

# Notice Inviting Quotation for Fire Fighting works at Janki Devi Memorial College, New Delhi 110060

Date of Start of Sale : 24 May 2016

Date of Closure of Sale: 2 June 2016

Date of Opening of Quotation: 3 June 2016

## APPENDIX

Defects Liability period	12 Months
Date Of Commencement	The 10 <sup>th</sup> day after the date on which the Architect /Engineer-in-charge issues written orders to commence the works or the date of handing over the site whichever is later
Date of Completion	2 months from the date of commencement
Penalty for delay	5,000/-per day Maximum of 10% of the cost of the works.
Value of work for Interim Certificate	Rs. 5,00,000/- (Rupees five lakhs Only)
Earnest Money Deposit	Rs. 25,000/- ( Rupees Twenty Five Thousand Only)
Retention Percentage	5%(As per the terms and conditions)
Performance Guarantee	Contractor shall furnish a performance guarantee in the form of a Bank Guarantee to the tune of Five percent (5%) of the cost of the accepted quotation amount, which will be kept valid up to 12 months after completion of the works.

**Contractor**

**Employer**

**Janki Devi Memorial College**  
**University Of Delhi, Delhi-110060**

Sealed Quotations are invited by the Principal, Janki Devi Memorial College, University of Delhi, for Supply, Installation, testing & Commissioning of FIRE FIGHTING SYSTEM in the premises of Janki Devi Memorial College, University of Delhi, Delhi- 110060 from reputed firms and Agencies. Contractors shall furnish proof of satisfactory completion of such work issued by the client at the time of issue of Quotations along with their company profile.

Quotation documents can be obtained from the office of the Principal Janki Devi Memorial College on any working day from 24<sup>th</sup> May 2016 to 2<sup>nd</sup> June 2016 on Payment of Rs 1000/- via demand draft in the name of “Principal, Janki Devi Memorial College”. To be submitted by 1200-hours on 3<sup>rd</sup> June 2016 to the Principal, Janki Devi Memorial College, University Of Delhi, Delhi-110060.

Note: Quotation document can be also downloaded from the College website and Delhi University Website. Downloaded Quotation document shall be submitted with DD of Rs. 1000 in favor of Principal Janki Devi Memorial College.

The Quotations shall be opened on the same day at 1230 hours or the earliest convenient time and day thereafter in the office of the Principal, Janki Devi Memorial College, University Of Delhi, N.D.-110060.

Issued:

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Dated: \_\_\_\_\_

Principal,  
Janki Devi Memorial  
College

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**Janki Devi Memorial College**  
**University Of Delhi, Delhi- 110060**

Dated 24 May 2016

**NOTICE INVITING QUOTATIONS**

Sealed Quotations are invited on behalf of the Principal, Janki Devi Memorial College, University of Delhi, for Supply, Installation, testing & Commissioning of FIRE FIGHTING SYSTEM in the premises of Janki Devi Memorial College, University Of Delhi, Delhi-110060.

- 1) The Architects for this job are M/s Ranjit Singh & Associates, 1206 Surya Kiran Bldg, 19 Kasturba Gandhi Marg, New Delhi –110001. Ph. 23312688 Fax: 43560879 Email: rsa1206@msn.com.
- 2) The quotation document shall be submitted in the prescribed form.
- 3) The works are required to be completed within the period of 8 weeks from the date of commencement.
- 4) The date of commencement shall be from the 10<sup>th</sup> day after the date on which the Engineer-in-charge issues written orders to commence the work or from the date of handing over of the site which ever is later.
- 5) The work shall be carried out in accordance with the phasing if any. The site is expected to be handed over immediately.
- 6) Quotation document documents consisting of terms and conditions and quotation document schedule can be obtained from the office of the Principal, Janki Devi Memorial College on any working day from 24<sup>th</sup> May 2016 to 2<sup>nd</sup> June 2016 on Payment of Rs 1000/- via demand draft in the name of “Principal, Janki Devi Memorial College”.
- 7) Completed quotation documents should accompany PAN no. and other registration certificates. Quotation documents received without the PAN no. will be rejected.
- 8) Plans, specifications etc. pertaining to the works can be inspected in the office of M/s Ranjit Singh & Associates, 1206 Surya Kiran Bldg, 19 Kasturba Gandhi Marg, New Delhi 110001, during office hours on any working day OR in the office of the Principal, Janki Devi Memorial College with prior appointment.
- 9) Contractors are advised to inspect and examine the site and the surroundings and satisfy themselves before submitting their quotation documents as to the nature of the ground and sub-soil (so far as practicable), the form and the nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain necessary information as to the risks, contingencies and other circumstances which may influence or affect their quotation document. Contractor shall be deemed to have full knowledge of the site, whether he inspects it or not and no extra charge consequent to any misunderstanding or otherwise shall be allowed.
- 10) Submissions of the quotation document by the Contractor 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 local conditions and other factors bearing on the execution of the

works.

- 11) A Contractor should quote in figures as well as in words rate(s) quotation documented. The amount for each item should be worked out and the requisite totals given. Special care shall be taken to write rates in figures as well as in words and the amount in figures only in such a way that interpolation is not possible. The total amount shall be written both in figures and in words. In case of figures the words “RS” should be written before the figure of rupees and the words “paise” should be written at the end. Unless the rate is in whole rupees and followed by the word “only” it should invariably be up to two places of decimals.
- 12) All rates shall be quoted on the quotation document form.
- 13) Quotation document shall be received by the office of the Principal, Janki Devi Memorial College up to 1200 hours on the 3<sup>rd</sup> June 2016 and shall be opened at 1230 hours on the same day in the presence of the Contractors, who may be present or the earliest convenient time and day thereafter.
- 14) The quotation document shall be accompanied by earnest money deposit of Rs. 25,000/-, in the form of a demand draft in favor of the Principal, Janki Devi Memorial College.
- 15) On acceptance of the quotation document, earnest money will be treated as a part of the security. In Addition Contractor shall furnish performance guarantee in the form of an F.D.R or bank guarantee of 5% accepted quotation document cost in favor of Principal, S.G.T.B Khalsa College.
- 16) The Contractor, whose quotation document is accepted, shall permit the Principal, Janki Devi Memorial College at the time of making any payments to him for works done under the contract to deduct towards security deposit such sum as will along with the amount of earnest money already deposited amount to the following % of the cost of the work: -
  - 5% of the bill amount.
  - 50% of the security money will be released along with the final bill and the balance after expiry of the successful performance of the Defects Liability Period of one Year with out any interest.
- 17) Janki Devi Memorial College will return the earnest money where applicable, to every unsuccessful Contractor on return of all the quotation document documents with out any interest.
- 18) A Contractor shall submit the quotation document, which satisfies each and every condition laid down in this notice, falling which the quotation document will be liable to be rejected.
- 19) Principal, Janki Devi Memorial College does not bind himself to accept the lowest or any quotation document or to give any reasons for their decision.
- 20) Principal, Janki Devi Memorial College reserves to himself the right of accepting the whole or any part of the quotation document and Contractor shall be bound to perform the same at his quoted rates.
- 21) Sales tax, VAT, or any other taxes on materials in respect of this contract shall be payable by the Contractor and Janki Devi Memorial College will not entertain any claim whatsoever in this respect. Rates quoted shall be inclusive of all taxes as applicable on date in union territory of

Delhi.

22) T.D.S. and works contract tax as applicable to union territory of Delhi shall be deducted from the payments to be made to the Contractor and tax deduction certificate shall be issued by Janki Devi Memorial College.

23) This notice of quotation document shall form part of the contract documents.

**Contractor :**

Duly authorized to sign the  
On Behalf of M/s

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.....  
.....

**Owner:**

**For and on behalf of  
Janki Devi Memorial College**

Signature.....

Date.....

Email.....

Phone.....

Authorized Signatory

Postal Address.....

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.....  
.....

To,

The Principal  
Janki Devi Memorial College,  
University of Delhi  
Delhi-110060.

Dear Madam,

I/We have read and examined the following documents relating to Supply, Installation, testing & commissioning of FIRE FIGHTING SYSTEM in the premises of Janki Devi Memorial College, University of Delhi, Delhi- 110060.

- 1) Notice inviting quotations
- 2) Specifications
- 3) Drawings
- 4) General Conditions of Contract
- 5) Special Conditions
- 5) Quotation Schedule

I/We hereby quote for execution of the works referred to in the aforesaid documents, upon the terms and conditions contained or referred to therein and in accordance in all respects with the specifications, designs, drawings and other relevant details at the rates quoted by us in the quotation schedule. We have visited and examined the site of works and are fully aware of the site conditions, having a bearing on the contract.

In consideration of I/We being invited to the quote, I/We agree to keep the quotation open for acceptance for 90 Days from the due date of submission thereof and not make any modifications in the terms and conditions which are not acceptable to Principal, Janki Devi Memorial College.

A sum of Rs. 25,000/- (Bank Draft No.....Dated.....) is hereby forwarded in Bank Draft in the favor of Principal, Janki Devi Memorial College as earnest money. If I/we fail to keep the Quotation open as aforesaid or make any modifications in the terms and conditions of the Quotation which are not acceptable to Principal Janki Devi Memorial College. I/We agree that Principal, Janki Devi Memorial College shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Should this Quotation be accepted, I/we hereby agree to abide by and fulfill all the terms, conditions and provisions of the aforesaid documents.



If after the Quotation is accepted, I/we fail to commence the execution of the works as provided in the conditions, I/we agree that Principal, Janki Devi Memorial College, shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely.

I/We agree that should Principal, Janki Devi Memorial College, decide to forfeit earnest money as aforesaid, unless a sum equal to the earnest money mentioned above is paid by us forth-with, the Principal, Janki Devi Memorial College may at its option recover it out of the deposit and in the event of deficiency, out of any other money due to me/us or otherwise.

Duly authorized to sign the quotation  
On behalf of M/s

.....

Signature.....

Dated.....

Postal Address.....

## SPECIAL CONDITIONS

1. The work shall be carried out as per specifications in the Quotation schedule/latest C.P.W.D. Specifications, along with the correction slips; issued up to date of acceptance of Quotation in case of doubt the decision of the Architect shall be final and binding on the Contractor.
2. The Contractor shall carryout the work in stages as to cause minimum disturbance to the working of Janki Devi Memorial College and other organizations. He shall be responsible for any damage to the equipment or structures, injury to the personnel during the progress of the work and he shall be liable to pay compensation as may be decided by the Principal or his authorized representative in respect of such damages /injuries.
3. The serviceable materials out of the dismantled materials if any will be properly stacked by the Contractor as directed by the Engineer-in-charge. Decision of Principal or his authorized representative on the service-ability of the dismantled materials shall be final and binding on the Contractor.
4. All labour Employed by the Contractor shall be covered by the Workman's Compensation Act. Any death, injury or mishap to the workmen of the Contractor will entirely be the Contractor's responsibility and Janki Devi Memorial College, shall not be liable to pay any damages for the same.
5. The Contractor shall give his PAN number.
6. No escalation in rates shall be payable against claims for Labor rate, material rate or any other form of rate escalation
7. Rates quoted shall be applicable equally to all floors and shall include all lifts and leads. No extras on this account shall be payable.
8. After the completion of the work, the contractor shall within a period of one week time, clear the site of all waste materials, debris etc and cart them to, out of the campus of College as directed by the College / Engineer In Charge from the construction site. No extra payment shall be given on this account
9. The Contractor will stand guarantee for performance and out-put of the total installation and will guarantee all equipment and hardware supplied and installed by him for a period of one year from the date of successful commissioning of the system. The works shall bear a guarantee of one year from the date of completion of the FIRE FIGHTING SYSTEM. Any mishap or fault occurring because of poor quality of material, the contractor shall have to bear the entire cost

## **GENERAL CONDITIONS OF CONTRACT**

**Definitions:** the contract document consists of the agreement, the special and general conditions of the contract, specifications and bills of quantities including all modifications and the contract drawings prepared by the Architect from time to time

1. **The site:** Shall mean the site of contract work at Janki Devi Memorial College, New Delhi.
2. **Sub-Contractor:** Includes those who have a direct contract with the Contractor.
3. **Notice:** Written notice shall be deemed to have been served if delivered in person to a member of the Contractors firm.
4. **Owner:** Principal Janki Devi Memorial College, New Delhi
5. **Work:** The term “work” includes both labour and material of the Contractor/Sub-Contractor.
6. **Time limits:** Time limits or 2 months stated in the contract are essence of the contract.
7. **Law:** law of the place of work shall govern the construction under this contract.
8. **Virtual completion:** date of virtual completion is the date when the construction is sufficiently completed in accordance with the contract documents, including modifications, if any.
9. **Contract documents:** shall consist of the following
  - a) Articles of agreement
  - b) General and special conditions of contract
  - c) Technical specifications
  - d) Bills of quantities

## **TYPE OF CONTRACT**

It shall be an item rate contract. The Contractor shall be paid for the actual quantity and quality of work done, as measured at site on the rates quoted by him, on the basis of a payment certificate issued by the Architect.

## **SCHEDULE OF QUANTITIES**

Schedules of quantities given in the contract bill are provisional and are meant to indicate the intent of the work and to provide a uniform basis for the contract. The Owner reserves the right to increase or decrease any of the quantities or to totally omit any of them. Contractor shall be bound to carry out the same without claiming any extras.

## **CONTRACT DRAWINGS**

1. In general, drawings shall indicate dimension, position & type of construction.
2. Specifications shall indicate the qualities, methods, and bill of quantities shall indicate the quantum and rates. Any work indicated in drawings and not mentioned in the specifications or vice versa shall be furnished as fully set forth in both.

3. Contractor shall not deviate from the drawings and Architects interpretation of the drawings shall be final and without appeal.
4. Errors/inconsistencies discovered in the drawings shall be instantly brought to the notice of the Architect for interpretation and correction, if any.
5. All drawings are the property of the Architect and shall not be used on any other project.
6. Bar bending schedule, if requested by the Architect/Engineer in-charge shall be furnished to him prior to fabrication.

### ARCHITECTS INSTRUCTIONS

If within seven days of receipt of written instructions from the Architect, requiring compliance with an instruction the Contractor does not comply hence-with, then the Owner may get the work executed through another agency at the risk and cost of the Contractor.

### SCOPE OF WORK OF CONTRACTOR

The scope of work to be carried out by the CONTRACTOR shall also include the following:

- a) Setting out of the works in respect of position, level dimensions, alignments, etc. including establishment of bench marks, survey reference points, etc.
- b) Clearance of the site.
- c) Site leveling /terracing within the limits as shown in the drawings or as directed by the Engineer In charge.
- d) Disposal of debris, excavated materials, etc. as per the instructions of the Engineer In-Charge
- e) Testing of water, soil and concrete.
- f) Pumping out rain water/underground water from foundations, excavations and drainage of surface water from work site.
- g) All scaffolding, shorting, centering, shuttering works, etc.
- h) Running and maintenance of all construction plants and equipment, tools and tackles, etc.
- i) All temporary /enabling works such as approach road to the site, water supply, drainage and sewerage, power supply including diesel generator set, temporary offices, stores, construction yard, canteens, toilet blocks, labour camp, fencing, etc.
- j) Protection and maintenance of trees, shrubs, green and other surfaces as instructed by the Engineer In charge.
- k) Any other work required in connection with the execution of the contract work.

The cost of all the above mentioned works shall be deemed to be included in the rates for various items of work although such inclusion may not be specifically spelt out.

Whether specified elsewhere in the Agreement or not, the CONTRACTOR shall provide all materials (including steel and cement unless specifically spelt out in the agreement otherwise),

labors of every description, energy and water and all tools, tackles, plant and transport necessary for proper execution of the work to the entire satisfaction of the OWNER.

#### SAMPLES AND SHOP DRAWINGS

The Contractor shall submit samples of materials and shops drawings required by the Architect with promptness within a week.

#### PROGRESS CHART

In order to achieve the completion time as stated above, the CONTRACTOR shall submit to the OWNER within 2 (two) weeks from the effective date of Agreement a detailed Bar chart/PERT Network showing all the activities including mobilization, site clearance, procurement of major construction materials like steel and cement, excavation, foundation work, sanitary and water supply work, etc. The list of activities for which the Bar chart/ PERT network has been worked out and their commencement, duration and completion shall be subject to the approval of the OWNER

#### ACCESS FOR ARCHITECT TO THE WORKS

The Architect and his representative shall have access, at all reasonable times, to the work and workshops of the Contractor.

#### ARCHITECTS STATUS AND DECISIONS

The Architect shall be Owner's representative during the construction period. He shall periodically visit the site to familiarize himself generally with the progress and the quality of work and to determine, in general if the work is proceeding in accordance with the contract documents. The Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality and quantity of the work, and shall not be responsible for the Contractors failure to carry out the construction work in accordance with the contract documents. During his site inspections the Architect shall inform the Owner about progress of work, defects and deficiencies if any.

The Architect may in his absolute discretion from time to time, issue further drawings, details, written instructions, written decisions and written explanations in regard to: -

1. Variation or modification of the design
2. Quality or quantity of work, addition/alteration/omissions and substitutions of any work
3. Any discrepancy and divergence between drawings and specifications.
4. Removal and re-erection of any works executed by the Contractor
5. Dismissal of any persons employed on the site, who in the opinion of the Architect is not fit for the job.
6. Opening up for inspection any work-covered up
7. Amending and making good any defects under defects liability period
8. Removal from site, any materials brought by the Contractor, which in the opinion of the Architect is not up to the desired standard.
9. Delay and extension of time

10. Postponement of any work

ENGINEER INCHARGE

Engineer In-Charge shall mean the person approved by the Architect and appointed and paid by the Owner and acting under the directions of the Architect.

CONTRACTORS FIELD ORGANIZATION AND EQUIPMENT

1. The Contractor shall employ qualified and competent licensed Electricians on the site.
2. Contractor shall provide and install all necessary hoists, ladders, scaffoldings, tools, tackles, plants and machinery necessary for execution of the works
3. Contractor shall provide and maintain simple water tight office accommodation at site
4. Contractor shall make his own security arrangements at site and keep a 24hours Watchman
5. Contractor shall provide sanitary convenience for site staff and labour to keep the site clean
6. A telephone line at site to be maintained and paid by the Contractor
7. Guardrails shall be provided by the Contractor for safety of labour and general public at the site of works.

TAXES

Sales-tax/VAT (except service tax), purchase tax, turnover tax or any other tax applicable in respect of this contract shall be payable by the Contractor and Janki Devi Memorial College will not entertain any claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by Janki Devi Memorial College after satisfying that it has been actually and genuinely paid by the contractor

STATUTORY OBLIGATIONS

The Contractor shall comply with and give all notices required by any Govt. authority and instrument, rule or order made under an act of parliament or state assembly or any regulation or bye-law of the local body, relating to the work and indemnify the Owner against any such liability arising out of noncompliance of the law.

By way of illustration of various Acts/statutory compliances as stated above, the following Acts as amended from time to time shall be complied with by the CONTRACTOR:

- a) Employee's Provident Fund Act 1952
- b) Contract Labour Act (Regulations and Abolition 1970)
- c) Minimum Wages Act 1948
- d) Payment of Wages Act 1936
- e) Workmen Compensation Act 1923
- f) Factories Act 1948

g) Apprenticeship Act 1961

### SUB CONTRACTOR

Before awarding any sub contract, the Contractor shall notify the Architect in writing the names of the Sub-Contractors proposed. Contractor shall not employ the Sub-Contractor to whom Architect or Owner may have a reasonable objection.

### MEASUREMENT OF WORK

Unless otherwise specified, measurement of work shall be carried from the works actually executed. The measurements for the purpose of preparing Bills will be taken jointly by the CONTRACTOR's representative and the Engineer In charge. In measurement of work as stated above, the CONTRACTOR shall certify that the work has been carried out strictly as per the drawings, specifications and item of work in terms of the agreement. Such certificate shall require Engineer In-Charge's endorsement for the purpose of payment. In the event of any dispute with regard to the measurement of the work executed, the decision of the OWNER shall be final and binding on the CONTRACTOR. In the case of site measurements, should the CONTRACTOR not attend or neglect or fail to send his representative for taking joint measurements, the measurements taken by the Engineer In Charge shall be deemed to be the correct measurement of work and shall be binding on the CONTRACTOR

### REJECTION

If the Contract work or any portion thereof, at any time, is found to be defective or fails to fulfill the requirements of the agreement, the Engineer In Charge shall give the CONTRACTOR notice in writing setting-forth particulars of such defects or failure and the CONTRACTOR shall forthwith make good the defects or replace or alter the same to make it comply with the requirements of the agreement. Any materials, equipment, etc. brought to the site and found to be not in accordance with the agreement, shall be rejected by the Engineer In-Charge and the CONTRACTOR shall remove the materials from the site within the period specified by the Engineer In-Charge.

The CONTRACTOR shall not be entitled to any extension of time or extra cost for rejection as per above

### CERTIFICATES OF PAYMENTS

Architect shall issue an interim certificate of payment stating the amount due to the Contractor from the Owner and the Contractor shall be entitled to payment thereof within a period of two week after issue of the certificate. From the total amount, certified deduction shall be made towards payments already made, security deposit, TDS etc.as applicable to Delhi or any other tax applicable at the time of making payment.

All running payments shall be regarded as payment by way of advance against final payment only and not as payment for the work completed till the date of final payment. The running payment made shall not preclude the liability of the CONTRACTOR to finally complete the work strictly in accordance with the specifications and drawings, if required by re-constructing faulty work

### CLAIM FOR EXTRA

It shall be the responsibility of the Contractor to inform the Architect of the extra claim, if any and get a written approval from the Architect before proceeding with the work.

### DEDUCTION FOR UNCORRECTED WORK

If the Architect deems it in-expedient to correct work damaged or not done in accordance with the contract, an equitable deduction from the contract price shall be made thereof.

### FLUCTUATIONS

The Contractor shall not claim any extras for fluctuation of price and the contract price shall not be subjected to any rise or fall in prices.

### POSSESSION BEFORE VIRTUAL COMPLETION

If the Owner, with the consent of the Contractor takes possession of part of the building for handing over to the finishing Contractor, such part of the building shall not be deemed to be virtually completed. Virtual completion of such part would occur only on completion of the last part of the structure.

### TIME EXTENSION

Upon it becoming reasonably apparent that the progress of the work is delayed, the Contractor shall forthwith give written notice of the cause of delay to the Architect, to enable the Architect and Owner to take a proper decision in the matter.

### INSPECTION AND TEST

- i. The CONTRACTOR shall ensure inspection and test of all materials and work at his cost through his ENGINEER IN CHARGE and other technical staff either at site or through any approved laboratory.
- ii. The CONTRACTOR shall ensure proper supervision and inspection during the progress of work at site.
- iii. All materials and work, whether at the site or in the CONTRACTOR's /Sub-Contractor's premises shall be subject to inspection and test by the ENGINEER IN CHARGE. The CONTRACTOR/ his Sub-Contractor shall provide all facilities free of cost to the ENGINEER IN CHARGE including all labor, materials, tools, tackles, instruments, appliances, etc. to enable the ENGINEER IN CHARGE to carry out inspection and/or test.
- iv. All test certificates shall be subject to certification by the ENGINEER IN CHARGE.
- v. The CONTRACTOR shall submit to the ENGINEER IN CHARGE three copies of all inspection/ test certificates.
- vi. The CONTRACTOR shall not be entitled to any claim for extra time or cost due to any delay in carrying out inspection and testing or re-inspection and re-testing if so decided by the ENGINEER IN CHARGE.
- vii. The CONTRACTOR shall take adequate steps to rectify the defects or to replace such materials and work which have failed during inspection /testing

### RESPONISBILITY OF COMPLETION

Any work, supplies or services which might have not been specifically mentioned in the specifications, schedule of items or drawings but are necessary for entire completion of the contract work shall be executed / provided/ rendered by the CONTRACTOR without any Extra cost and within the time schedule specified. Rates quoted shall be deemed to include such



elements of labor and materials necessary to complete the items of work in all respects.

#### DAMAGES FOR NON-COMPLETION

If the Contractor fails to complete the works by the date specified or within any extended time granted to him, the Contractor shall allow the Owner to deduct a sum calculated at the agreed liquidated damages, from the money due to him for the period the work remained incomplete, subject to a maximum amount of 10% of the Contract Value.

#### LIQUIDATED DAMAGES FOR DELAY

If the CONTRACTOR fails to complete the work/item (s) of work in all respects and hand over the same to the OWNER within the time stipulated the CONTRACTOR, without prejudice to any other right or remedy of the OWNER on account of such breach, be liable to pay the OWNER liquidated damages at the rate of 1% (one percent) of the total contract price for delay of every week or part thereof.

The total amount of liquidated damages shall be limited to 10% (Ten percent) of the total contract price.

The above provisions shall not apply in cases of delay for which the CONTRACTOR is entitled to extension of completion time.

#### VIRTUAL COMPLETION CERTIFICATE AND DEFECTS LIABILITY PERIOD

When in opinion of the Architect the works are practically completed, he shall forthwith issue a certificate to that effect, that date will be taken as the date of virtual completion.

The Architect shall prepare a schedule of defects, not later than 14 days after the expiry of the defects liability period. The Contractor shall within a reasonable period of time after receipt of schedule of defects shall rectify the same, failing which the Architect will make suitable deductions from the contract sum.

#### MAINTENANCE GUARANTEE / DEFECTS LIABILITY PERIOD

Maintenance Guarantee period will be 12 months from the actual date of completion and handing over to the OWNER.

- a) The CONTRACTOR guarantees that within the maintenance guarantee period, the contract work shall not show any signs of defects, cracks, settlements, disfigurements, shrinkage, leakage, dampness or any other defects.
- b) The CONTRACTOR shall maintain and satisfactorily execute, at his own cost, all such works of repair, amendment, re-construction, rectification, replacement and any other work to make good the faulty work as stated in Article (a) during the maintenance guarantee period.
- c) The CONTRACTOR shall, if required by the ENGINEER IN CHARGE, search for the causes of any defects, imperfection or fault under the direction of the ENGINEER IN CHARGE. The cost of such search shall be borne by the CONTRACTOR.
- d) At intervals specified by the ENGINEER IN CHARGE the CONTRACTOR, along with the ENGINEER IN CHARGE, shall inspect the contract work to satisfy himself that no defects have

cropped up in the contract work. Should there be any signs of defects, the CONTRACTOR shall take immediate steps to rectify the same, failing which; the ENGINEER IN CHARGE may get the defects rectified at the risk and cost of the CONTRACTOR.

- e) At the end of the maintenance guarantee period, the CONTRACTOR, along with the ENGINEER IN CHARGE, shall carry out final inspection of the contract work to prove that no defects had appeared in the contract work or that all defects which appeared in the contract work have been rectified to the entire satisfaction of the ENGINEER IN CHARGE. If during the final inspection it is found that the defects still remain in the contract work, the period of maintenance guarantee shall be extended at the discretion of the ENGINEER IN CHARGE and the CONTRACTOR shall be liable to make good the defects and be responsible for the maintenance of the work till the defects have been fully rectified.
- f) Upon successful completion of the maintenance guarantee period the OWNER shall issue final acceptance certificate to the CONTRACTOR

#### PAYMENT WITH HELD

The Architect may withhold or on account of subsequently discovered evidence nullify the whole or part of any certificate to such an extent as may be necessary in his reasonable opinion to protect the Owner from loss, for defective work, non- payment to Subcontractors, or other claims connected to this work.

#### INJURY TO PERSONS

The Contractor shall indemnify the Owner against any liability, loss, claim or proceedings whatsoever arising under any statutory or common law in respect of personal injury to or the death of any person, whomsoever arising out of or in the course of or caused by carrying out the work.

#### INSURANCE

Without prejudice to his ability to indemnify the Owner, the Contractor and his Subcontractors shall maintain such insurance as are necessary to cover the liability of the Contractor and the sub-Contractors.

#### INSURANCE AGAINST FIRE

The Contractor shall in the joint name of the Owner and the Contractor, insure against loss or damage due to fire, earthquakes and riots.

#### COORDINATION OF WORK

Contractor shall extend complete coordination to other agencies i.e. air-conditioning, electrical, firefighting, plumbing and interiors working on the same site.

#### LABOUR

Contractor shall not employ child labour under 14 years of age and if female workers are employed he should make provision for safeguarding the small children to keep them clear of the site. All labour shall wear safety helmets and shoes to protect them from injury.

#### SAFTEY

In respect of all labour directly or indirectly employed in the work for the performance of the

contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D. Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

#### ANTIQUITIES

All fossils and other objects of interest or value, which may be found on the site or in excavating the same during progress of the work, shall become a property of the Owner. The Contractor shall carefully take out and preserve all such objects and hand them over to the Owner, through the Architect.

#### GUARANTEE

Besides guarantees required elsewhere, the Contractor shall guarantee the works in general for one year after completion of defects liability period.

#### TREES AND SHRUBS

The Contractor shall protect trees and shrubs designated by the Architect from damage during the course of work.

#### PERFORMANCE GUARANTEE

In addition to the Security Deposit the Contractor shall furnish a performance guarantee in the form of a Bank Guarantee to the tune of Five percent (5%) of the cost of the quotation amount, which will be kept valid up to 12 months after completion of the work.

On acceptance of Quotation, the contractor shall of furnish performance guarantee in the form of FDR or, bank guarantee of 5% of the accepted Quotation cost in favour of Principal, Janki Devi Memorial College, within 10 days of award of work which shall be refunded after satisfactory completion of work and defects liability period of one year from the date of completion of work as recorded by project Engineer / Architect, without any interest

#### ARBITRATION

In case of dispute, the difference of opinion on any matter pertaining to the works, the decision of the Architect shall be final and binding on the contractors and the owners. If either party is not satisfied with the decision of the Architect, within 28 days a notice to this effect will be sent to the Architect in writing. The matter can then be referred to sole arbitrator or a panel of two arbitrators who should be fellows of Indian Institute of Architect, for a final award.

#### LIQUIDATION

If the CONTRACTOR commences to be wound up, not being a member's voluntary winding up for the purpose of amalgamation or reconstruction, or carries on his business under a receiver for the benefits of his creditor the OWNER shall be at liberty to:

- i) Give such receiver the liquidator or other person the option of carrying out the performance under the Agreement, subject to the receiver, liquidator or other person providing a guarantee up to an amount to be agreed upon by the OWNER and such receiver liquidator or other person for

the due and faithful performance of the CONTRACTOR's obligations under this Agreement, or

ii) If the receiver, liquidator or other person fails within 30 (thirty) days to exercise the option to carry out performance of the Agreement then the OWNER may terminate the Agreement and give notice in writing to the CONTRACTOR or to the receiver, liquidator or to any person in whom the Agreement may have become vested.

#### TERMINATION OF CONTRACT

If the CONTRACTOR violates the Agreement or shall neglect to execute the work with due diligence or expedition or shall refuse or neglect to comply with any reasonable directions, instructions or orders given to him in writing by the Architect/Engineer In-Charge in connection with the work or shall contravene or breach any provisions of the Agreement, the OWNER may give notice in writing to the CONTRACTOR to make good the failure, neglect or contravention complained of or cure that breach within a period of 30 (thirty) days of receiving such notice and in default of the compliance with the said notice, the OWNER without prejudice to his rights as below may rescind or terminate the Agreement stating therein the effective date of termination, holding the CONTRACTOR liable for the damages that the OWNER may sustain in this behalf.

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Owner shall have the option of terminating the contract without compensation to the CONTRACTOR.

<b>TECHNICAL SPECIFICATION</b>
<b>Drawings</b>
The drawings enclosed herewith are for the general guidance to the contractors. The Contractors shall upon the award of work, furnish detailed working drawings necessary to carry out the work at site.
<b>Inspection and approval</b>
The contractor shall arrange all necessary inspection by the Local Authorities, as required. He shall also arrange for the tests and obtain and deliver to the Owner all necessary approval required as per local bye-laws/rules.
<b>Painting</b>
All piping, equipment, cabinets furnished under this specification shall be properly painted with one coat of anti-corrosive primer and two coats of 'FIRE RED' synthetic enamel paint after installation.
<b>Guarantee</b>
The contractor shall guarantee that the materials and workmanship of the entire system are of first class quality. All the equipment/apparatus shall be guaranteed to yield the specified ratings at design standards, Any defective equipment / material/ workmanship found short of the specification, quality shall be rejected.
<b>Defects and Liability</b>
All the equipment/material and the system shall be guaranteed against defective material and workmanship for a period of 12 months from the date of commissioning and handing over to the clients along with all relevant documentation. The Contractor shall repair/rectify or replace all the defective materials, components free of cost during the guarantee period. In addition normal maintenance shall be carried out periodically during the defects liability Period including replacement of spares, as required.
<b>Instruction Manual/Completion Drawings/Training</b>
The contractor shall furnish detailed instruction and operation manual in quadruplicate. The contractor shall also furnish detailed completion drawings in tracing cloth drawn to an approved scale. The drawings shall be inclusive of control schematics, if any. The contractor shall train the Owner's personnel in the operation of maintenance of the system.
<b>Testing</b>

<p>The contractor shall arrange to test the entire system as per the procedure enumerated under particular specifications, after the erection is completed. If the results of the tests are not found to be satisfactory by the College/Architect, necessary rectifications shall be done until the test results are found to be satisfactory. The installation shall be deemed to be completed only after the successful completion of the tests, to the satisfaction of the College/Architect .</p>
<p><b>Technical Data</b></p>
<p>The Quotation Documenter shall furnish details of their equipment as per the pro forma under 'Technical Data'. The Quotation Document without technical data is liable to be rejected.</p>
<p><b>Completion drawings</b></p>
<p>After the completion of the work and before issuance of certificate of "Virtual Completion" the Contractor shall submit to the Architect, layout drawings drawn at approved scale indicating the complete details of work actually executed at site.</p>
<p><b>Hydrant System</b></p>
<p><b>Piping work :</b></p>
<p>The underground pipe lines shall be G.I. Class 'C' pipes and shall include all necessary make up pieces, GI, fittings, Nut-Bolts, Gaskets, necessary excavation in any kind of soil, back filling, consolidation of trenches, carting away excess earth as directed etc.</p>
<p>The above ground pipe line shall be G.I. heavy duty Class 'C' pipes and shall include necessary G.I. heavy fittings like Tee, Elbows/Coupling, Nipples, Flanges etc. necessary chasing in masonry if required, making holes in masonry walls or R.C.C. structure and making it good to original surface, MS supports, etc. The pipe line shall be properly supported with suitable brackets, clamps as required.</p>
<p>The entire piping installation shall be tested to a hydraulic test of 12 kg/sq.cm. without any leakage of any kind for 2 hours. In case any defect/leakage is observed, the contractor shall replace/repair the same and re-test the lines to the entire satisfaction of the Architect.</p>
<p>All exposed pipe line shall be painted with two coats of synthetic enamel (P.O. Red) over one coat of primer of approved make and the underground pipes shall be painted with two coats of anti-corrosive primer and two wraps of bitumen hessian.</p>
<p>All the material supplied for the job shall conform to the relevant I.S. Standard. The Contractor shall submit Test Certificates from manufacturers for all such supplies.</p>
<p><b>STANDARDS I</b></p>
<p>C.I.D.F. Pipes - Conforming to IS- 1537/IS-7181, Class- 'B ' C.I.F. Fittings</p>
<p>G.I. Pipes - Conforming to IS-1239 Class 'C', ISI marked</p>

G.I. Fittings - Conforming to IS-1239 Class 'C1 'Heavy'
<b>Sluice Valves</b>
The Valve shall be double flanged type with non rising spindle and with C.I. body and hand wheel. The spindle of the valve shall be of SS 410 and the trim material shall be leaded tin bronze. The valve shall confirm to IS-14846 Class-PN-1 and shall be ISI marked (Kirloskar make preferred).
<b>C.I. Non Return Valves</b>
The valve shall be swing check type with flanged ends for horizontal/vertical application; The valve shall be confirm 15-5312 and shall be ISI marked.
<b>Hydrant Valves (Single, outlet)</b>
The valve shall be Female Oblique type in gun metal construction with Body painted red as per IS 5290 and ISI marked.
The closing of the valve shall be screw down type with cast iron hand wheel with marked indications for closing and opening the valve.
The inlet of the valve shall be of 75 mm dia with flange of 200 mm dia and the outlet shall be 63 mm dia instantaneous type with blank cap.
The valve shall confirm to IS-5290 type 'A' and shall be ISI marked. Manufacturer's Test Certificate shall be furnished for such supplies.
It shall be provided with suitable 6mm thick G.M. orifice, where necessary, to adjust the outlet pressure to 3.5 kg/ sq.cm.
<b>Branch Pipes</b>
The branch pipe shall be of Gun-Metal suitable to fit in 63mm dia instantaneous hose coupling. The branch pipe shall be with detachable G.M. nozzle with 16 mm dia discharge bore.
The branch pipe shall confirm to IS-903 and shall be ISI marked. The manufacturer's Test Certificate shall be furnished for such supplies.
<b>Hose Coupling</b>
The hose coupling shall be instantaneous type and made out of Gun-Metal. The hose coupling shall conform to IS-903 and shall be ISI marked. Manufacturer's Test Certificate shall be furnished for such supplies.
<b>Hose Pipes</b>
It shall be of 63 mm dia RRL type 'A' conforming to IS-636 ISI marked.
<b>Hose Reels</b>

<p>It shall be suitable to accommodate 25mm dia * 30 m long hoses. It shall be swinging type and of sturdy construction, all parts coming in contact with water shall be either of non corrosive material or shall be suitably treated to resist corrosion. It shall rotate freely on its spindle/bearing with full length of hose reel tubing charged with water. The spindle gland and all moving parts shall be leakproof. It shall be rigidly fixed with wall with suitable bolts/anchor fasteners. It shall be supplied with 25mm dia 30m long Nylon braided PVC hose pipe of Dutron/equivalent approved make, 25mm dia S.S. Ball valve on inlet inside and chrome plated Gun Metal shut off nozzle with 6 mm outlet bore. It shall be connected with riser main through 25mm dia piping.</p>
<p><b>Siamese Connection</b></p>
<p>It shall be in gunmetal construction. It shall have 100mm dia flanged inlet. It shall have spring type non return valve</p>
<p><b>Hose Cabinet (internal)</b></p>
<p>It shall be of size 450 x 600 x 250 mm made out of 16 gauge M.S. sheet having front glass door with lock and key, suitable to house 1 no. of hose reel, 1 no of hydrant valve, 2no. of 7.5m - long hose pipe and 1.no. of branch pipe.</p>
<p><b>Hose Cabinet (External)</b></p>
<p>It shall be of size 750 x 600 x 250 mm made out of 16 gauge M.S. sheet having front glass door with lock and key to accommodate 2 Nos. of 15m. long hoses and 1 no. of branch pipe.</p>
<p><b>Fire Brigade Inlet Connection</b></p>
<p>Fire' brigade inlet connection to the system shall comprise of 4 instantaneous pattern 63 mm dia male inlet shall be with cap and chains complete with a 4" dia sluice valve, non-return valve housed in a M.S. cabinet with glass fronted door. The cabinet shall be suitable for outdoor mounting.</p>
<p><b>Fire Pump</b></p>
<p><b>Pump :</b> It shall be centrifugal pump, either Horizontal split casing type or Back Pull Out type. It shall be with C.I. casing with bronze impeller and bronze fitted construction. It shall be of capacity 137 cu.mt./ hour at 70m head for main Electric Motor Driven. It shall be capable for delivering 150% of rated discharge at not less than 65% of the rated head. The shut-off head shall not exceed 120% of the rated head. In case of horizontal split casing pump, it shall be provided with flexible type coupling and in case of back pull out type pump, it shall be provided with spacer type coupling. It shall be coupled directly with prime - mover such that the prime mover can be dismantled independently. The pumps shall be supplied with its performance test certificate from manufacturer.</p>
<p>On/off switches located near the hose reel hose or hydrant outlet, at each floor for the main fire-pump at underground water tank with a capacity to discharge 900 liters per minute at 3 bar pressure as measured at the terrace level should be installed.</p>
<p><b>Motor :</b> It shall be of suitable H.P. for the pumps stated above, It shall be squirrel cage, TEPL, type with class – B insulation. The motor for the main fire pump shall be provided with space heaters.</p>



<b>Base Plate</b> : The base plate shall be C.I./M.S. fabricated," common for pump and the primer mover.	
<b>Excavation &amp; Trenching</b>	
All trenches 1.10m or more in depth.	
Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done. The Contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons or which may with the consent of the contractor be paid to compromise any claim by any such person.	
<b>Demolition</b>	
Before any demolition work is commenced and also during the process of the work : All roads and open areas adjacent to the work site shall either be closed or suitably protected. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.	
All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so ever loaded with debris or materials as to render It unsafe.	
<b>TECHNICAL DATA TO BE FURNISHED BY CONTRACTOR</b>	
<b>Fire Pump</b>	
Type	:Back Pull Out.
Make -	:Kirloskar
Capacity in LPS	:38
Delivery head in Mts	:70 mt.
Materilas of impeller -	:Bronze
Diameter of impeller	:By Quotation Documenter
Rated Speed in rpm	:2900
Suction and deliver Size in mm	:100x80mm
Type of drive recommended	: Speed 45 KW/60HP Motor rating
Recommended motor rating	: 60 HP
Material of casing shaft	: CI Shaft steel
Efficiency of the pump at	: By Quotation Documenter

the rated capacity and head.	
<b>Jokey Pump</b>	
Type	
	:Back Pull Out
Make -	:Kirloskar
Capacity in cm.mt./sec.	:5 LPS
Delivery head in Mts	:70 mt.
Materilas of impeller -	: CI
Diameter of impeller	: By Quotation Documenter
Rated Speed in rpm	:2900 rpm
Suction and deliver Size in mm	:50x32mm
Type of drive recommended	: TEFC 11KW/15HP
Motor rating	
Material of casing shaft	: CI/ steel
Efficiency of the pump at rated	: By Quotation Documenter.
<b>Pipes</b>	
Make -	
	:Tata/Jindal/Asian or ISI Marked
standard	: (ISI Marked).
<b>Landing Valve.</b>	
Make	
	: SBJ/Newage/Swati
Type	: Oblique
Standard	:ISI Marked
Whether approved by TAC	: Yes / No
<b>Valve.</b>	
Make	
	: Kirloskar make / ISI marked / equivalent
Material of Dody	: C.I.

Material of seat	: G.M
<b>Hose Pipe.</b>	
Make	:New Age
Material	:Cotton synthetic yarn circular
Whether as per IS Standard	: Yes / No
Whether approved by TAC	: Yes / No
<b>Material</b>	<b>Approved Standard</b>
G.I. Pipes	IS-1239, Class ‘C’ ISI Marked
G.I. Fittings	IS-1239, class –‘Heavy’ C ISI marked
C.I. sluice Valves	IS-14846 class FN-1.0‘Kirloskar make ISI Mark
C.I. Non-Return Valve	IS- 5312, Kirloskar mark
C.I. Foot valve	IS- 4038, Kirloskar’ mark
Hydrant valve	IS- 5290, ISI mark
Hose Coupling	IS- 903, ISI mark
Branch Pipes	IS- 903, ISI Mark
Hose Pipes	IS- 636, ISI Marked
CIDF Pipes	IS- 1537 ISI Marked
CIF Fittings	IS- 1538 ‘Heavy’
<b>LIST OF APPROVED MAKES</b>	
CT double flanged pipes and fittings	: NJWM/ Kesoram/EQ
CT double flanged valves	: Kirloskar
GI Pipes	: Jindal/ Tata/ Asian (ISI Marked)
Gun Metal/Brass Valves	: Leader, GG,SANT IS-778 (ISI Marked)
CI manhole covers	: RIF (Agra), BC (Agra).
Pumps and Motors	: Kirloskar / M&P
Reinforced Rubber Lined	
Canvass Hose pipes	: CRL /Newage
Hydrant valve/Branch pipes as per ISI 5290	: SBJ/Newage/approved eq. ISI Marked
Hose reels	:SBJ/Newage/approved eq.as per ISI Marked

**BILL OF QUANTITIES FOR FIRE FIGHTING WORKS AT JDM COLLEGE NEW DELHI**

S.No.	Description of item	Qty.	Rate	Unit	Amount
1.	Providing & fixing of mild steel black pipe (IS:1239 part-1) heavy class including cutting, screwing, welding etc. complete with fitting like anchor fasteners, bricks masonry support, coupling viz tees, bend, elbow, flanges, reducer, clamp hangers, etc as per satisfactions including cutting holes & chases in bricks or RCC wall/slabs and sealing the sleeves with glass wool and fire proof material as per requirement & making good the same complete including painting with one coat of primer & two or more coat of synthetic enamel paint of approved make & shade including steel work.(jindal)				
	a) 100 mm diameter	24 M		Metre	
	b) 80mm diameter	64 M		Metre	
	c) 25mm diameter	6 M		Metre	
2.	Supply, installation, testing & commissioning of first-aid fire hose reel wall mounting swinging type complete with drum bracket, 25mm diameter type complete with drum, bracket 25mm diameter stop valve & 20mm diameter 36m long high pressure braided hose reel tubing as per (IS: 444)with gun- metal shut-off nozzle having 5mm diameter orifice. The hose reel shall strictly confirm to IS:884-1985.(MAKE <b>MINIMAX/NEWAGE/GUARD/LIFE GUARD</b> )	6 Nos.		Each	
3.	Supply, installation, testing & commissioning of non-percolating flexible hose (RRL Type- "A" ) ISI marked (IS:636) 63mm diameter x 15m long complete with instantaneous type gun-metal 63mm diameter ISI marked male & female couplings(IS:903) Bound & riveted to hose pipe with copper rivets & 1.5 mm copper wire(Make <b>Newage/Omax/guard/lifeguard</b> )	12 Nos.		Each	
4.	Supply, installation, testing, & commissioning of branch pipe with nozzle gun metal 63mm diameter, short branch pipe with 16mm diameter, nozzles ISI marked(IS:903)	6 Nos.		Each	
5.	Providing standard fireman's axe heavy rubber handle.	6 Nos.		Each	

S.No.	Description of item	Qty.	Rate	Unit	Amount
6.	Supply, installation, testing, & commissioning of gun metal fire brigade connection (suction collection head) consisting of 63mm diameter, instantaneous type of coupling with built-in-check valve & 150mm diameter. flanged outlet complete with bolts, nuts, & rubber insertion as required as per IS: 904-1983( including 16g thick M.S sheet enclosure stove enameled with 8mm thick glass)				
	a) 2 way	2 No.		Each	
7.	Providing & fixing 25mm diameter single acting air release valve complete with all necessary fittings.	2 No.		Each	
8.	Supply, installation, testing, & commissioning of landing valve: single headed, gun metal ISI marked oblique pattern hydrant landing valve with 80mm diameter, flanged inlet & 63mm diameter instantaneous type female outlet complete with gun metal cap & G.I chain, twist release type lug & all accessories as per IS:5290-1983(Type 'A')MAKE Safeguard/Newtack/Newage/Gtech/Omex/Minimax /GUARD/LIFEGUARD.	6 Nos.		Each	
9.	Supply, installation, testing & commissioning of weather proof hydrant cabinets fabricated from 16 G.M.S sheet with full glass door & locking arrangement, suitable to accommodate 02nos, 15mtr long hose branch pipe. The cabinet shall be painted with one coat of primer & two or more coats of synthetic enamel paint of approved make red shade & shall be suitable mounted on a raised masonry platform as required.				
	(a)1200x900x450mm	6 Nos.		Each	
10.	Supply, installation, testing & commissioning of cast iron gear/hand level operated multi purpose soft seated water butterfly valve having centric disc construction one piece body with nitrilic seat PN.16 rating, SS-304 shaft, complete with matching flanges.(Make sir/castel/Advance/Kartar or ISI marked.				
	a) 80mm diameter	6 Nos.		Each	
	b) 100mm diameter	2 No.		Each	
11.	Supply, installation, testing & commissioning of C.I. water type non return valve suitable for pressure 15kg/sqm				

S.No.	Description of item	Qty.	Rate	Unit	Amount
	with flanges, nut, bolts, & washer, painting etc. complete as required conforming to IS:776 Class-II				
	(a)80mm diameter.	3 Nos.		Each	
	(b)100mm diameter.	2 No.		Each	
12.	Providing & fixing pressure guage 100mm with accessories (make guru/Danfoss/feibig)& shall included stop cock & all fittings.	2 Nos.		Each	
13.	Supply, installation, testing & commissioning of cast iron Y Steiner with bronze perforated sheet basket teted to a pressure of 15 kg/sqcm including rubber gasket, flanges, nuts, bolts and washer, complete as required. (Make sir/castel/Advance/Kartar or ISI marked.				
	(a)100mm	2 No.		Each	
14.	P/F/T/C of CO2 (Carbon Dioxide)Fire extinguisher ISI marked confirming to IS: 15683, Capacity 4.5 liters complete with delivery hose, locking arrangement, pressure gauge, operation manual, bracket with two screw and sleeve.	2 Nos.		Each	
15.	P/F/T/C of ABC type Fire extinguisher (Stored pressure) ISI marked conforming to IS: 15683, capacity 6 kg. complete with delivery hose, locking arrangement, pressure gauge, operation manual, bracket with two screw and sleeve.	2 Nos.		EACH	
	<b>ELECTRIC MOTORS</b>				
16.	Providing & installing horizontal/vertical monobloc centrifugal pumping set with mechanical seal C.I volute & bronze impeller connected to a TEFC induction motor situable for 400/44 volts, 3 phase, 50 cycle A.C supply with 150mm diameter pressure with gunmetal isolation cock, vibration eliminating pads for fire pump for terrace level(Fire pump on terrace)(Kirlosker/siemens/crompton) capacity-				
	a) 900LPM head-32mtr,	1 No.		Each	
	b) 450LPM head- 32mtr	2 No		Each	
17.	Providing, fixing, testing, commissioning of 25mm diameter gate valve/ball valve with fittings.	8 No.		Each	
18.	P/F/T/C of pressure switch make imdofose/danfoss.	4 Nos.		Each	
19.	Providing & fixing of G.I tank nipple of size given below including washer, gasket, etc complete.	2 Nos.		Each	

S.No.	Description of item	Qty.	Rate	Unit	Amount
20.	Providing & fixing of M.S base plate made of M.S channel frame of size 400x200mm& channels size 75x40x5mm including applying steel primer & synthetic enamel paint etc complete.	3 Nos.		Each	
21.	Providing & placing of polythene water storage tank ISI marked indicating the B/S No. with cover & suitable locking arrangement & fitting & placing.	10000 ltrs.		Per litre	
22.	Providing & fixing of fiber glass 3mm thick sheet roofing & fixing with J & L hooks nuts & bolts or required size the size of sheet is 2mtr x 2mtr fixing on angle structure to cover the moter & pumps	1 No.		Each	
23.	Supply, installation, testing & commissioning of armoured cable ISI marked including necessary support clamps at ceiling levels & connections lugs complete in all respects. (make Kalinga/Finolex/Plaza/Grindlav/ISI marked)				
	(a)3 core 4sqmm.	60 M		Metre	
	(b)4core 1.5 mm copper	60 M		Metre	
	(c) 4 core 6mm coper	60 M		Metre	
	(d) GI earthing wire 4mm	60 M		Metre	
24.	Brick work with bricks of class designation 75 in foundation and plinth in cement mortar with FPS bricks. In 1.4(1cement: 4 concret sand & cement plaster finish with floating coat of neat cement)	2 Job		Each job	
25.	Motor control panel of cubical construction, floor mounted type, fabricated out of 2mm. thick CRCA sheet , compartmentalized with hinged lockable doors, dust & vermin proof, powder coated of approved shade after 7 tank treatment process , cable alley , interconnection with solid aluminum strip/ single core PVC insulated FRLS copper conducted cable , having suitable mounting for switch gear & accessories & internal control (relay, timer, sensor annunciation window for fault indication , ON/OFF/TRIP indication along with suitable conductors , overload protection, current sensing type single phase preventer) & colour coded power wiring with suitable size fire retardant low smoke PVC insulated copper cable with conductor, earth terminals , numbering	2 No.		Each	

S.No.	Description of item	Qty.	Rate	Unit	Amount
	suitable for operation on 415V, 3 phase, 50HZ AC supply with enclosure protection class IP42 complete as per satisfaction. Starter , meter, selector switches, indicating LED with terminal facilities for repeat indicator of various audio & visual indication at terrace level & remote push button for ON/OFF operation in fire control room.				
				<b>Total</b>	