during the contract period then the same has to attended through the respective manufacturers only. The necessary documents along with proof of different items/spares, repair/replacement as & when done from the manufacturers has also submit to the department by the contractor/agency.

**(U.P.SHARMA)**  
**Executive Engineer (E)**

## SCHEDULE OF QUANTITY

**Estimated Cost: 60,90,740/-**

**Earnest Money Deposit: 1,21,815/- (Demand Draft/Pay order only in favour of IGNOU)**

**Time Allowed: One Year**

**Issued to:-**

**Date of opening:-**

**Name of Work: Operation and Comprehensive Maintenance of Air-Conditioning plants meant for Academic blocks and Convention Centre, V.C. office at IGNOU Campus, Maidan Garhi.**

S.no	Description	Qty	Unit	Rate	Amount
1.	Comprehensive maintenance i/c repair and replacement of un-serviceable parts and routine preventive maintenance of central air-conditioning system of (4x300TR) centrifugal and Screw Chillers of York make i/c other associated equipments meant for Academic blocks both high and low side as per equipment details in Annexure 'A' i/c scope of work and terms and conditions.	12 months	Per Month		
2.	Comprehensive maintenance i/c repair and replacement of un-serviceable parts and routine preventive maintenance of central air-conditioning system of (2x100TR) reciprocating chillers, Blue Star make i/c other associated equipments for Convention Centre both high and low side as per equipment details in Annexure 'A' i/c scope of work and terms & conditions.	12 months	Per Month		
3.	Comprehensive maintenance i/c repair and replacement of un-serviceable parts and routine preventive maintenance of central air-conditioning system of (2x102TR) air cooled with Screw Chillers Blue star make i/c other associated equipments for V.C. office both high and low side as per equipment details in Annexure 'A' i/c scope of work and terms and conditions.	12 months	Per Month		
4.	Operation of central Air-conditioning plant equipment High & low side meant for academic blocks from 9 am to 6pm in all days except Sundays and National Holidays in a year by deputing following staff (i) A.C. plant Operators -04 Nos. (ii) Helpers -02 Nos.	12 months	Per Month		

5.	Operation of central Air-conditioning plant equipment High & low side meant for Convention Centre water cooled Blue Star make from 9am to 6pm in all days except Sundays and National Holidays in a year by deputing following staff:- (i) A.C. plant operator -01 No. (ii) Helper -01 No.	12 months	Per Month		
6.	Operation of Air cooled central Air-conditioning plant equipment High & low side meant for V.C. office from 9am to 6pm in all days except Sundays and National Holidays in a year by deputing following staff:- (i) A.C. plant operator -01 No. (i) Helper -01 No.	12 Months	Per Month		
7.	Extra hours of the operation of central Air-conditioning system for Academic blocks as in item No.-04 on holidays/beyond working hours by deputing following staff:- . (i) A.C. plant operators -02Nos. (ii) Helpers -02Nos.	200 hrs.	Per Hour		
8.	Extra hours of the operation of central Air-conditioning system for Convention Center as in item No.-05 on holidays/beyond working hours by deputing following staff:- . (i) A.C. plant operator -01 No. (ii) Helper -01 No.	200 hrs.	Per Hour		
9.	Extra hours of the operation of central Air-conditioning system for V.C. office as in item No.-06 on holidays/beyond working hours by deputing following staff:- . (i) A.C. plant operator -01 No.	400 hrs.	Per Hour		

**(U.P.SHARMA)**

**Executive Engineer (E)**