

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

TENDER DOCUMENT

VOLUME – I

TECHNICAL BID

NAME OF WORK:

**SUPPLY, INSTALLATION AND COMMISSIONING OF
THIRTEEN PASSENGER LIFT INCLUDING CIVIL WORK AT
ADMINISTRATIVE BLOCK.**

**SUPPLY AND INSTALLATION OF THIRTEEN PASSENGER LIFT
INCLUDING CIVIL WORK AT ADMINISTRATIVE BLOCK.**

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SECTION – 1**LETTER SUBMITTING TENDER**

The Director
Malaviya National Institute of Technology,
Jaipur,

**Reg. Supply and installation of thirteen passenger lifts and civil works at
Administrative Block at M.N.I.T Jaipur :-.**

With reference to the tender invited by you for the proposed work.

I/We do hereby offer to execute the work under contract at the respective rates mentioned in the schedule of quantities. I/We have seen the site, understood the general conditions of contract, special conditions, additional conditions.

I/We agree to execute the work as per specifications, general conditions of contract, special conditions, additional conditions, schedule of quantities etc.

I/We have deposited Earnest Money Rs. 55,484/- (Rupees Fifty five thousand Four hundred Eighty Four only) by demand draft/ irrevocable MNIT guarantee of scheduled MNIT .The said amount if in form of draft is not to bear any interest. I/we do hereby agree that this sum shall be forfeited by you in the event our tender is accepted and if I/We fail to execute contract when called upon to do so.

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

Yours Faithfully,

(CONTRACTOR)
Seal with date

Tender submitted on.....before.....P.M.

SECTION – 2

ARTICLES OF AGREEMENT

This agreement is made onday of2009 between Malaviya National Institute of Technology, Jaipur, (herein referred to as MNIT which expression shall include its heirs,executors,administrators and assign) of the one part and.....(herein referred to as the successful contractors and assigns) of the other part.

WHEREAS MNIT is Desirous of carrying out of **Supply and installation of thirteen passenger lifts and civil works at Administrative Block at M.N.I.T, Jaipur.**

Describe the work to be done as per schedule of quantities along with general conditions of contract, special conditions, additional conditions etc. and whereas the contractor has agreed to execute the work described in said priced schedule of quantities, general conditions of contract, special conditions, additional conditions, drawings at the respective rates mentioned in the priced schedule of quantities attached.

WHEREAS the contractor has deposited Rs....., with the MNIT in form performance Gurantee of scheduled MNIT for due performance of the agreement.

The following documents shall be deemed to form and read constructed as part of this agreement.

- 1.
- 2.
- 3.

NOW IT IS HEREBY AGREED AS FOLLOWS:-

1. In consideration of the payment to be made to the contractor as herein provided he shall upon and subject to the said conditions and priced schedule of quantities.
2. The MNIT shall pay the contractor such sums as shall become payable hereunder at the times and in manner specified in the conditions.
3. The said conditions shall be read and form part of the agreement and the parties hereto will respectively abide by and submit themselves to the conditions and stipulations and perform the agreement on their parts respectively on such conditions contained.
4. All dispute arising out of in any way connected with this agreement shall be deemed to have arisen in Jaipur and only the Court/Arbitrator in Jaipur shall have jurisdiction to determine the same
5. All parts of this contract have been read by us and fully understood by us.

(MNIT)

(CONTRACTOR)

WITNESSES:

SECTION – 3
COMMERCIAL AND ADDITIONAL CONDITIONS

1) GENERAL

This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation of Lifts & Escalators **or companies can also quote for gearless lift if available as per their specifications confirming to main interior specifications listed below .**

2) LOCATION

The lifts/ Escalators will be installed at Administrative block at Malaviya National Institute of Technology, Jaipur, Rajasthan.

The work shall be executed as per CPWD General Specifications for Electrical Works (Part III Lifts & Escalators – 2003) as per relevant IS and as per directions of MNIT's Architect . These additional specifications are to be read in conjunction with above and in case of variations; specifications given in this Additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work.

The tenderer should in his own interest visit the site and familiarize himself with the site conditions before tendering.

3) COMMERCIAL CONDITIONS

A) TYPE OF CONTRACT

The work to be awarded by this tender shall be treated as indivisible works contract.

It will be the responsibility of the tenderer to complete the work and all the formalities, also to get the lifts inspected from the Government of Rajasthan and provide necessary license for commissioning from relevant Govt authorities and running of lifts .

B) SUBMISSION AND OPENING OF TENDERS:

The tender is to be submitted in two parts:

- (a) **Part I** – Technical Bid including EMD of Rs 55,484.00 in form of draft of scheduled bank MNIT would not pay any interest for EMD submitted. The contractor should furnish following documents with Part-I of tender document:

- Experience certificate of satisfactory completion of similar type of work including civil work minimum costing of single job of Rs. 27 lacs.
- Copy of PAN card
- Valid VAT registration certificate.
- Authorization certificate of escalators /lift company
- Type of firm, limited company/ partnership/ individual firm

(b) **Part II – Price Bid.**

The tenderers are advised not to deviate from the technical specifications/ items, provided they quote for gearless lifts as per their specifications , commercial terms and conditions of NIT like terms of payment, guarantee, arbitration clause, escalation etc.

The technical bid would include EMD, Complete technical particulars of all equipment & materials as per BOQ and specifications mentioned, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the offer. The firms are advised to enclose self attested copies of all relevant documents along with valid Works contract tax registration with sales tax department .

The technical bid only, shall be opened first on the due date and time, as specified in the presence of tenderers authorized representatives who wish to remain present.

Scrutiny/evaluation of the Technical bid shall be done by MNIT. In case it is found that the technical bid of a tenderer is not in line with NIT specifications, requirements and/or contains many deviations, the MNIT reserves the right to reject the technical bid of such firms (s) without making any reference to the tenderer (s).

Necessary clarifications required by MNIT shall have to be furnished by the tenderer within the time given by the MNIT for the same. The tenderer will have to depute his representative to discuss with the Engineer-in-charge of the MNIT as and when so desired. In case, in the opinion of the Engineer-in-charge a tenderer is taking undue long time in furnishing the desired clarification(s) , his bid will be rejected without making any reference.

After obtaining clarifications from all the tenderers, the Engineer-in-charge may modify the technical conditions / specifications if required, and will intimate the tenderers whose technical bids are acceptable. The part – II of the tender, i.e., Price Bid will be opened of short listed/technically qualified firms. The date and time of opening of Price-Bid will be intimated in advance to the short listed/technically qualified firms .

The part II of the tender, i.e., Price Bid will be opened by the authorized persons of the MNIT in the presence of the representatives of the tenderers who wish to be present.

The firms shall be required to submit the price bid in a sealed envelope marked “Price Bid” on top of the envelope with the name of the work

The tenderers will have to fill up their rates only in the price bid (part II of tender) Tenders in which the price bids are given in any other format are liable to be rejected.

In the price bid, there shall be no conditions whatsoever. In case any tenderer mentions any condition including conditional rebates in their price part, tender shall be rejected forthwith.

A tenderer will also not be allowed to withdraw or modify any condition at a time after the technical bids have been accepted and the decision to open the price bid has been taken by the department.

The MNIT reserves the right to reject any or all the price bids and call for fresh prices/ tenders as the case may be without assigning any reason.

4) ACCEPTANCE OF TENDER:

On receipt of information from MNIT on the acceptance of his tender, the tenderer within 7 days should submit his acceptance of the work order. If the successful tenderer fails to undertake the work, the earnest money deposited by him will be forfeited and acceptance of his tender may be withdrawn.

5) TERMS OF PAYMENT:

20% to be released on completion of civil work,(leaving architraves) including demolition

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein.

60% after initial inspection and delivery at site in good condition on pro-rata basis in two installments only.

10% after completion of installation of lift in the lift shaft /pit.

Balance 10% will be paid after testing, commissioning trial run & handing over to the department for use including certificate/ license from concerned Govt Department /Lift inspector i.e on virtual completion.

Security Deposit: Security Deposit shall be deducted from each running bill and final bill to the extent of 5% of the gross amount payable subject to maximum limit of 5% of the tendered value of work.. The security deposit shall be released on the expiry of guarantee period (one year from date of Commissioning and operational of Lifts stipulated in the contract on prorata basis)

6) RATES:

The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract taxes), duties and levies and all charges for packing forwarding, insurance, freight and delivery, octroi, installation, testing, commissioning etc. at site including temporary constructional storage, risks, over head charges general liabilities/obligations and clearance from local authorities.

The contractor has to carry out routine & preventive maintenance for 12 months from the date of handing over. Nothing extra shall be paid.

7) COMPLETENESS OF TENDER:

All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespectively of the fact whether such items are specifically mentioned in the tender documents or not.

For item/equipment requiring initial inspection at manufacturer's works' the contractor will intimate the date of testing of equipments at the manufacturer's work's before

dispatch. MNIT also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make the arrangement for the same. The successful tenderer shall give sufficient advance notice regarding the dates proposed for such tests/inspection to the MNIT's representative(s) to facilities his presence during testing/fabrication. The MNIT's Architect at his discretion may witness such testing/fabrication. The cost of the electrical consultant's visit if needed to the factory will be borne by the lift manufacturer/executing agency. Also equipment may be inspected at the Manufacturer's premises, before dispatch to the site by the contractor.

8) STORAGE AND CUSTODY OF MATERIALS:

The lift machine room may be used for storage of sundry materials and erection equipments if available or else the agency has to make his own arrangement. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the MNIT.

9) CARE OF THE BUILDING:

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

10) COMPLETION OF PERIOD

The completion period is six months indicated in the tender documents is for the entire work of planning, designing, supplying, installation, testing, commissioning and handing over of the entire system to the satisfaction of the engineer in charge of MNIT .

11) PERFORMANCE GUARANTEE:

The tender shall guarantee among other things, the following

- (a) Quality, strength and performance of the materials used.
- (b) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- (c) Satisfactory operation during the maintenance period.

The successful tenderer shall submit an irrevocable performance guarantee of any Schedule bank in standard format of 5% of the tendered amount for his proper performance of the contract agreement within 15 days of issue of letter of intent, shall be initially valid up to the stipulated date of completion plus 60 days beyond. This guarantee will kept valid till the recording of completion certificate for the work by the competent authority. The EMD of Rs 55,484.00 would be returned to the contractor after agreement have been signed by the MNIT .

12) GUARANTEE

All equipments shall be guaranteed for a period of 12 months from the date of taking over the installation by the department against unsatisfactory performance and/or break down due to defective design, workmanship of material. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the MNIT /MNIT's Architect in this regard shall be final.

13) LIQUIDATED DAMAGES

The successful tenderer is bound to carry out entire work within the period stipulated in the Appendix. The tenderer will have to pay liquidated damages for non-completion of job within stipulated period at the rate of Rs.2000/- per day after expiry of period of completion subject to maximum of 10% of the contract value.

The liquidated damages as mentioned above may not be enforced if the contractor applies for extension of time mentioning the reasons for extensions. Extensions of time in days will be granted by the MNIT if it is proved that contractor is not at fault for extending the work beyond stipulated date of completion.

14) POWER SUPPLY

The Contractor will make self arrangement for three phase electric connection on metering basis with consultation with Assistant Engineer (Electrical) of MNIT. The charges of actual electric consumption charges as per prevailing rates of JVVNL Jaipur will be deposited by the contractor on monthly basis.

15) WATER SUPPLY

The contractor will make his own arrangement for Water supply required for construction and other purpose for this work.

16) DATA MANUAL AND DRAWINGS TO BE FURNISHED BY THE TENDERERS:

a) **With Tender:** The tenderer shall furnish along with the tender, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the offer.

b) AFTER AWARD OF WORK

The successful tenderer would be required to submit the following drawings within fifteen days of award of work for approval before commencement of installation.

- (a) All general arrangement drawings.
- (b) Details of foundations for the equipment, load data, location etc. of various assembled equipment as may be needed generally by other agencies for purpose of their work. The data will include breaking load on guides, reaction of buffers on lift pits reaction on support points in machine room, lift well etc.
- (c) Complete layout dimensions for every unit/group of units with dimensions required for erection purposes.
- (d) Any other drawing/information not specifically mentioned above but deemed to be necessary for the job by the contractor. The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installations, adjustments operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue and workshop procedure for repairs, assembly and adjustment etc. all in triplicate.

17) EXTENT OF WORK

The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract.

Minor building works necessary for installation of equipment, foundation, making of opening in walls or in floors and restoring to their original condition, finish and necessary grouting etc. as required.

Maintenance (Routine & preventive) for one year from date of completion and handing over.

The work is turn key project. Any item required for completion of the project but left inadvertently shall be executed with-in the quoted rates.

18) INSPECTION AND TESTING:

Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Architect engaged by the MNIT and consignee.

After completion of the work in all respect the contractor shall offer the installation for testing and operation.

19) VALIDITY

Tenders shall be valid for acceptance for a period of 90 days from the date of opening of technical bid.

20) COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS

All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standard related to the works covered by these specifications. In particular, the equipment and installation will comply with the following:

- i. Factories Act.
- ii. Indian Electricity Rules.
- iii. I.S. & BS Standards as applicable.
- iv. Workmen's compensation Act
- v. Statutory norms prescribed by local bodies like CEA, DDA, M.C.D etc.

Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs. 5000/- for each default or as per rule of law . In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

The contractor will take necessary precautions for carrying out the work avoiding any damage to structures/decorative parts of the property. The contractor will rectify any damages done at his cost.

21) RIGHTS OF MNIT TO TERMINATE OR ALTER

MNIT has a right to alter the nature of work and to add or omit any item of work or to have the opinion of the same carried out departmentally or otherwise and such alternation of variations shall be carried out without prejudice to this contract

MNIT has right to terminate the contract, if the contractor abandons the work or fails to commence and complete the work in time or fails to abide by the contract conditions.

22) INDEMNITY

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period

of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.

23) ERECTION TOOLS

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the MNIT. The successful tenderer shall make his own arrangement for all these facilities.

24) COOPERATION WITH OTHER AGENCIES

The successful tenderer shall co-ordinate with other contracts and agencies engaged in the construction of building, if any, and exchange freely all technical information so as to make the execution of this works contract smooth. No remuneration should be claimed from the MNIT for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.

25) MOBILIZATION ADVANCE

No mobilization advance shall be paid for this work.

26) INSURANCE AND STORAGE

All consignments are to be duly insured upto the destination from warehouse to warehouse at the cost of the supplier. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned

27) RIGHTS OF TECHNICAL SCRUTINY BY CHIEF TECHNICAL EXAMINER

The work is liable to be technically audited by the chief Technical Examiner of the central vigilance commission Government of India from time to time. Any defects improvement or

testing etc. pointed out by the chief Technical Examiner should be carried out by the contractor at his own cost and any deduction suggested by the CTE will be affected.

The employer shall have a right to cause a technical examination and audit of works and the final bills of the contractor including all supporting vouchers, abstract etc. to be made at the time of payment of the final bill. If as a result of this examination or otherwise any sum is found to have been over paid in respect of any work done by the

Contractor under the contract the contractor shall be lawful for the employer to recover the same from him from any sum or sums due to him and in any other manner legally permissible and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be fully paid by the employer.

Any sum of money due and payable to the contractor (includes security Deposit Returnable to him) under this contract may be appropriated by the Employer and set off against any claim of the employer of the payment of a sum of money arising out of or under any other contract made by the contractor with employer.

28) VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected.

- a) The elevator contractor shall guarantee that the all machine / plants / installation covered under this contract will yield contract ratings and results and to confirm latest version of standards which are acceptable as good practices “and accepted standards of relevant IS codes & NBC codes”.
- b) The elevator contractor upon the completion of the work shall perform all the tests required to establish that the elevator plants is performing as per the contract ratings, specially with regards to the load, speed, systems, controls, accuracy and power consumption.
- c) If the performance tests do not yield the contract ratings, than the elevator contractor shall rectify / replace free of cost such equipment / materials / plants and re-conduct the tests to demonstrate their correction to the Employer/ MNITs Architect and to submit all the test results carried out at site.
- d) If the elevator contractor fails to carryout modification required and establish the contract ratings of the plant, the owner / employer can impose a liquidated damage for not meeting the contract ratings.

29) PAINTING

This shall include cost of painting of entire exposed iron work complete in the installation. All equipments works shall be painted at the works before dispatch to the site

30) CIVIL WORK TO BE DONE BY THE ELEVATOR CONTRACTOR

Elevator contractor shall provide/ carryout the following work at his own cost.

- a) Necessary scaffolding in the hoist way required during the erection of the elevator (scaffolding materials will remain elevator contractor's property and they should take away after commissioning handing over lifts).
- b) Minor building work comprising of cutting holes in the walls / floor and making good for car and counter weight rail brackets, hall buttons and indicators including laying of steel in position.
- c) All civil work to complete the lift well including all side wall with finishing as required.
- d) Steel items such as machine bears, bearing plates, buffer support channels, ladder in the stretches / separator angle in lift wall etc.
- e) Hoisting beam with column, foundation for control panels and equipment's in the lift machine room.
- f) All electric cable and pipeline be shifted as directed by Engineer in charge for construction of lift pit and new cable will be supplied and installed required for lift machine.

The contractor shall make arrangement for watch and ward of the lift installation until the time they finally handle over the same to the MNIT. No extra payment shall be made on this account.

31) TRAINING

The scope of works includes on job technical training of four persons at site. Nothing extra shall be payable on this account.

32) EXTRA ITEM

The contractor will not execute any extra item without MNIT's permission in writing .

33) MAINTENANCE

Sufficient and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation. The maintenance, routine as well as preventive for one year from the date of taking over the installation as per manufacturer's recommendation shall be carried out and the record of the same shall have to be maintained.

34) INTERPRETING SPECIFICATIONS

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

- (a) Schedule of quantities.
- (b) Technical specifications.
- (c) Drawing (if any).
- (d) General Specifications.
- (e) Relevant IS or other international code in case IS code is not available.

35) ARBITRATION

In case of any dispute between MNIT and contractor, the decision taken by the Arbitrator who will be appointed by the MNIT, will be final.

36) RULES FOR SAFETY & LABOUR WELFARE**1. FIRST AID POST**

The CONTRACTOR shall provide and maintain in a readily accessible place FIRST AID appliances including adequate supply of sterilised dressings, gauze, cotton wool and requisite medicines, as prescribed in the Factory Rules of the place in which work is carried on. In case of a large work place the FIRST AID POST shall be run by a trained compounder. In "case of accident the contractor shall provide suitable transport to facilitate removal of urgent cases to hospitals etc.

2. SAFETY EQUIPMENT

All necessary personal safety equipment such as helmets. protective footwear. Protective goggles/eye shields Life Jacket, Gas masks etc. as considered adequate by the Engineer-in-Charge shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use: and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

- a) Workers employed on mixing, asphaltic materials, cement and lime mortars/concrete shall be provided with protective footwear "and protective goggles.
- b) Those engaged in handling any material which is injurious to eyes shall be provided with protective goggles.
- c) Those engaged in welding works shall be provided with welder's protective eye-shields.
- d) Stone-breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- e) When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that manhole covers are opened and manholes are ventilated atleast for an hour before workers are allowed to get into them. Manholes so opened shall be cordoned off with suitable railing and providing with warning signals or boards to prevent accident to public.
- f) The contractor shall not employ any labour below the age of 18 and whenever any labour above the age of 18 are employed on the work of lead painting, the following precautions shall be taken:
 - i) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
 - ii) Suitable face-masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.

- iii) Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working painters to wash dining and on cessation of work.

3. **SAFETY PRECAUTIONS**

Safe means of access shall be provided to all working platforms and other working places, every ladder shall be securely fixed. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.

4. **SCAFFOLDINGS**

Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand-holes shall be provided on the ladder and ladders shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).

5. **GUARD RAILS**

Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead support or erected with stationery support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

6. **RIGID DESIGN**

Working platform, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform of gangway or stairway is more than 3.25 meters above ground level or floor level, it shall be closely boarded, have adequate width and be suitably fenced, as described in 5 above.

7. **OPENINGS GUARDED**

Every openings in floor of a building or in working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter.

8. EXCAVATIONS SAFETY

All excavations, 1.5 meters or more in depth, shall at all times be supplied with at least one ladder for each 30 meters in length or fraction thereof. Ladder shall be extended from bottom of trench to atleast 1 meter above surface of the ground. Sides of a trench which is 1.5 meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. Excavated material shall not be placed within 1.5 meters of edge of excavations or half of depth of excavations whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall undermining or undercutting be done.

9. DEMOLITION

Before any demolition work is commenced and also during the process of the work:

- i) All roads and open areas adjacent to the work site shall either be closed or suitably protected;
- ii) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by operator shall remain electrically charged.
- iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion, or flooding. No floor, roof or other part of building shall be so overloaded with debris or materials as to render it unsafe.

10. SAFETY AGAINST DROWNING

When work is done near any place where there is risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

11. HOISTING MACHINES

Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following:

- a)
 - i) These shall be of good mechanical construction sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order.
 - ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be incharge of any hoisting machine including any scaffold winch or give signals to operator.
- c) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any

machine or of any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.

- d) In case a departmental machine, safe working load shall be notified by the Engineer-in-Charge. As regards Contractor's machines the Contractor shall notify safe working load of each machine to the Engineer-in-Charge whenever he brings it to site of work and get it verified by the Engineer-in-Charge.

12. SAFE-GURDS FOR MOVING & DANGEROUS PARTS

Motors gearing, transmission, electric wiring and other dangerous parts of hoisting appliance shall be provided with efficient safe guards: hoisting appliance shall be provided with such means as will reduce to the minimum risk of accidental descend of load. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary, shall be provided. Workers shall not wear any rings watches and carry keys or other materials which are good conductors of electricity.

Notes:

All scaffolds ladders First-Aid Equipment/Medicines and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places or work. Necessary warning sign boards in Red White point with proper lighting arrangements for nights are to be provided at prominent locations.

37 APPENDIX HEREINBEFORE REFERRED TO SPECIFICATIONS

GENERAL

1. Supply and fixing of steel work like machine supports, bearing plates, buffer supports and separator girders. facia plates, nuts bolts, rag bolts, angles. T's and any other structural steel : To be included in the offer.
2. Minor Building Work : To be included in the offer.
3. Scaffolding : To be included in the offer.
4. Hooks : To be Included in the offer
5. Site Test : As per IS: 4666 – 1968
6. Free Maintenance : One year.
7. Guarantee : One year.
8. Insurance of Materials : Cost to be included.
9. Taxes (Sales Tax, Excise. Octroi etc.) : All inclusive F.O.R. destination.
10. Terms of Payment : As per tender agreement terms and conditions.
11. Safety : As per Tender.
12. Type of Buffers : Spring/ hydraulic buffers.

38 CIVIL WORK TO BE DONE BY LIFT CONTRACTOR

1. To provide scaffolding in the hoist way required for erection of lift.
2. To carry out minor civil work, such as modification and making good the pocket cutout in wall/ceiling for car, counter weight, rail bracket, hall buttons, indicators and laying of sills in positions or any other work required for smooth operation commissioning of lifts.
3. To provide and fix the steel item such as machine beams, lifting work, bearing plate in the machine room, separators wherever required and buffer support channel and vertical iron ladder in lift.
4. From panel to lift controller and machine etc, all electric work will be done by lift supplier including providing and installing of voltage stabilizer and their cost should be included in his bid. (for total capacity of equipment submit calculations)
5. Providing of hoisting beam in the machine room for hoisting of equipment during erection and to facilitate maintenance in future including their fixing etc.
6. Providing and fixing of necessary sill supporting rejection sheet steel fascia plates on all landings as per the requirements.
7. Any other civil construction work necessary for installation and commission of lifts but do not include fascia at lift door opening.
8. Repairing of all dismantled or damaged structure.

(**Note:** No beam or column shall be dismantled or broken for installation of lifts.)

SECTION - 4
(TECHNICAL SPECIFICATIONS)
LIFTS SPECIFICATIONS
FOR 13 PASSENGER LIFTS

1.	Passenger, goods or service	:	13 Passenger
2.	No. of Lifts required	:	One (01) No.
3.	Load/no. of person	:	About 884 kg.(13 persons)
4.	Rated speed	:	1 MPS
5.	Travel in meter	:	20 Meter.
6.	Serving	:	3 floors (Ground + 2 floors)
7.	No. of stops & openings	:	3 stops and 3 openings (all lift openings on same side of the lift well)
8.	Inside size of lift well	:	2500 mm x 1800 mm or 2450 X 2000 or as per Lift manufacturer's specification.
9.	Clear inside size of lift car	:	2000mm X 1100mm or 1600 X 1400 or as per Lift manufacturer's specification.
10.	Provision and size of machine room	:	Directly above the lift well on the terrace as per Drawing room.
11.	Position of counter weight	:	On the rear of lift car.
a)	Type of control	:	AC variable voltage variable frequency.
b)	Type of operation	:	Collective Selective with or without attendant.
12.	Car Entrance door		
a)	No size and type of door	:	1No. Center opening stainless steel door with 900mm wide X 2100mm high.
b)	Power in manual operation	:	Power operated
c)	Car open in front only or open through	:	Open in front only.
13.	Construction, design and finish of car body work	:	Stainless Steel
14.	Type of Signal System	:	a) Landing call registered indicator at all floors.

- b) Voice announcing system
 - c) Digital position indicator in car and all landings.
 - d) Single stroke gong with directional arrows at all floors.
 - e) Interphone system (Gr. M/room-inside car)
 - f) Overload warning
 - g) Battery operated alarm bell and emergency light.
 - h) Fireman switch at Gr. Floor.
15. Landing Entrance ;
- a) Location of Landing entrance on different floors. : On same side.
 - b) No. size and type : One (01) No. sliding stainless steel side opening about 900 mm wide X 2100 mm high.
16. Type of rescue : Automatic
17. Electric Supply : 415 volts 50 C/s 3 Phase AC for power, 230 volts 50 C/s single phase for light.
18. Is neutral wire available for control circuit : Yes.
19. Proposed date for commencement : 7 days after award of work.
20. Proposed date for completion : 4 months from the date of award of work.
21. Environmental condition of site of installation. :
- a) Summer Condition : 45° C DB.
 - b) Winter condition : 3° C DB.
 - c) Monsoon condition : 35 +/-2° C DB.
 - d) Height above sea level : 216 Mtr.
22. Storage space provided : Yes.

23. Additional item if any : All civil work inside the shaft after dismantling the existing lifts.
24. Steel items :
 1. All steel items connected with lift except hoisting girder are to be provided by the lift contractor.
 2. Angle iron sills and steel fascia plates to be provided by the lift Contractor.
25. Fire lift requirements :
 The lift shall also be used as a Fire lift and for this purpose Fireman Switch at Ground Floor lift landing shall be provided in order to enable the fire service personal to operated the lift in case of an emergency.
 The Fire lift shall be operated by simple heavy-duty toggle switch situated in glass-fronted box fixed adjacent to the lift at the entrance level. When the switch is on, all landing call points shall become inoperative and the lift will be on car control only or on priority control device. When the switch is off, the lift will return to normal working.
 Landing doors shall have the fire resistance rating of One (1) hour. Similarly the lift car door also shall have the one-hour fire rating. Steel lift car shall fully meet the fire rating as specified in IS Codes and National Building Codes as applicable to lifts.
 The word "FIRE LIFT" shall be conspicuously displayed in fluorescent paint on the Fire lift landing doors and each floor level.
26. Intercom System details : Required intercom system shall have one slave unit in the lift car, one master unit at the lift machine room and one master unit at the Central control room, at the Ground Floor, For the purpose the department shall only provide conduiting from lift car to the central control room as per layout plan to be given by the Firm. All wiring work shall be included in the offer.
27. Emergency Power Supply : The Alarm bell and the emergency light unit shall operate on 7.2 Volts, Ni. Cad. Pen light rechargeable cell, with trickle Charger arrangement. Full details along with technical backup be provided in the lift tender itself, whilst quoting for the same.

28. Public Address. System. : The lift car shall be provided with the Public Address system suitable for the public announcement and for playing soft music. Junction box in the lift well will be included. The speaker shall be fixed inside car at landing and the machine room.
29. Safety : **AUTOMATIC RESCUE DEVICE:** The device operates on 12 Volts 24 AH, dry maintenance free batteries, continuously monitoring the normal power supply in the main lift controller and activates the rescue operation within 10 seconds of the power failure. It should bring the lift to the nearest floor and doors should automatically open enabling the passengers to exit. Thereafter, the lift should remain parked there and when the power supply is restored, the lift should revert to normal operation.
INFRA RED DOOR PROTECTION DEVICE: The infra red light sensitive cells on the panels on each side of lift entrance should continuously monitor the beams and when any beam is disturbed the door should open. When the entrance is clear, the door should close automatically.
30. Audible Announcement : The interior of the cage shall be provided with a device sound which audibly indicates the floor, the cage has reached and indicates that the door of the cage for entrance/exist is either open or close.
31. Make : OTIS / KONE / MITSUBISHI / THYSSEN/ KRUPP

SECTION - 5

INTERIOR FINISH OF LIFT CAR

Panels	:	Car enclosure and car doors with Stainless steel diamond cut or scratch proof honeycomb finish and landing doors both sides with plain stainless steel finish for bed lift and passengers lift. The interior of the cage shall be provided with a device sound, which audibly indicates the floor the cage has reached and indicates that the door of the cage for entrance/exist is either open or close.
Flooring	:	16mm/18 mm thick Granite Flooring.
Ceiling	:	Scratch proof stainless steel false ceiling.
Lighting	:	Diffused fluorescent lighting through translucent jewels fitted in two rows of crystal circular fixture/as per manufacturer specifications of the particular lift subject to approval of MNIT's appointed electrical consultant.
Ventilation	:	2 nos. Cabin fan, suitability concealed behind the false ceiling to through air inside and exhaust air evenly, of 900 RPM double ball bearing type.
Hand Rails	:	With stainless steel Handrail not less than 600mm long at a height of 800mm-1000mm above floor level on 3 sides lift only shall be provided.

**MALAVIYA NATIONAL INSTITUTE
OF TECHNOLOGY JAIPUR**

ESTIMATE

For

**SUPPLY, INSTALLATION AND
COMMISSIONING OF THIRTEEN
PASSENGER LIFT INCLUDING CIVIL WORK
AT ADMINISTRATIVE BLOCK.**

PRICE BID (Part-II)

NAME OF WORK: SUPPLY, INSTALLATION AND MISSIONING OF THIRTEENPASSENGER LIFT INCLUDING CIVIL ORKAT ADMINISTRATIVE BLOCK, MNIT, JAIPUR.

Sr. No.	Description	Qty.	Rate	Unit	Amount (Rs.)
1.	Dismantling of roof slabs (Ground, First, and Second floor slabs), making pits as per lift manufactures specification. Making machine room as per lift manufactures specifications, all RCC Column and beams required to fixing the lift, external/internal plastering, scaffolding and shuttering for R.C.C work in 1:1/2:3, disposal of malba to authorized Municipal ground. This include making of shop drawings for construction of R.C.C shaft, Pit, and Machine rooms including reinforcement details and getting the shop drawings approved from the Architect/Engineer-in-charge.	1 Job		Per Job	
2	<p>POWER AND LIGHTING CIRCUITS AND SWITCHES</p> <ol style="list-style-type: none"> 1. 415V, 50Hz, 3Phase, 4 Wire type of armoured cable of size 4.0 sq. mm (Copper) per phase from meter room to machine room through respective lift shaft. 2. One light switch (DPIC) of 230 V, 50 Hz, 1Phase and capacity 10 amps to be connected to 415V main line in machine room before three phase power supply to the main switch. 3. Two separate earth terminal in machine room as per local code. (25mm X 3mm copper strip recommended.) 4. Adequate permanent lighting arrangement with switch (MCB) ELLB 63 amp 300 MA in machine room. 5. Convenient outlet 15A in machine room for use of power tool. 6. 230 v light points along with the bulb in bulkhead fitting and a 3-pin plug and switch on wooden board in lift shaft at 1M distance from highest and lowest point in shaft and intermediate point at 3M maximum spacing. Lowest board should have parallel switch that can be operated from the floor. Shaft lighting should be controlled with two way switch. One s/w 	1 Job		Per Job	

	to be provided in the lowermost floor and the other in the machine room. Including white washing of machine room.				
3	<p>HOISTWAY</p> <ol style="list-style-type: none"> 1. Hoist way of dimensioned mentioned in layout drawing are minimum clear plumb dimensions in mm, and hence the actual wall should not encroach on these dimension. 2. The hoist way should be without any projection and recess from machine room to the pit floor. 3. If any projections or recess are there, then those should be flashed. 4. Service pipes, Ventilation ducts electrical conduits etc. for other propose are not allowed to run in lift well and machine room. 5. Front wall at the Ground floor must not be constructed until all lift equipment is set in position. 6. Entrance wall with rough opening of width indicated to be constructed. 7. The lintel should be casted for every landing with the height from finished floor level to underside of lintel as indicated on the layouts. The lintel height should be provided as per our drawings that shall be submitted at a later stage. 8. All landing entrances of the lift should be closed properly and protected by suitable material till lift installation is completed. 9. Hoist way walls to be treated and painted to minimize accumulation and circulation of dust. 10. Architrave fixing and finishing to be done after fixing of doors and doors frames on all floors. 11. Vent 450mmX450mm with suitable rain protected cover to be provided at the top end of the hoist way on the rear wall. 12. Hosting beam in the machine room. 13. Separator channels if required. 	1 Job		Per Job	
4	<p>PIT</p> <ol style="list-style-type: none"> 1. Pit floor should be strong enough to bear the load as indicated. 2. Pit floor should be maintained in dry and clean condition. 3. RCC scales for fixing car and counterweight duffers wherever required. 4. Fixing vertical iron ladder in pit of size 400mm wide X 2000mm high made out of 25mm x 25mm x 4 thou. M.S angle. 5. Pit floor and walls to be treated for waterproofing and to minimize accumulation and circulation of dust 	1 Job		Per Job	

	<p>including white washing of pit.</p> <p>6. White washing in the shaft and machine room.</p> <p>7. Provision of exhaust fan in the machine room along with guarding and louvers.</p> <p>8. Repair/modification of the architraves at all floors after we fix the doors.</p>				
5	<p>Supplying installation, testing and Commissioning of 13 passengers lift of 884 kg. Capacity having contract speed of 1 meter per second for travel of (one way 25.5 m approx, tenders to check the total height at the site.) 3 floors, ground to second floor i.e., (G+F+S) with A. C. variable voltage variable frequency control, with or without attendant simplex collective selective system of operation, center opening power operated stainless steel door suitable for operation on 3 phase 415 volts 50 c/s AC supply complete with automatic operated control panel and signal car light lights, car safety devices as per ISI 1960-1980 detailed specifications I/C provision of temporary scaffolding and all minor bldg. works including guides and buffers , free maintenance for a period of one year from the date of commissioning and taking over by the department.</p>	1 No.		Each	
6	<p>Supply of Automatic Rescue Device for lifts having Microprocessor controlled IGBT based technology, using double conversion with better backup – ARD system and the ability to withstand min. 10 frequent Power breakdown failures with no change in speed of the lift car & Bi-directional movement of Lifts Car as per programmed during rescue mode and adaptable to any make lifts with all standard protections are taken care for Motor and drives which is also compatible with PC through RS – 232 Interface / IBMS Control having used friendly LCD display for status/fault diagnosis where Lift car will reach the floor programmed by the passenger with provider clean power to motor & electronic module with no tampering of lift circuit Easy installation & maintenance. The specification includes Microprocessor Controlled IGBT / PWM technology to withstand High Inrush current based on Double Conversion System suitable for five frequent failures compatible to 0.3 to 0.9 output Power factor depending on load having Pure Sine wave Wave form with less than 5% total Harmonic Distortion with less than 45db noise level with forced A</p>	1 No.		Each	

7	Comprehensive maintenance of lifts which include routine, preventive & break down maintenance for period of four (3+1 guarantee year) years including repair / replacement of worn out items with minimum down time and warranty & guarantee of repaired / replaced items after completion of one year guarantee period.				
(i)		1 lift		Per year (second year)	
(ii)		1 lift		Per year (third year)	
(iii)		1 lift		Per year (fourth year)	
	GRAND TOTAL INCLUDING ALL TAXES				