



**NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND  
RESEARCH - HYDERABAD**

**(NIPER - HYDERABAD)**

**Dept of Pharmaceuticals, Ministry of Chemicals & fertilizers,  
Government of India**

**TENDER NO. : NIPER-H/MAINT / 01 / 2020**

**WORKS SERVICES FOR :**

**REPAIR / RENOVATION TO LABS. TOILETS AND CERTAIN  
OTHER MAINTENANCE WORK AT NIPER HYDERABAD**

**NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**

Dept of Pharmaceuticals, Ministry of Chemical & Fertilizers Govt of India

**NAME OF WORK : REPAIR / RENOVATION TO LABS, TOILETS AND CERTAIN OTHER  
MAINTENANCE WORK AT NIPER HYDERABAD**

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Sig of Contractor \_\_\_\_\_

Dated : ..... 2020

**ON WEB PORTAL**

Tele : 040 23074750 (Ext. No: 2018, 2006)

NIPER Hyderabad  
Near IDPL, Balanagar  
Hyderabad, Telangana -500037

10-Jun-2020

M/S \_\_\_\_\_

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**REPAIR / RENOVATION TO LABS, TOILETS AND CERTAIN OTHER  
MAINTENANCE WORK AT NIPER HYDERABAD  
TENDER NO : NIPER-H/MAINT / 01 / 2020**

Dear Sir(s),

1. Tender documents for the above-mentioned work are uploaded herewith on [www.niperhyd.ac.in](http://www.niperhyd.ac.in). You are authorised to participate in this competitive tendering by submitting tender documents as specified in succeeding paragraphs in two covers i.e. one is technical bid/applications and the second is price /financial bid. However the Director NIPER Hyderabad does not bind himself to accept the lowest or any tender.

2. All critical dates i.e. publishing dates, downloading dates and bid submission dates shall be referred as per the NIT details mentioned and updated in the website.

3. Tender documents for the above work have been uploaded on website **[www.niperhyd.ac.in](http://www.niperhyd.ac.in)**. The following documents and / or amendments thereto, which form part of tender documents, are not enclosed: -

- (a) General Conditions of Contract
- (b) Schedule of Minimum Fair Wages.
- (c) Delhi Schedule of Rates 2018
- (d) CPWD Manual

4. The tenderers are deemed to have made themselves acquainted and fully conversant with contents of the above mentioned documents before submission of tender and no claims whatsoever on this account shall be entertained. Against documents at Sl No.3 (a) & 3(b) "undertaking pages" are attached.

5. Instructions for completion of the tender documents are also given which should be complied with.

6. Tenderers to note that **ONLY OFFLINE TENDER SHALL BE ENTERTAINED**. The tender documents are available online on website "[www.niperhyd.ac.in](http://www.niperhyd.ac.in)". The interested tenderers/firms must sign on all pages of documents. **The tender box will be placed at Main Security Gate at NIPER Hyderabad.**

7. Tenderer shall note that information technology Act, cyber Act along with other Act as relevant shall be applicable.

8. Instruction for participating & filling of tender and all documents referred along with this letter shall be forming part of tender documents and shall be complied with.

Sig of Contractor\_\_\_\_\_

Dated : ..... 2020

**Sdxx-**  
Registrar  
NIPER Hyderabad

**INSTRUCTIONS FOR SUBMISSION OF BID/ TENDER DOCUMENTS**  
**TO BE COMPLIED WITH BY THE TENDERER**

1. **EARNEST MONEY**: Contractors shall submit Earnest Money Deposit as detailed in NIT either in the forms of DD amounting to **5%** of Tender value from a Schedule Bank in favour of NIPER Hyderabad. Non-submission of earnest money will render the tender as non-bonafide and consequently rejected.

2. **PERFORMANCE SECURITY** : Before the Work Order is placed by the NIPER Hyderabad, the successful contractor shall deliver Performance Security to & in favour of Accepting Officer in the form of Bank Guarantee, for an amount equivalent to **10%** of the contract sum. Non compliance of this provision shall constitute sufficient grounds for cancellation of awarded contract and forfeiture of Earnest Money.

3. **GENERAL INSTRUCTIONS FOR COMPLIANCE:**

3.1 The tender will only be accepted in the Offline form only. The tender documents can be downloaded from NIPER Hyderabad Official website. All bids to be submitted to NIPER Hyderabad in physical form in hard copy. The tender box will be positioned at NIPER Hyderabad at Main Security Gate. The tendering is based on 2 cover system. The tenderer shall submit the documents in requisite format as stipulated in NIT & tender documents and as mentioned herein after.

3.2. Cover wise contents & documents are given herein after. The cover wise details are mentioned hereunder. All the enclosures/attachments are to be submitted by bidder for cover 1. The bill of quantities (BOQ)/price Bid enclosed under cover-2. All the documents must be signed in blue ink by the bidder before submission. The list of documents & content are given as under:-

- (a) **COVER -1** : The details are mentioned hereunder.
- (i) Application for bid participation in Firm's letter head.
  - (ii) DD towards Cost of tender.
  - (iii) GST Registration.
  - (iv) Any other documents which the bidder feels relevant or mentioned in NIT.
  - (v) EMD
  - (vi) Affidavit that the applicant firm is not black listed or banned by any Govt.
  - (vii) Affidavit that no Govt recovery is due against the firm.
  - (viii) Copy of valid passport or police verifications of each of the director/partner or proprietor of company/firm.
  - (ix) Work done details during last 05 years and other details to prove eligibility.
  - (x) Performance Report of work done by bidder issued by the concerned appropriate authority.
  - (xi) Copy of Income Tax Return for last 03 years OR Form 26 AS for last 03 years.
  - (xii) Turnover certificate for last 03 years duly signed by CA.
  - (xiii) List of work in progress as on date of submission of bid.

(xiv) **SOLVANCY**

(i) Turnover: Average annual financial turnover on construction works should be at least 50% of the estimated cost put to tender during the immediate last three consecutive financial years.

(ii) Profit/loss : The bidder should not have incurred any loss (profit after tax should be positive) in more than two years during available last five consecutive balance sheet, duly audited and certified by the Chartered Accountant.

(iii) **Solvency Certificate**: Solvency of the amount equal to 40% of the Estimated Cost put to tender (ECPT) to be submitted .

(xv) Alternatively Wealth Tax Certificate can also be given, if available.

(xvi) ENGINEERING ESTABLISHMENT. The bidder shall have in his establishment:-

(i) One (01) Graduate Engineer from a Government recognized institution for Class 'III' with minimum experience of 04 years.

**and**

One (01) Diploma Engineers from Government recognized institution with minimum experience of 05 years for Class 'III'.

(ii) One (01) Graduate Engineer from a Government recognized institution for Class 'IV' with minimum experience of 02 years.

**and**

One (01) Diploma Engineers from Government recognized institution with minimum experience of 04 years for Class 'IV'.

**Note :-** Please forward affidavits on non-judicial stamp paper each duly notarized from your side having employed each engineer and from engineer side of taking your employment duly supported by attested copy of engineering degree/ diploma certificate as applicable to the individual.

(xvii) **T&P / Machinery** :- Nos & type of Tool, plant & machinery as per estimated cost of work etc (as applicable)

**Note:-** Please submit affidavit on duly notarized affirming being in your possession and having ownership of above T & P with present value of each T & P along with ownership details.

(xviii) Constitution of firm on an affidavit duly notarized indicating status of firm, i.e. whether it is proprietorship or partnership or Limited firm.

(xix) Certified copy of Certificate of registration of firm/company with Registrar of Companies alongwith copy of partnership deal for partnership firms and certified copy of memorandum of articles for Ltd. Companies.

(xx) Certified copy of PAN No. /TIN No./GST No of proprietor / partners / firm.

(xxi) Indemnity Bond on non-judicial stamp paper of requisite value duly attested by Notary (on format given below)

## INDEMNITY BOND

This bond of indemnity is executed on this \_\_\_\_\_ day \_\_\_\_\_ by M/s Shri \_\_\_\_\_ having registered office at \_\_\_\_\_ to indemnify the India of the following:-

1. We undertake to pay the NIPER Hyderabad any damages that may be found to be recoverable on order of our contracts.
2. We undertake that in case NIPER Hyderabad is put to pay any loss or disadvantage in monetary of contract by the firm which shall indemnify the government for each loss or disadvantage.
3. This bond of indemnity is executed by M/s \_\_\_\_\_ and have signed before me. Whatever stated above is true and correct to the best of my knowledge and belief.

**Signature of Contractor**

**Notary**

(i) Notarised affidavit that there is no relationship with any Officer of NIPER Hyderabad. In case of relation the same shall be disclosed with details.

(ii) An affidavit affirming that all the information and details furnished are true and the bidder may be liable for suitable administrative and legal action in case the information and details are found to be false/ incorrect.

**Note** :- All affidavits must be submitted duly notarized and shall be on Non judicial stamp paper of requisite value.

(b) **COVER-2** : Bill of quantities (price/financial Bid) shall be submitted by bidder duly signed in prescribed format between the duration (time) allowed for bid submission. This shall be submitted offline by contractor along with documents of cover-I. The price Bid/BOQ of those contractor who are considered technically qualified as per documents in cover-I only shall be opened.

3.3 All bids and documents will be signed by the contractor in blue ink.

3.4.1 The tender documents along with all concerned documents shall be published and made available in public domain (on website [www.niperhyd.gov.in](http://www.niperhyd.gov.in)). The time and date fixed under “**Critical Dates**” heading shall be complied by tenderers & Deptt respectively as applicable.

3.4.2. The tenderer shall visit on above said website to download the tender document for participate in tendering. Only Offline mode (**Hard copy of the tender document**) is accepted. The bidder shall download complete tender documents & go through it thoroughly and quote his rates in BOQ (cover 2 enclosures) after downloading the same. The Bidder has to enter name of his firm/Co. & the item wise rate in relevant column & location and submit his bid after signing the same. The bidder shall note that he will not modify or make any change in any of the documents submitted by the deptt. In case any such modification/ tempering is noticed at any stage, administrative and other action as suitable as per law shall be taken. Contractor shall note that after the date and time fixed for submission of bids no correction/revision can be made to any document. Contractor shall employ Indian national only after verifying their antecedents and credentials. Subletting of work/contract in any form is not allowed. For submission of Bid (Technical & price both), the contractor shall ensure timely submission of all documents as per NIT & Tender stipulation.

3.4.3. In the event of lowest tenderer revoking his offer or revising his rates upwards/offering voluntary reduction, after opening of the Technical / Price Bid, the Earnest Money deposited by him shall be forfeited. Issue of tender to such contractors / Authorization for quoting shall remain suspended till the aforesaid amount equal to the earnest money is deposited in NIPER Hyderabad. In addition, such tenderer and his related firm shall not be authorized to quote the tender in second call or subsequent calls. Reduction offered by the tenderer on freak high rates referred to the tenderer for review shall not be treated as voluntary reduction. In view of the postal and other delays, it is suggested that original documents of cover No 1 shall be sent by a Speed Post / Special messenger, so as to ensure it reaches NIPER Hyderabad within 03 clear days before bid submission end date.

3.4.4. Description of items of work mentioned in “Schedule of work – BOQ” shall be read in conjunction with notes given under Sch ‘A’ (Schedule of works - BOQ). The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. The tenderer /bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted; else the bid will be disqualified and summarily rejected. Modification to the rates quoted in the BOQ not possible.

#### 4. CPM

4.1 The tender is based on CPM.

4.2 The tenderer is expected to be fully conversant with the technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literatures on the subject are widely available which the tenderer may make use of.

4.3 The tenderers attention is drawn to special condition of the tender regarding preparation of the detailed net work and time schedules as for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer in using the technique will be taken as his technical insufficiency and will affect his class of enlistment and future prospects for receiving tenders for the works

4.4 The NIPER hyderabad may issue amendments/corrigendum to the tender documents before date & time fixed for start of bid submission. The tenderer is required to read tender documents in conjunction with the amendments if any, issued by the department. Only the errata/amendments issued by the NIPER Hyderabad shall hold good.

5. These instructions shall form part of the contract documents.

Sig of Contractor\_\_\_\_\_

Dated : ..... 2020

**Sdxx-**  
Registrar

**NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH HYDERABAD**  
**NOTICE OF TENDER**

1. A tender is invited from the contractor's meeting eligibility criteria for the work as mentioned in Appendix 'A' to this Notice of Tender.
2. The work is estimated to cost as indicated in aforesaid Appendix 'A'. This estimate however is not a guaranteed and it is merely given as rough guide and if the work costs more or less, the tenderer will have no claim on this account. The tender shall be based as mentioned in aforesaid Appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with the phasing, if any, indicated in the tender from the date of handing over site which will be on or about two weeks after the date of Acceptance of tender.
4. Normally Contractors whose names are on the CPWD Hyderabad approved list for the area in which the work lies and within whose financial limit (class of enlistment) the estimated amount would fall, may tender.
5. One tenderer/bidder or one firm of the contractors shall participate in not more than one submission of tender. Under no circumstances will a father and his son(s) or other close relations, who have business dealing with one another be allowed to tender for the same contract as separate competitors. Breach of this contract condition will render the tender of both parties liable to rejection.
6. The Director NIPER Hyderabad will be the Accepting Officer, hereinafter referred to as such for the purpose of this contract.
7. Original & hard copy of Application mentioning name of work & DD alongwith (EMD and other documents in compliance to enlistment criteria mentioned in the tender documents) for the tender forms must be submitted offline to the NIPER Hyderabad Balanagar Hyderabad Telangana 500037, so as to reach this office within 03 days from last date of closing date of bid submission. The tenderers are therefore advised to ensure timely submission of these documents keeping in view the following :-
  - (a) if original DD is not received within 02 days from last date of submission of bid, the cover No 1 (Tech Bid) shall not be validated for opening of financial bid. Name of such contractor alongwith complete address shall be circulated for not opening of bid for the period of 06 months commencing from the date of opening of financial bid.
  - (b) The tenderers who have failed to submit original DD pertaining to EMD by stipulated date, shall be ineligible for opening of financial bid.
  - (c) The tenderers are also required to submit copy of GST Regn No, Copy of Registration alongwith DD & Application. The tenderer who does not have this number shall be disqualified in Tech Bid evaluation and his financial bid shall not be opened.
8. Complete status of bids cover 1 & 2 and its opening etc will be updated on website immediately of the happening of the event or change in status. Submission of documents under cover 1 & price bid under cover 2 does not guarantee the acceptance thereof. The price bid of all bidders shall be opened subject to the condition that the bidder qualifies laid down eligibility criteria and conditions of the tender. No applicant/ contractor/bidder shall be entitled for any compensation whatsoever for non consideration/opening of cover -1 and opening of cover-2.
9. Tender forms and conditions of contract and other necessary documents will be submitted in Hard copy (Offline mode) to NIPER Hyderabad in cover -1 & cover-2 as per date given in aforesaid Appendix 'A'.
- 9.1 The tender shall be accompanied by '**Earnest Money**' for the amount referred to in the aforesaid Appendix 'A' in the form of deposit at call receipt issued in favour of NIPER Hyderabad mentioned in aforesaid Appendix 'A' by Scheduled Bank, the amount being credited to the revenue deposit of the NIPER Hyderabad.
10. The NIPER Hyderabad will return the earnest money applicable to all unsuccessful tenderers by endorsing an authority on the deposit receipt for its refund.
11. Tenderers must be very careful to submit a bonafide tender, and its related documents failing which the Accepting Officer may at his absolute discretion, reserve the right of forfeiting a portion of Earnest Money deposited by the tenderer. A bonafide tender must satisfy each & every condition laid down in this tender.
12. Contractor quoted rates shall be deemed to include amendments/ corrigendum's to tender documents published till last date & time of closing of bid submission. Contractor shall regularly check the corrigendum's published to keep them upto date.



13. Contractor shall quote his rate on the latest BOQ published online with reference to the tender. Bids quoted on previous BOQ shall be summarily rejected and not considered as Bonafide and suitable necessary action may be initiated against the contractor.

14 The tenderers are advised to visit the site by making prior appointment. A tenderer shall be deemed to have full knowledge of all related documents, samples, site etc. whether he has inspected site or not. The tenderers can submit the tender (cover No 1 & 2) up to the last date & time of submission of bid and the bid will be opened offline by the opening officers on the date & time mentioned / stipulated. The site plan of work site is not being uploaded; however the same can be seen in NIPER Hyderabad Campus and Hostel.

15 Copies of the drawings and other documents pertaining to the work to be done by the contractor will be kept open for inspection of the tenderers in the NIPER Hyderabad campus as mentioned in the aforesaid Appendix 'A' during working hours.

16 The Accepting Officer reserves the right to accept a tender submitted by a public sector undertaking giving a purchase preference over other tenders(s) which may be lowest, as are admissible under the Govt policy. No claim for any compensation or otherwise shall be admissible from such tenderers whose price bid (cover No 2) may be rejected on account of said policy.

17. The Director NIPER Hyderabad will upload status of tender on the date and time indicated in the aforesaid Appendix 'A'.

18 Any tenderer, who puts any alterations to any of the conditions, laid down or puts any other condition of any description whatsoever in his bid submitted is liable to be rejected.

19 The submission of tender by a tenderer implies that he has read the conditions of the tender and has made himself aware of the scope and specifications of work to be done and of the conditions and rates at which stores, tools, and plants etc will be issued to him, local conditions and other factors bearing on the execution of the work.

20 Tenderer must be in possession of a copy of Delhi Schedule Rates 2018 Specifications for rates including amendments/errata thereto.

21 The Accepting Officer does not bind himself to accept the lowest tender or any tender or to give any reason thereof.

22. Subletting of work is not permitted.

23. This Notice of tender shall form part of the contract.

24. The Director NIPER Hyderabad will be Accepting Officer, here in after refer to as such for the purposes of this contract.

25. DD with tender/bid enlistment details/documents shall be submitted as packet 1/cover-1 ('T' bid) of the tender/bid one-tendering portal. DD is refundable in case T bid is not accepted resulting in non-opening of 'Q' bid. The applicant contractor shall bear the cost of bank charges for procuring and encashing the DD and shall not have any claim from the NIPER Hyderabad whatsoever on this account.

26. Tender form and conditions of contract and other necessary document shall be available on [www.niperhyd.ac.in](http://www.niperhyd.ac.in) website for download and shall form part of contract agreement in case the tender/bid is accepted.

27. The submission of bid implies that bidder has read this notice and the conditions of contract & has made himself aware of the scope and specifications of work to be done & the conditions & rate at which stores, tools and plants etc, will be issued to him and local conditions & other factors having bearing on execution of the work.

28. Tenderers/bidders must be in possession of a copy of Delhi Schedule of Rates (see appendix 'A') including amendments and errata thereto.

29. In case the BOQ is revised by the NIPER Hyderabad and the bidder has failed to quote in revised BOQ (i.e he has quoted in previous BOQ), such bid shall be treated as willful negligence by the bidder and his quotation shall be considered non-bonafide. In such cases the lowest tender shall be determined by the lowest amount amongst the valid/bonafide bids only. Accepting Officer may decide whether to retender or otherwise. The remark of 'non bonafide finance bid' against such bidder and copy of this CST shall be uploaded alongwith Finance Bid Opening Summery.

Sig of Contractor \_\_\_\_\_

Dated : ..... 2020

**Sdxx-**  
Registrar

**APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)**

1.	Name of work	REPAIR / RENOVATION TO LABS. TOILETS AND CERTAIN OTHER MAINTENANCE WORK AT NIPER HYDERABAD
2.	Estimated Cost of Work	<b>Rs 73.63 Lakh</b>
3.	Cost of tender documents	Rs 5,000/- in the form of DD from any Scheduled/ Nationalised bank in favour of <b>NIPER Hyderabad</b> and payable at <b>Hyderabad</b>
4.	Period of completion	06 (Six) months
5.	Website/portal address	<a href="http://www.niperhyd.ac.in">http://www.niperhyd.ac.in</a>
6.	Type of Contract	The tender shall be Item rate on General Contract Condition (CPWD Manual General Conditions of Contract) and Item rate with list of works to be priced by tenderer. The tenderers are required to quote their rates against items of list of works.
7.	Information & Details:	
	(a) Bid submission start date	<b>11-Jun-2020</b>
	(b) Last date of bid submission	<b>01-Jul-2020 (04:30 PM)</b>
	(c) Date of Technical bid opening	<b>02 -Jul-2020 (02:30 PM)</b>
	(d) Date of opening of Commercial	Will be intimated later
8.	Eligibility Criteria	The eligible contractor's means registered in CPWD, BSNL, MES, Telangana PWD, Central PSUs & working contractors of NIPER Hyderabad if they furnish the definite proof from the appropriate authority of having satisfactorily completed three similar works of value 40% or two similar works of value 60% or one similar work of value 80% of estimated cost during last five years.
9.	Tender issuing and Accepting Officer	<b>Director NIPER Hyderabad</b>
10.	Executive Agency	<b>NIPER Hyderabad</b>
11.	Earnest Money	<b>Rs 3,70,000/-</b> in form of DD from any Scheduled/Nationalized bank in favour of <b>NIPER Hyderabad</b>
12.	Contact Details & Address	<b>NIPER Hyderabad, Near IDPL, Balanagar, Hyderabad, Telangana 500037, Phone No. +91 40 23074750 (Ext. No: 2018, 2006)</b>  Website : <a href="http://www.niperhyd.ac.in">www.niperhyd.ac.in</a>

## APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)

### NOTES :-

1. (a) The contractor qualifying eligibility criteria may apply/bid. Application/bids from one class below eligible class applicants shall be considered in the event of inadequate response/bids (Less than 3 bids) from the applicants of eligible class are not received.
2. (i) Applicants /bids not accompanied by requisite DD towards cost of tender and earnest money (as applicable) and other documents as per website shall not be considered for validation of "T" bid. The action emanated below shall be taken tendering authority.  
(ii) Tenderers /bidders to note that they should ensure that their original DDs and earnest money (as applicable) are submitted with tender document at the time of bid submission.  
(iii) Contractors, where scanned copies of requisite DD/ Bankers Cheque towards cost of tender has been forwarded but physical copies are not received by the stipulated date, finance bids will not be opened. Name of such contractors' alongwith complete address shall be circulated for not opening of their bids for a period of six months commencing from the date of opening of finance bid.  
(iv) In case of applications/bids where scanned copies of requisite Earnest money (as applicable) were submitted but the same are not received within stipulated time, such bids shall not qualify for opening of finance bid.
3. Contractor will be required to submit necessary documents to prove their eligibility for enlistment in eligible class & category of work including Affidavit for no recovery outstanding. List of following documents shall also be submitted amongst others:-
  - (i) Details of work executed during last five years, financial year-wise in tabular form giving name of work, Accepting Officer's details, viz, Address, Telephone, Fax No, E-mail ID etc, date of acceptance of tender and actual date of completion. This shall be duly signed by proprietor/all partners/authorized director of Pvt/Public Ltd, as applicable. It should indicate whether extension was granted or compensation was levied. Attested copy of acceptance letter and completion certificate shall be enclosed of each work. In case performance report has been given by the client same shall also be submitted duly attested.
  - (ii) Solvency certificate and working Capital Certificate issued by scheduled bank.
  - (iii) Annual turnover certificate for last 3 years issued by Chartered Accountant alongwith relevant pages of audited balance sheets in support thereof.
  - (iv) In addition, the contractors shall also furnish affidavit on non Judicial stamp paper in the form of hard copy declaring their turnover for last 3 (Two) years.
  - (v) DD of cost of tender & Earnest Money.
  - (vi) GST Registration.
5. In case of rejection of technical /prequalification bid, contractor/bidder shall not be entitled to any compensation whatsoever for rejection of technical/prequalification bid.
6. Please ensure that at the time of submission of tender, copy of documents mentioned above shall be mandatory. If the bidder has not submitted these documents he shall be disqualified in 'T' bid evaluation and his financial bid shall not be opened.
7. **EPF Code & UAN:** All contractors shall mandatorily be in possession of the EPF Code Number and UAN of employees working under their establishment under **Employment Provident Fund & Miscellaneous Provisions** (EPF & MP) Act 1952. So far this tender is concern, before release of work order the contractor shall submit EPF Code Number to NIPER Hyderabad. The contractor shall also ensure that Sub Contractor if engaged by him shall also comply with provisions of EPF & MP Act 1952.

8. **Payment to Labour during execution work:** The payment to labour engaged by the contractor shall be made as per Wages Act. No payments to the contractor /firms will be made unless proof of payment of wages is submitted by the contractor/firm. In case payments are made through current coins or currency notes, certificate will be submitted by the contractor alongwith undertaking by the concern workmen asking for payments other than by cheques or by crediting in the bank account of the employee/workmen. Adherence to these instructions will be checked during various inspection. Being Principal Employer, the NIPER Hyderabad shall ensure that the contractor fully comply with above provisions. The documents held by the contractor shall be subject to scrutiny by law enforcement agencies. The contractor shall also provide proof of monthly payment details under EPF & ESI with account numbers alongwith details of regular payments which shall be verified by NIPER Hyderabad.

9. **Electrical License:** In terms of **Indian Electricity Rule 1956**, Rule No 45, the contractor shall have Electrical License holder issued by State Govt. under his establishment. The NIPER Hyderabad shall ensure that the work is executed through authorised person only.

10. **Performance Security Deposit:** Before the Work Order is placed by the NIPER Hyderabad, the successful contractor shall deliver Performance Security to & in favour of Accepting Officer in the form of Bank Guarantee (Issued by Nationalised /Scheduled Bank with respect to Performance Security in place of Security Deposit), Govt Security, Bank Guarantee for an amount equivalent to **10%** of the contract sum. Non compliance of this provision shall constitute sufficient grounds for cancellation of awarded contract and forfeiture of Earnest Money.

11. **Defect Liability Period:** The Defect Liability Period in respect of this tender shall be Twenty Four (24) months in case of roof treatment 60 months (5 Years).

12. **Refund of Performance Security:** The Performance Security Deposit mentioned above shall be refunded to contractor after expiration of Defect Liability Period mention above. Recovery if outstanding against the contractor shall be affected from the Performance Security.

Sig of Contractor \_\_\_\_\_

Dated : ..... 2020

**SCHEDULE 'A' NOTES**  
**(ON LIST OF ITEMS AND PRICES)**

1. The items of work (Scope of work) are attached as per BOQ in excel format Online portal of NIPER Hyderabad and shall be treated as Schedule A items. The BOQ attached shall be treated as part of Sch A and read in conjunction with notes under Sch A. The bidder is required to quote his rates against each item of BOQ in figures only. The quantities shown in BOQ are provisional and are inserted as guide only. These shall however not be varied beyond the limits laid down "General Conditions of Contract".
2. Grand total amount in generated by the system is not firm but shall be treated as "Contract Sum" arrived after deducting amount of "Schedule of Credit" from the contractor's total quoted amount.
3. All works mentioned under Sch 'A' (BOQ) shall be completed within 06 (Six) **Months** from the date of handing over site and shown in the first work order.
4. The description of works given in Sch 'A' (BOQ) is in brief.
5. Wherever indicated in Schedule as "S&F", "S/F" and "M&L" the same may please be read as "Supply and Fix" and "Material and Labour" respectively. The rates quoted for items in BOQ shall include for material & labour complete unless specifically written as 'Supply Only' or 'Fixing Only'.
6. The tenderers are deemed to have visited the site before quoting & be fully acquainted with the scope of work as catered for in the tender documents and also the site of work. The work covered under the tender is spread over certain locations under the jurisdiction of **NIPER Hyderabad Balanagar Hyderabad**. No compensation or representation whatsoever shall be admissible on this account.
7. No claim shall be entertained for any misunderstanding or any in-accuracy with regard to the site condition and provision made in the tender documents.
8. The NIPER Hyderabad referred to in General Conditions of Contract or elsewhere in the tender documents shall be **NIPER Hyderabad, Balanagar, Hyderabad, Telangana 500037**.
9. The rates quoted by the tenderer shall deemed to be inclusive of all the taxes and cesses viz octroi, GST, labour welfare cess etc payable under respective statutes as applicable on the last date of submission of technical bid. The provision built-in under Special Condition here in after shall be relevant on the issue.
10. The buildings or road surface in which the works are to be carried out are in occupation and the contractor shall be deemed to have taken this into account for execution of work with definite plan for dismantling/taking down and for new work. Proper schedule shall be prepared by the contractor keeping in view the safety requirements and users convenience and as approved by Engineer-in-Charge and no extra amount on this account shall be paid to the contractor. Necessary safety appliances shall be issued to the workers prior to starting of work.
11. The dismantled/demolished materials which are neither incorporated in the work nor credit offered for the materials becoming contractor's property, shall be returned to NIPER Hyderabad or disposed off as directed by the Engineer-in-Charge NIPER Hyderabad. No extra payment shall be made on this account.
12. The Court of the place from where tender has been issued alone have jurisdiction to decide any dispute out of or in respect of this tender (Refer CPWD Manual and CPWD General Conditions of Contract).
13. The Site for execution of work shall be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the contractor shall have to arrange his working programme accordingly. No claim whatsoever for not giving site gradually shall be tenable.
14. The Execution of work through Power of Attorney holder shall not be allowed.
15. Cost of testing charges shall be borne by the contractors which are required as per contract provision as well as specified in relevant clause of DSR/IS Code. The applicable relevant Indian Standards shall be of latest version irrespective of whatever mentioned elsewhere in the tender documents.
16. **Preparation of Surfaces** : The preparation of existing surface shall include brooming to remove all dust, dirt and all loose scales of existing treatment and other foreign matter. Where heavy scaling has taken place, the entire surface shall be scrapped clean. Where complete removal is specified it shall be done as mentioned under Note No 16 above. The rates quoted in respective items shall deem to be inclusive of these provisions.

17. **Note:** All surface preparation shall be done with the help of mechanical sander of Berger Paint or equivalent makes viz Xpress Sanding Machine having suction vacuum bag. All the stages of preparations shall be passed by NIPER Hyderabad before next stage is preceded.

18. The work will be divided in following stages of work:-

- (a) Demolition/dismantling and taking down of all unserviceable items incl plaster, brick work, shutter etc.
- (b) Stacking outside the Bldg of demolished/removed items.
- (c) Authentication of the demolition and removal.
- (d) Fixing and replacement of items.
- (e) Site clearance and handing over of items.

**Note :** All stages given in BOQ is to be included in stage passing register.

19. **Payment to Labour during execution work:** The payment to labour engaged by the contractor shall be made as per Wages Act. No payments to the contractor /firms will be made unless proof of payment of wages is submitted by the contractor/firm. In case payments are made through current coins or currency notes, certificate will be submitted by the contractor alongwith undertaking by the concern workmen asking for payments other than by cheques or by crediting in the bank account of the employee/workmen. Adherence to these instructions will be checked during various inspection. Being Principal Employer, the NIPER Hyderabad shall ensure that the contractor fully comply with above provisions. The documents held by the contractor shall be subject to scrutiny by law enforcement agencies. The contractor shall also provide proof of monthly payment details under EPF & ESI with account numbers alongwith details of regular payments which shall be verified by NIPER Hyderabad.

20. **Makes/Brand of material:** A list of makes is enclosed at Appx 'A' to Particular Specification and few makes are mentioned in the PS itself, however in case specific is not mentioned in the tender documents, the material shall be procured from authorised dealer of manufacturers. The material so procured shall be ISI marked.

21. **Electrical License:** In terms of Indian Electricity (IE) Rule 1956, Rule No 45, the contractor shall have Electrical License holder issued by State Govt. under his establishment. The NIPER Hyderabad shall ensure that the work is executed through authorised person only.

22. **Engineer & Tools & Plant (T&P), Machinery & Transport:** Please note that you will be required to strictly ensure engagement of engineers and deployment of 'T&P, Machinery & Transport' as stipulated in the contracts. Inadequate engagement of engineers/deployment 'T&P, Machinery & Transport' as per contract conditions shall be considered as serious lapse attracting ban/removal/downgrading/debarment of the Firm/Company.

23. **Performance Security Deposit:** Before the Work Order is placed by the NIPER Hyderabad, the successful contractor shall deliver Performance Security to & in favour of Accepting Officer in the form of Bank Guarantee (Issued by Nationalised /Scheduled Bank), equivalent to **10%** of the contract sum. Non compliance of this provision shall constitute sufficient grounds for cancellation of awarded contract and forfeiture of Earnest Money.

24. **Defect Liability Period:** The Defect Liability Period in respect of this tender shall be Twenty Four (24) months (In case of roof treatment it is 60 months (5 years)).

25. **Refund of Performance Security:** The Performance Security Deposit mentioned above shall be refunded to contractor after expiration of Defect Liability Period mention above. Recovery if outstanding against the contractor shall be effected from the Performance Security.

26. **Memorandum of Understanding (MoU):** All specialized nature of works i.e. Roof treatment and Guniting (Structural rehabilitation) shall be got executed through authorised applicators of manufacturers. The contractor shall submit MoU on non judicial stamp paper of Rs. 100 with any specialist agency who is approved applicator of manufacturers of Guniting Chemical, APP membrane treatment from which he proposes to carryout the work of these items in BOQ. Such specialist agency should have valid authorization letter from the manufactures issued not older than 30 days from the bid submission start date of tender. For guarantee clause ref of Particular Specification be made. Copy of MoU shall be submitted to NIPER Hyderabad immediately after placing of Work Order.

Signature of the contractor.....

**Sdxx-**

Registrar NIPER Hyderabad

**SCHEDULE 'B'**  
**ISSUE OF MATERIALS TO THE CONTRACTORS**

NIL

Signature of the contractor.....

**Sdxx-**  
Accepting Officer

Dated : .....2020

**SCHEDULE 'C'**  
**LIST OF T&P BE HIRED TO THE CONTRACTORS**

NIL

Signature of the Contractor .....

**Sdxx-**  
for Accepting officer

Dated: ..... 2020

**SCHEDULE 'D'**  
**TRANSPORT TO BE HIRED TO THE CONTRACTORS:**

NIL

Signature of the contractor.....

**Sdxx-**  
for Accepting Officer

Dated : .....2020

**TENDER**

DIRECTOR  
NIPER HYDERABAD

Having examined and perused the following documents: -

1. Specifications signed by NIPER Hyderabad and BOQ/Schedule 'A', 'B', 'C' and 'D' attached hereto.
2. Delhi Scheduled Rates 2018
3. General conditions of contract of CPWD
4. WATER: Water will be supplied by the NIPER Hyderabad shall be paid for by the contractor at **Rs. 3.60** per Rs 1000.00 worth of work done.
5. Should this tender be accepted: -

I/We agree

(a) A sum of Rs \_\_\_\_\_ (Rs \_\_\_\_\_)  
forwarded as earnest money shall either be retained as a part of Security be refunded by the Department on receipt of an appropriate amount deposit within the time specified Deposit or  
as Security

(b) To execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the General Summary and to Carry out such deviations as may be ordered, up to a maximum of 10% (Ten percent) and further agree to refer all the disputes as required to the Sole Arbitration of serving officer having degree in Engineering or equivalent or having passed final/direct final examination of sub Div-II from institution of surveyors (India ) recognised by the Govt of India to be appointed by Chief Engineer Hyderabad Zone, or in his absence, the officer officiating as Chief Engineer if specifically delegated in writing by Chief Engineer whose decision shall be final, conclusive and binding.

Total brought forward from BOQ duly adjusted under:

Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_  
\_\_\_\_\_)

Signature \_\_\_\_\_ in the capacity of \_\_\_\_\_ duly authorised to  
sign the tender for and on behalf of \_\_\_\_\_ (In block letters ).

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

Postal Address: \_\_\_\_\_

Telegraphic Address \_\_\_\_\_

Telephone No: \_\_\_\_\_

Witness \_\_\_\_\_

Address \_\_\_\_\_



ACCEPTANCE

\_\_\_\_\_Alterations have been made in these documents and as evidence that these alterations were made before the execution of the contract agreement, these have been initialed by the contractor and \_\_\_\_\_the said officer is hereby authorised to sign and initial on my behalf the documents forming part of this contract.

The above tender was accepted by me on behalf of the president of India for the lump sum of

Rs \_\_\_\_\_(Rupees \_\_\_\_\_

\_\_\_\_\_ ) on

the \_\_\_\_\_ day of \_\_\_\_\_ 2020.

Signature dated this \_\_\_\_\_ day of \_\_\_\_\_ 2020

**GENERAL CONDITION OF CONTRACTS**

1. A copy of General conditions of contracts print has been supplied to me/us in digital form through NIPER Hyderabad website and is in my/our possession. I/we have read and understood the provisions contained in the aforesaid GENERAL CONDITION OF CONTRACTS before submission of this tender and I/we agree that I/we shall abide by the terms and conditions thereof as modified, if any elsewhere in these tender documents

2. It is hereby further agreed and declared by me/us that the General Conditions of contracts including Condition pertaining to settlement of dispute by arbitration

3. My/Our signature hereunder as well as signed BOQ is in token of my/our having accepted the aforesaid General Condition of contracts and the clause relating to Arbitration forming an integral part of this tender.

(The documents mentioned above can also be seen in the NIPER Hyderabad or in any other CPWD Office or online on NIPER Hyderabad webpage during working hours.)

4. The tenderers are to visit the work premises and quote the rates after verification of work.

5. The rates are inclusive of all leds and lifts.

Signature of the contractor.....

Dated : .....2020

**SCHEDULE OF MINIMUM FAIR WAGES**

1. A copy of the latest Schedule of Minimum Wages has been supplied to me/us and is in my/our possession. I/ we have read and understood the provisions contained in the aforesaid Schedule of Minimum Wages before submission of the tender and I/we agree that I/we shall abide by the terms and conditions thereof, as modified, if any elsewhere in these tender documents.
  
2. Schedule of Minimum Fair Wages is not enclosed along with tender but the I/we deem to have full knowledge regarding the minimum wages payable to labourers as legally effective on date of submission of tender and this tendered rates shall be deemed to have been based on the same.
  
3. It is further agreed and declared by me/us that schedule of Minimum wages forms part of these tender documents. My/our signature hereunder as well as signed BOQ amounts to my/our having signed the aforesaid documents forming part of tender.

Signature of the contractor.....

Dated : .....2020

**Sdxx-**  
Accepting Officer

## SPECIAL CONDITIONS

### 1. GENERAL:

(a) The following special conditions shall be read in conjunction with General Conditions of contracts including amendments thereto. If there are any provisions in these special conditions, which are at variance with the provisions in the above-mentioned documents; the provisions in these special conditions shall be deemed to take precedence.

(b) General Rules, preambles, special conditions, method of measurements etc. specified in CPWD Manual shall be applicable unless specific provisions to the contrary are made in these tender documents.

2. **VISIT TO SITE (S) OF WORK :** The tenderers are advised to visit the site(s) of work with prior permission of NIPER Hyderabad and make themselves familiar with the local working conditions, accessibility to sites(s), availability of material and other relevant conditions which effect their pricing, workman like execution and entire completion of work. The tenderer shall be deemed to have visited the site(s) before tendering whether they actually visit or not.

### 3. CONDITION FOR WORKING IN UNRESTRICTED AREA:

(a) The work lies in unrestricted area. However, the contractor, his agents, servants, work people and vehicles may pass through NIPER Hyderabad, in which case the Engineer-in-Charge NIPER Hyderabad shall, at his discretion has the right to issue passes, control their admission to the site of work or any part thereof. The contractor shall on demand by the Engineer-in-Charge submit a list of personnel; etc concerned and shall satisfy the Engineer-in-Charge as to the bonafides of such people. Passes shall be returned at any time on demand by the Engineer-in-Charge and in any case, on completion of work.

(b) The contractor and his work people shall observe all the rules promulgated by the authority controlling the area in which the work is to be carried out e.g. prohibition of smoking, lighting and fire precaution, restricted hours of working etc. Any person found violating the security rules laid down by the authority, shall be immediately expelled from the area without assigning any reasons whatsoever and the contractor shall have no claim on this account. Nothing shall be admissible for any man hours lost on this account.

(c) **IDENTITY CARD OF WORKMEN:** Every workman shall be in possession of an identity card. The identity card will be issued after thorough investigation of the antecedents of the labourers by the contractor in accordance with the standing rules and regulations of NIPER hyderabad. Contractor shall be responsible for the conduct and action of his workmen, agent or representative.

(d) **SEARCH :** Thorough search of all persons and transport shall be carried out at each gate and for as many times a gate is used for entry or exit. Search may also be carried out any time or any number of times at the work site.

(e) **FEMALE SEARCHER:** If the contractor desires to employ female labour on works to be carried out inside NIPER Hyderabad premises and a female searcher is not borne on the authorised strength of the NIPER Hyderabad etc at the time of submission of the tender he shall be deemed to have allowed in his tender for pay and allowances etc, for a female searcher (class IV servant /Gp 'D' servant) calculated for the period, female labour is employed by him inside that area. If more than one contractor employs female labour during any month and female searcher(s) has/have to be employed in addition to the authorised strength of the NIPER Hyderabad, the salary and allowances paid to the additional female searcher(s) shall be distributed on an equitable basis between the contractors employing female labour taking into consideration the value and period of completion of their contracts. The NIPER Hyderabad's decision in regard to the amount recoverable on this account from any contractor shall be final and binding.

4. **CONTRACTOR'S REPRESENTATIVES/AGENTS AND WORKERS:** The contractor shall employ only Indian Nationals and verify their antecedents and loyalty before employing them on the work. He shall ensure that no person of doubtful antecedents and nationality is in any way associated with the work. As a proof that he has employed only Indian Nationals, the contractor shall render a certificate to this effect to NIPER Hyderabad within one month from the date of commencement of work. The NIPER Hyderabad shall have full power, and without giving any reasons to order the contractor immediately to cease to employ in connection with this contract any representatives, agent, servants and workmen or employees whose continued employment in NIPER Hyderabad's opinion is undesirable. The contractor shall not be allowed any compensation on this account. Verification of antecedents of the Contractor's representatives/ labour deployed at site in connection with execution of work under the Contract, as per security requirement of NIPER Hyderabad shall be the responsibility of the Contractor and all expenses in connection with verification of antecedents by police authority/ security agency shall be born by the Contractor.
5. **HOURS OF WORKING :** The working hours shall be as notified by the authority controlling the area, which will be normally from 0800hours to 1700 hours. If, however, contractor wants to work beyond these normal hours he can do so if permitted by the NIPER Hyderabad in writing. Similarly no work will be allowed to be carried out on Sunday and gazetted holidays unless specifically permitted by the NIPER Hyderabad in writing.
6. **LAND FOR STORAGE OF MATERIALS, WORKSHOP, OFFICE AND ACCCOMMODTION FOR LABOURERS :** The contractor shall apply to NIPER Hyderabad for storage purpose only. Site/ land measuring 20mX10m for storage shed shall be allotted for the duration of work but not exceeding one year, subject to approval of the same by the NIPER hyderabad. Contractor is required to give undertaking that he will vacate the allotted storage area immediately on termination of allotment period. Final payment to the contractor will be made after vacation of allotted site/ land. Same site/land once allotted will not be subjected to extension after expiry of allotment period but the contractor may apply for an alternative site, if required.
7. **CONTRACTOR'S PLANT/ EQUIPMENT AT SITE :** The contractor shall furnish the Engineer-in-Charge NIPER Hyderabad every morning a distribution return of the plant and/or equipment on the site of work required for incorporation in the work. The Engineer-in-charge shall record the particulars of plant/equipment supplied by the contractor in the works diary and send the return to the NIPER Hyderabad for record in his office.
8. **USE OF EXISTING BUILDINGS ETC:** The contractor shall not use the existing latrines, baths and other existing buildings if any for use by his work people or for storage of his materials or for any other purpose unless permitted to do so in writing by NIPER Hyderabad.
9. **WATER :** Water will be supplied by NIPER Hyderabad at the point(s) decided by the NIPER Hyderabad Engineer in Charge. As the water supply is likely to be intermittent the contractor shall make his own arrangements for storing the water required for the works labour and workmen etc at his own expenses. Water charges will be recovered at the rate of **Rs 3.60 per Rs 1000** worth of work done priced at contract rates. No claim/ whatsoever shall be admissible on account of compensation for intermittent /insufficient water supply by the NIPER Hyderabad. However, any subsequent change in rate of recovery of water charges shall be deemed to be included in CA.
10. **ELECTRICITY :** Electric supply required for the work upto a maximum of 20KVA single phase 50 Hz shall be made available by the NIPER Hyderabad at points decided by Engineer In Charge NIPER Hyderabad. KWH meters to register the electric energy supplied and main switch shall be provided and installed. Contractor shall provide all necessary cables, fittings etc from the tapping point in order to ensure a proper and suitable supply of electricity for execution of work. The contractor will be charged for the electric energy consumed for execution of works at the rates of Rs **6.65 (Rupees Six and Paise Sixty Five only)** per unit for lighting and power. NIPER hyderabad do not guarantee continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for breakdown in the system. In case NIPER Hyderabad or his representative is not satisfied with device or electric lines provided by the contractor, shall be disconnected from the supply if so directed by him.
11. **DAMAGE TO EXISTING BUILDINGS, ROADS AND DRAINS ETC:** The contractor shall be responsible to reinstate and make good at his own expense, the damage if any caused by his workmen etc. to existing buildings, roads, drains, cables etc., while carrying out the work under this contract. Rectification, reinstatement, eplacement, making good and touching up, etc, shall conform to the standard of workmanship and materials, originally used and the same shall be done to the entire satisfaction of Engineer-in-charge.

12. **OCTROI AND OTHER DUTIES** : The price quoted by the contractor shall be deemed to include all duties, taxes Octroi, sales tax, Service tax, surcharge, cess etc. The contractor shall not include any condition for fluctuation in price of labour and/or materials in his tender.
13. **APPROACHES**: The contractor shall provide at his own cost all temporary approaches to the site (where not existing) for the use of his labour and transport of materials, tools and plant.
14. **MINIMUM WAGES PAYABLE TO LABOUR & CONTRACT LABOUR REGULATIONS** : In terms of Minimum Fair Wages Act 1948 & Fair Wages Act, the contractor shall not pay wages lower than minimum wages for labour as fixed by the Govt. of India/State Govt. whichever is higher. The fair wage will be deemed to be the same as the minimum wages as referred to above. Condition of fair wages as per CPWD General Conditions of Contract shall be binding on contractor to the full extent the regulations mentioned therein. Statutory Labour Laws contained under, Contract Labour (regulation & Abolition) Act 1970, EPF & MP Act 1952, Payment of Wages Act 1936 shall be in force and binding as per law. The payment to labour engaged by the contractor shall be made as per Wages Act. No payments to the contractor /firms will be made unless proof of payment of wages is submitted by the contractor/firm. In case payments are made through current coins or currency notes, certificate will be submitted by the contractor along with undertaking by the concern workmen asking for payments other than by cheques or by crediting in the bank account of the employee/workmen. Adherence to these instructions will be checked during various inspection. Being Principal Employer, the NIPER Hyderabad shall ensure that the contractor fully comply with above provisions. The documents held by the contractor shall be subject to scrutiny by law enforcement agencies. The contractor shall also provide proof of monthly payment details under EPF & ESI with account numbers alongwith details of regular payments which shall be verified by NIPER Hyderabad
15. **CO-OPERATION WITH OTHER AGENCIES** : The contractor shall permit free access and afford reasonable facilities to other Agencies or departmental workmen engaged by NIPER Hyderabad to carry out other work services (whether or not in connection with the work under the scope of this contract) on the site, simultaneously. The contractor shall not be allowed any extra payment on this account.
16. **ACCEPTABLE QUALITY OF WORK AND FINISHES**: To determine the acceptable standard of workmanship, the NIPER Hyderabad may order the contractor to execute certain typical portion of works and services such as some length of wall, portion of different type of floors, plaster, painting and other finished/items, sanitary fittings, plumbing, electrical fittings etc under strict and constant supervision of Engineer In Charge NIPER Hyderabad and label these works as guiding sample so that further works shall be executed to confirm these samples.
17. **TIME AND PROGRESS CHART** : The time and Progress Chart to be prepared immediately after handing over the site shall consist of detailed network analysis and a time schedule. The critical path network shall be drawn jointly by the Engineer-in-Charge NIPER Hyderabad and the contractor soon after acceptance of the tender to complete the as per schedule. The Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety.
18. **SITE FOR EXECUTION OF WORK**: Site for execution of work will be available as soon as the tender is accepted. In case, it is not possible for the department to make the entire site available at the commencement of work, the contractor will have to prepare the CPM net work as required to achieve the target. No claim whatsoever for not giving the entire site on commencement of work and for giving the site gradually will be tenable.
19. **SECURITY OF CLASSIFIED DOCUMENTS** : Tenderers special attention is drawn that the contractor shall not communicate any classified information regarding the work either to sub contractor(s) or to any other person(s) without prior written approval of the Engineer-in-Charge.
20. **RECORD OF CONSUMPTION OF CEMENT**: The contractor shall maintain a properly bound register in the form approved by the Engineer-in-Charge showing the daily receipt of cement, quantity used in works and balance at the end of each day. This register shall be signed daily by the contractor's representative in token of correctness of the entries made and it shall be signed by E-in-C NIPER Hyderabad everyday and Chair Building & Maint Committee NIPER Hyderabad once in week. The register shall be kept at site of work in the safe custody of the contractor. The register shall handed over to the Engineer-in-Charge for record with NIPER Hyderabad on completion of work.

21. **CLEANING DOWN :** The contractor shall clean all floors, joinery, glass panes etc. and remove drops of cement/lime paint etc. and touch up all painter's work and carry out other items of work as are necessary to make and leave the premises clean and tidy before handing over the buildings and/or works. The contractor shall not be allowed any extra payment on this account.

22. **VALIDITY OF TENDER:** The tender shall remain open for acceptance for a period of 21 days (Twenty one days) commence from the next date subsequent to last date of bid submission.

23. **PROPRIETARY MATERIALS/ARTICLES AND RECORD OF MATERIALS :** The proprietary materials/articles such as paint, bitumen, water proofing admixture, etc. when brought to site shall be inspected and approved by the Engineer-in-Charge. The quantity of all proprietary articles brought to site shall be recorded in measurement book as 'NOT TO BE ABSTRACTED' and signed by the contractor and the Engineer-in-Charge. The contractor shall ensure that the materials are brought to site, in original sealed containers/ packing, bearing manufacturer's marking except in the case of requirement of material (s) being less than smallest packing. Original purchase vouchers/bills including manufacturer's test certificate (where applicable) in respect of the following item shall be provided by contractor to the Engineer-in-Charge :-

Water proofing compound	GI pipes and fittings	Steel windows /ventilators
Paint, distemper & cement base paints	Sanitary fittings and fixtures	PVC door
Galvalume Sheet.	Tiles, paver blocks	Aluminium doors/windows/ventilators
All grades of bitumen	False ceiling	Factory made panelled door shutter
Electrical fittings, fixtures, cables, conductors, equipments, LT panels, Transformer, DG Set, APFC Panel, Servo Stabilizer	Steel (TMT and structural)	GI/DI pipes and fittings, RCC pipes
Cement	MCB/ELCB/RCCB/MCCB, exhaust/ceiling fans, DB, Street light fittings, LED	lamps/fittings, Aviation light, Tube light fittings
High mast light, Steel tubular poles, Lightning arrestor, Insulators	Sealing compound, Water proofing Membrane	CHS equipments and hot water Piping

25. The contractor shall maintain site/area of land/buildings in a clean and tidy conditions at his own expenses and shall deliver up the same on/or before the date of completion of the works, or on termination of the contract, or in the event of the said areas or land/buildings required by the NIPER Hyderabad within one month of an order to that effect, in a clean and tidy state complete in every particular and to the satisfaction of Engineer-in-Charge. The completion certificate shall be issued only after vacation of site/area of land/building allotted to the contractor. Payment of final bill shall be made to the contractor only after such areas of land/building are vacated by the contractor.

26. **ADVANCE ON ACCOUNT OF MATERIALS (APPLICABLE TO CONTRACTS OF VALUE RS.50 LAKHS AND ABOVE):**

(a) For the purpose of such contracts, Provided further the contractor may be paid advance on account to the full value of under mentioned materials (as applicable in this contract) brought on the site, on his furnishing guarantee bond on the prescribed form from a scheduled bank for the amount of the retention money which should otherwise be recoverable from him under the contract.

(i) Electric cables/fittings/fixtures and electric equipments

(ii) Any other non-perishable and manufactured materials which do not lose their identity after incorporation in the work, as decided by NIPER Hyderabad. Materials like bricks, aggregate, pre-cast concrete and similar items are not to be taken in the list.

(b) The bank guarantee bond(s) shall be executed for a period of six months and on a form as directed by the Accepting Officer. The contractor shall further arrange to extend the period of guarantee bond(s) as and when necessary, and as directed by the Accepting Officer or shall furnish fresh guarantee bond(s) if and when necessary and as directed by the Accepting Officer of similar value in lieu.

27. **SPECIAL CONDITION FOR CONCILIATION:** The scope of conciliation shall be as follows :-

(a) **Appointment of conciliator :** Disputes (other than those for which the decision of the NIPR Hyderabad or any other person is by the contract expressed to be fixed and binding) shall be referred to the sole conciliator viz serving Officer not below the rank of superintending Engineer/ Superintending Engineer (QS&C) appointed by CPWD or in his absence the Officer officiating as Chief engineer.

(b) **STATUS & EFFECT OF SETTLEMENT AGREEMENT** The settlement agreement signed by the parties as a result of conciliation proceedings shall be the same status and effect as it is an arbitral award on agreed terms.

28. **QUALIFIED TRADESMEN (Applicable for estimated cost one crore and above work as per NIT):** In compliance with the General Conditions of Contracts, the contractor shall employ skilled/semi skilled tradesmen who are qualified and possessing certificate in particular trade from Industrial Training Institute (ITI)/Similar reputed and recognized Institutes by State/Central government to execute the works of their respective trade. The number of such qualified trades men shall not be less than 25% of total skilled/semi skilled tradesmen required in each trade.

29. **APPLICABILITY OF TAXES & RE-IMBURSEMENT/REFUND ON VARIATION IN “TAXES**

(a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes and cesses viz GST, labour welfare cess etc, duties, Royalties, Octroi & other levies payable under the respective Statutes. No reimbursement/refund for variation in rates of taxes, cesses, duties, Royalties, Octroi & other levies, and/or imposition/abolition of any new/existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in sub para (b) here-in-below. These taxes shall be levied on gross amount of work:-

(b) (i) The taxes which are levied by State/Central Govt at certain percentage rates of Contract Sum/Amount shall be termed as “taxes directly related to Contract value” such as ,GST, Labour Welfare Cess/tax and like but excluding Income Tax. The tendered rates shall be deemed to be inclusive of all “taxes directly related to Contract Value” with existing percentage rates as prevailing on last due date of submission of bid. Any increase in percentage rates of “taxes directly related to Contract value” with reference to prevailing rates on last due date for submission of bid shall be reimbursed to the Contractor and any decrease in percentage rates of “taxes directly related to Contract value” with reference to prevailing rates on last due date for submission of bid shall be refunded by the Contractor to the Govt/deducted by the Govt from any payments due to the Contractor. Similarly imposition of any new “taxes directly related to Contract value” after the last due date for receipt of tenders shall be reimbursed to the Contractor and abolition of any “taxes directly related to Contract value” prevailing on last due date for receipt of tenders shall be refunded by the Contractor to the Govt/deducted by the Govt from the payments due to the Contractor.

(ii) The contractor shall, within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further “taxes directly related to Contract value”, give written notice thereof to the NIPER Hyderabad stating that the same is given pursuant to this Special Condition, together with all information relating there to which he may be in a position to supply. The Contractors shall submit the other documentary proof/information as the NIPER Hyderabad may require.

(iii) The Contractor shall, for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspection of the same by a duly authorized representative of NIPER Hyderabad, and shall further, at the request of the NIPER Hyderabad furnish, verified in such a manner as the NIPER Hyderabad may require, any documents so kept and such other information as the NIPER Hyderabad may require.

(iv) Reimbursement for increase in percentage rates/imposition of “taxes directly related to Contract value” shall be made only if the Contractor necessarily & properly pays additional “taxes directly related to Contract value” to the Govt, without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Govt Authority and submits documentary proof for the same as the NIPER Hyderabad may require.



34. **EMPLOYEES PROVIDENT FUND SCHEME**: Under the GoI Employees Provident Fund Act/Scheme 1952, the contractor shall have a EPF Code No and all labours employed by him or sub-contractor shall be enrolled as member of Provident Fund and should be given Universal Account Number (UAN). A certificate to effect that all working labours employed for execution of work are registered for EPF and due distribution have been credited into their account, shall be furnished by contractor along with running advances or final bill.

35. **DAMAGE TO EXISTING WORK** : Any damage done to the existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement etc. shall conform to the standard of materials originally used in the work and finished work shall match with existing work in all respects to the entire satisfaction of the E-in-C NIPER Hyderabad.

36. **SITE LABORATORY AND TESTING OF MATERIALS**

(a) **A LEVEL TESTS FOR WORKS COSTING Rs 100 LAKHS AND ABOVE:-** The contractor shall set up site laboratory of minimum size 3m x 4m with proper ventilation and lighting for testing of materials for A level tests as tabulated below. The contractor shall arrange all equipments/ machines at his own cost with prior approval of NIPER Hyderabad. The cost shall be included in the costs quoted by the contractor. The contractor shall employ a competent technical representative as approved by the NIPER Hyderabad for the purpose of testing and all such tests shall be carried out in the presence of Engineer-in-Charge. The successful test results thereof shall be recorded and signed jointly by the contractor and Engineer-in-Charge. The charges of these tests i.e. A level tests carried out in site laboratory of the contractor shall not be recovered. However in case a test which was specified to be carried out in site laboratory and which could not be carried out in site laboratory due to some reason, such test shall be carried out in CPWD labs/ any other laboratory approved by Govt and the recovery will be made at the rates given in Appendix for tests carried out in such labs or otherwise at the actual rates in case the tests are carried out in other labs.

(b) **A LEVEL TESTS FOR WORKS COSTING UP TO Rs 100 LAKHS:-** The contractor may set up site laboratory at his option for works costing up to 100 lacs. The other stipulations will be same as specified in preceding Para (a). However in case the contractor has not set up the site laboratory and tests are carried out in CPWD labs/ any other laboratory approved by Govt, the recovery shall be made at the rates given in table below for tests carried out in CPWD labs/ any other laboratory approved by Govt as per actual rates in case the tests are carried out in other labs. Testing charges will be deducted from the

(c) **B & C LEVEL TESTS:** For tests of 'B' and 'C' level as indicated in Appendix , the contractor shall provide all facilities for testing of materials at CPWD Labs Test Lab at his own cost. The rates quoted by the contractor shall deemed to be inclusive of these tests. For 'C' level tests, actual cost of testing shall be borne by the contractor and for 'B' level test, recovery shall be made at the rate of various tests conducted in CPWD labs as indicated in table below.

(d) The recoveries on account of testing charges wherever applicable shall be effected from the running account payments due to the contractor payable after completion of the respective test or whenever the test is due whichever is earlier.

Table of test and rate of recovery

S No	Material	Test	Method of Testing	Frequency of tests			Level of test	Rate of test Rs	Remarks
1	2	3	4	5			6	7	8
1.	Bricks	(i) Compressive strength	IS-3495 (Part-II)	As per IS 5454 as given under			'A'	330	Checks for visual and dimensional characteristics shall also be carried out as per IS-5454
		(ii) Water absorption	IS-3495 (Part-II)	Lot size	Sample Size	Permissible Nos of Defective Bricks	'A,'		
		(iii) Efflorescence	IS-3495 (Part-I)	1001 to 10000	5	0	'A'		
				10001 to 35000	10	0	'A'		
35001 to 50000	15	1							
2.	Coarse aggregate	(i) Sieve analysis	IS-2386 (Part-I)	One test for every 15 Cum of aggregate or part thereof brought to site			'A'	660	
		(ii) Flakiness Index	-do-	-do-			'A'	250	
		(iii) Estimation of deleterious materials	-do-	One test for every 100 Cum of aggregate or part thereof.			'A'	600	
		(iv) Organic impurities	-do-	One test per source of supply			'B'	275	
		(v) Moisture content	-do-	Regularly as required.			'A'	330	
		(vi) Specific Gravity.	--do-- (Part-II)	One test for each source of supply			'B'	330	
3.	Fine aggregate	Sieve analysis	IS-2386 (Part-I)	One test for every 15 Cum of FA or part when brought to site			'A'	660	
		(ii) Test for clay, silt and impurities	IS-2386 (Part-II)	--do--			'A'	500	
		(iii) Specific gravity.	-do-	One for each source of supply			'B'	330	
		(iv) Moisture content.	-do-	Regularly as required subject to 2 tests/day when being used.			'A'	330	
		(v) Tes for organic impurities	-do-	One test for each source of supply			'B'	275	
4.	Cement	(i) Setting time	IS-4031-63 AFFIRMED 1980	One for each consignment or as and when required			'B'	500	
		(ii) Soundness	-do-	-do-			'B'	550	
		(iii) Compressive Strength	-do-	-do-			'B'	550	
		(iv) Fineness	-do-	-do-			'B'	275	

5.	Structural Concrete (M-25 and Grade above)	(i) Slump Test (OR)factor compacting test (OR) Vee-Bee time	IS-1199	The minimum frequency of sampling of concrete of each grade shall be as under :-		'A'	300	Random sampling shall be carried out to cover all mid units.
		(ii) Compressive Strength	IS-516	Qty of concrete in the work (Cum)	No of sample	'A'	900	Refer IS 456-2000 clause 14 for frequency of sampling.
				1-5	1			
				6-15	2			
				16-30	3			
31-50	4							
51 and above 4 +1 for each additional 50 Cum or part thereof								
6.	(a) PCC blocks for walling (Hollow block)	(i) Compressive strength	IS 2156-1984 (Appx B)	8 Blocks out of 14	'A'	900	Sample : 14 blocks from consignment of every 5000 block or part thereof.	
		(ii) Water absorption	do (Appx 'E')	3 Blocks out of 14	'B'	330		
		(iii) Density	Do (Appx 'A')	-do-	'B'	330		
	(b) PCC solid block for walling	(i) Compressive strength	-do-	12 Block out of 18	'A'	900	Sample : 18 blocks from consignment of every 1000 block or part thereof.	
		(ii) Water absorption	-do-	03 Block out of 18	'B'	330		
		(iii) Density	-do-	03 Block out of 18	'B'	330	These blocks to be checked for dimension and weight.	
7	Cement flooring tiles/Tarrazzo tiles	(i) Water absorption	IS-1237 (Appx-'D')	06 tiles out of 18	'B'	330	Sample :18 tiles form each source of supply selected at random	
		(ii) Wet transverse strength	IS-1237 (Appx-E)	06 tiles out of 18	'B'	660		
		(iii) Resistance to wear	IS-1237 (Appx 'F')	06 tiles out of 18	'C'	1000		
8	Burnt clay roofing tiles (handmade) as per IS-2690 (Part-II)	(i) Water absorption	Is-3495 (Part-II)	06 tiles out of 12	'B'	216	Sample ;12 tiles from each source of supply selected at random.	
	Length 150 mm to 250 mm Width 100 mm to 200 mm Thickness 25 mm to 50 mm	ii) Compressive strength	Do (Part-I)	-do-	'A'	180		
9	Mangalore pattern roofing tiles	(i) Water absorption	IS-654 (Appx-'A')	06 tiles out of 32	'B'	180	Sample ; 32 tiles from each consignment of 3000 tiles of part thereof. These tiles shall be checked for dimension	
		(ii) Breaking load	IS-654 (Appx-'C')	06 tiles out of 32	'B'	120		

10	Timber	(i) Specific gravity and weight	IS-1708	Minimum 03 sample a lot of 04 CUM or 250 pieces of seasoned timber.	'B'	120		
		(ii) Moisture content	-do-	-do-	'A'	120		
11	Water for construction purpose	(a) Test for acidity	IS-456 & 3015	Once at the stage approval of source water	'B'	500	Also refer clause 4.3 of IS : 456 & its subsequent sub clauses regarding suitability of water	
		(b) Test for alkalinity	-do-	-do-	'B'	500		
		(iii) Test for solid content	-do-	-do-	'B'	500		
12	Welding of steel work	Visual Inspection test	IS-822 Clause 7.1	100% by visual inspection	Work site	360	Specials tests, their method and frequency to be decided on consideration of their importance by the Accepting Officer.	
13	Timber paneled and glazed door/wooden shutters (including factory made shutters)	(a) Dimensions sizes, workmanship and finish	IS 1003 (Part -I)	Frequency of sampling form each lot shall be as under	'A'	180		
				Lot Size				Sample Size
				26-50				5
				51-100				8
				101-150				13
				151-300				20
				301-500				32
				501-1000				50
		1001 and aboe	80					
		(b) Strength test	IS-1303	From each lot 5% of the Factory made shutters shall Be manufacture tested for strength tests.				
		(i) Slamming						
		(ii) Impact	-do-					
		Indentation						
		(iii) Shock Resistance	-do-					
		(ii) Edge Loading	-do-					
14	Ply wood 9IS:303)	Moisture content	IS:41734 (Part-I)	Six test pieces cut from each of the boards selected a s per table shall be subjected to tests.	'C'	240	Sampling shall be as per IS:7835-tables.	

15	Wood Particle board (Medium density IS-3097)	(a) Density	IS 2360 (Part-III)	Three test specimens from sample (Size 150x75 mm)	'A'	60	Sampling shall be as per IS 3487-with moisture meter
		(b) Moisture content	-do-	-do-	'A '&'B'	60	
		(c) Water absorption	Do Part-16	Do (size 300x300mm)	'A'	60	
		(d) Swelling due to surface absorption	Do Part-17	Do (Size 125 x 100mm)	'A'	60	
		(e) Swelling in water	-do-	Do (Size 200 x100mm)	'A'	60	
		(f) Modulus of rupture	-do- Part-04	Three test specimen as per IS:2380	'B'	90	
		(g) Screw withdrawal strength	-do- Part-04	Do as pe IS:2385	'C'	120	
16	Reinforcement Steel	i)	Physical tests upto 16 mm dia (Normal mass, tensile elongation, bend and rebend)		'B'	2500	
		ii)	More than 16 mm dia		'B'	2750	

Legend : A :Site Lab, B: Zonal Lab/CTL , C: Approved Test House / Engineering College (Only NABL accredited labs).

- Note** :- (i) All 'B' level test shall be conducted in CTL in case there is no functional Zonal Lab in the adjoining area, with testing charges to be recovered as per contract conditions.
- (ii) 'C' level test for which facilities are available in CTL shall be conducted in CTL with testing charges to be recovered from contractors as per Contract Conditions Balance 'C' level test shall continue to be conducted in SEMT/Govt Approved Lab/Lab of Govt Engg College (Only NABL accredited labs), as the case be under contractor's own arrangement and actual cost of testing shall be borne by the contractor.
- (iii) Various random/independent testing for material/products required to be conduct in addition to routine tests as stipulated in contracts, be referred to CTL to get verification of quality of material/product.

Signature of the contractor.....  
Dated : .....2020

**Sdxx-**  
for Accepting Officer

## PARTICULAR SPECIFICATIONS

### 1. GENERAL

(a) Work under this contract shall be carried out in accordance with Schedule 'A' (BOQ), Particular Specifications, drawings if any, General Specifications and other provisions contained in **CPWD Manual 2020 and** CPWD General conditions of Contract and Delhi Schedule of Rates 2018 read in conjunction with each other. Where specifications for any item of work are not given in CPWD Schedule or in these particular specifications, specifications as given in relevant Indian Standard Code of Practice shall be followed. In addition to makes indicated in the BOQ, a list of manufacturer is enclosed at Appx'A' to this Particular Specification (PS). The contractor shall procure the material from the manufacturer indicated therein.

(b) **MATERIALS:** Unless specific makes/manufacturers are specified in the tender documents all the materials to be procured by the contractor for incorporation in the work under this shall be with ISI certifications mark. For materials of specific make/manufacturer's names refer Appendix enclosed with tender here- in -after. ISI marking shall not be mandatory for such items where makes/ manufacturers have been specified unless the items of makes/manufacturers specified are available both with IS marking and without ISI marking. If any material is not manufactured with IS certifications mark in the country, it shall be confirming to relevant IS and other specifications specified elsewhere. The makes specified in Schedule 'A' (BOQ) shall take precedence over the makes specified in Appendix to these particular specifications.

(c) **LOCAL MATERIALS:** Irrespective of actual distance involved, local materials such as stones, aggregates, sand, road metals etc shall conform to or superior to the specifications given here in after. The tenderers are advised to inspect these samples. The tenderers shall be deemed to have inspected the samples and have full knowledge thereof whether they inspect them or not before quoting their tender.

(d) **SAMPLES OF MATERIALS:** Specific requirements regarding dimensions, strength, weight and finishes, as per IS, CPWD Manual 2020 and the particular specifications given hereinafter vis-à-vis actual properties check, tests carried out, reference to test certificates and markings, etc based on which samples of each materials are approved as Conforming to relevant specification shall be recorded in the sample approval register.

(e) **MATERIAL PROCUREMENT:** The contractor shall not procure materials unless the samples are first got approved from the Engineer-In-Charge NIPER Hyderabad. All material costing more than Rs 1.00 Lakh shall be procured directly from the manufacturer. The contractor shall ensure that the materials incorporated in the work are identical with the approved samples. If, the same is not identical with the approved samples, the same shall be replaced by the contractor to the entire satisfaction of NIPER Hyderabad without any extra cost of the Govt. All material incorporated shall comply with relevant Indian Standard.

(f) **RECORD OF MATERIALS:** The quantity of all the proprietary materials shall be recorded in measurement books and signed by the contractor and the Engineer-in-Charge. The contractor shall procure all the materials (where specific makes/manufacturer's specified) directly from their manufacturer's or from their authorised dealers only. The contractor shall produce to the NIPER Hyderabad original printed and machine numbered purchase vouchers/invoices including manufacturer's test certificate for all the materials mentioned here-in-before in Special Conditions.

(g) **STANDARD OF WORKMANSHIP:** The workmanship shall be as per standard engineering practices and as specifies and directed. All relevant Indian Standard shall be applicable to entire CA items and complied with.

(h) **SCOPE OF WORK :**The scope of work under this contract comprises of full, final and entire completion of works and services described in different parts of schedule 'A' (BOQ) and in Sch A notes as specified in these particular specifications & general specifications.

(i) **PREPARATORY WORK :** Before commencing the construction, contractor shall carry out the preparatory work such as site clearance, construction of storage accommodation etc to the entire satisfaction of Engineer-in-Charge. The cost of such work as may be necessary shall be deemed to be included in the contractor's quoted lump sum.

## 21. EXCAVATION AND EARTH WORK:

- (a) **EXCAVATION:** Unit rates for items of Schedule 'A' shall include for excavation and earth work in soft soil. If rock (soft/hard/disintegrated) is met at site, contractor shall immediately notify the fact to the NIPER Hyderabad in writing, who shall after due verification, regularize the change through a proper deviation order.
- (b) **FILLING IN TRENCHES/UNDER FLOORS:** The approved earth obtained from excavation in foundations shall be used for filling in trenches, under floors and any other situation. Filling around pipes after the pipes are laid and tested shall be earth-free from pebbles/stones. Filling under floors/sides of trenches shall be in layers not exceeding 250mm thick, and each layer shall be watered and well rammed. Surplus soil shall be removed and spread at places as directed by the Engineer-in-Charge, to a distance exceeding 250 meters but not exceeding 500 meters, and leveled as directed by Engineer-in-Charge.
- (c) **TRENCHES FOR FOUNDATIONS AND PIPES:** The excavation shall be restricted to dimensions shown on the drawings. Excavation made, if any, in excess of required depth/width shall be made good by the contractor with cement concrete mix (1:5:10) without extra cost to the Govt.
- (d) **BAILING/PUMPING OF WATER:** All water that may accumulate in trenches of foundation, column footings, rafts etc, during the progress of work from rains, sub soil water, spring etc shall be bailed/pumped out or other wise removed all as per DSR 2018 Vol I and nothing extra.
- (e) **HARD CORE:** Unless otherwise specified, the hard core shall be of hard broken stone or boulders broken to gauge not exceeding 63mm. The material of hard core shall be well graded for providing dense and compact sub grade. Hard core shall be deposited, spread and leveled in layers not exceeding 15cm thick and watered and well rammed to a true surface and compacted with sufficient fine material. The thickness of hard core specified or indicated in the drawing, is the thickness after consolidation. Where thickness has not been mentioned it shall be 150mm consolidated.

## 22. CONCRETE WORK & OTHER CEMENT WORKS:

- (a) **CEMENT :** Type of cement to be used in this contract shall be ordinary Portland cement, grade 43, conforming to IS-8112-1989.
- (i) **PROCUREMENT:** Cement shall be procured by the contractor directly from the main producers, viz M/S Cement Manufacturing Company Ltd, M/s Ultra tech Cement Ltd, M/s OCL India Ltd , M/s Dalmia Cement (Bharat Ltd), M/s Chettinad Cement Corporation Ltd., M/s Heidelberg cement India Ltd., M/s My Home Industries Ltd., M/S Parasakti Cements Ltd., M/S Zuari Cement Ltd, M/s Toshali Cements Pvt. Ltd., M/S Saifco cement Pvt Ltd, M/S Prism cement Ltd, M/s Shree Guru Kripa Cement Pvt. Ltd., M/S barak Valley Cements Ltd, M/S Dhruv Industrial Company Ltd, M/s Ultra Tech Cement, Madras Cement, Saurashtra Cement, Lafarge cement(Lafarge India Pvt. Ltd.), The Associated cement Companies Ltd., Grasim Industries Ltd., The India Cement, Andhra Cement Ltd, Century Cements,Binani Cements Ltd., Mangalam Cement Ltd, Birla Corporation Ltd, Orient Cement, Shree Cement, JK Cement, JK Lakshmi Cement Ltd, Jaypee Rewa Cement, Ambuja Cement Ltd., J & K Cement Corp, Kathua, Shiva Industries, Kathua. Cement brought by the contractor at site(s) of work shall be in jute/polythene/paper bags containing 50Kg cement in each bag originally sealed by manufacturer. Contractor shall produce purchase vouchers, test certificates and other valid documentary proof to the entire satisfaction of NIPER Hyderabad for entire quantity of each consignment.
- (ii) **TESTING OF CEMENT:** The Engineer-in-Charge shall record test results in the Cement Acceptance Register after due verification. NIPER Hyderabad shall also take random samples of cement drawn from various lots of each consignment as specified in IS Codes and get them tested from any one of the Govt. approved laboratories or from SEMT CME, Regional Research Laboratory, all as per IS-3535-1986, IS-4031 and IS-4032-1985, cost of materials for such samples, cost of requisite handling & conveyance and cost of testing etc shall be borne by the contractor. Cement rejected or any bag of cement in go down showing indication of any setting shall be segregated and removed by contractor from the site within a week's time, with due permission of NIPER Hyderabad for their removal.

(iii) **STORAGE/CONSUMPTION OF CEMENT:** Cement in bags shall be stored, all as specified in DSR 2018 Vol II. For the purpose of keeping a record of cement procured and consumed in works, the contractor shall maintain a properly bound register in the form approved by the Engineer-in-Charge showing all procurements, quantity used in the work and balance in hand, at the end of each day and such other information as is required to control the consumption of cement. Pages of the register shall be numbered and initialed by Engineer-in-Charge. This register shall be signed daily by the contractor or his representative and Engineer In Charge. On completion of the work, the register shall be returned to NIPER Hyderabad for safe custody for any future reference. The cement Godown shall be provided with two locks on each door. The key of one lock on each door shall remain with the Engineer-in-Charge or his authorized representative and that of the other lock with the contractor's authorized agent at site of work.

(iv) **SCHEDULE OF SUPPLY:** The Contractor shall procure as per CPM Net Work. The periodicity of striking the formwork and curing for works with ordinary Portland cement, shall be as stipulated in CPWD Manual and DSR 2018.

23. **AGGREGATES:** Aggregates for concrete work shall conform to specifications all as specified in clauses CPWD Manual and DSR 2018.

(a) **FINE AGGREGATES (SAND) :** Fire aggregates for all concrete work shall be naturally occurring river sand/crushed sand confirming to clause DSR 2018 & CPWD. Sand confirming to grading zone IV of IS-383 shall not be used for RCC work.

(b) **COARSE AGGREGATES:** Coarse aggregates for all concrete work in all situations shall be graded crushed stone aggregate (crushed in mechanically operated crusher) of approved quality, irrespective of whether indicated specifically in the description of items or otherwise or DSR 2018 provisions. Nallah shingle will not be used even for plain cement concrete work in any situation. Coarse aggregate shall be obtained from queries.

(c) **GRADING OF COARSE AGGREGATE:** Grading of coarse aggregate (Broken/crushed stone) unless otherwise specified shall be as follows:-

(i) For all reinforced/plain cement concrete of thickness up :12.50mm graded to 25 mm or under.

(ii) For all reinforced cement concrete work over 25 mm thick. : 20mm graded

(iii) For plain cement concrete over 25 mm and under 75 mm thick. : 20mm graded

(iv) For plain cement concrete 75 mm thick and over. : 40mm graded



- (c) **WATER PROOFING ADMIXTURE:** - Irrespective of specifications given elsewhere water proofing for all cements concrete/mortar where indicated shall be integral (liquid) water proofing admixture of make as specified in respective appendix attached to these particular specifications and shall be mixed in the proportion recommended by the manufacturer. In case of deviations, waterproofing admixture shall be considered @ 1% by weight of cement.
- (d) **WATER :** Water shall conform to the requirements stipulated in IS-456-2000.
- (e) **MIX OF CONCRETE:** The proportions/type of cement concrete required for works in various situations shall be as under, if not indicated/specified in drawings/specifications: -

Situations	Type of concrete	Grades of stone aggregates
(a) Lean concrete under walls, walls below plinth beams, toe walls, dwarf walls, steps, column footings and brick/stone retaining walls.	: PCC (1:4:8) type D2 by volume.	40 mm
(b) Foundation concrete under RCC retaining walls.	: PCC (1:4:8) type D2 by volume	40 mm
(c) PCC in plinth protection, channel/drain, PCC blocks for holder bats, hold fasts/lugs for doors, windows and ventilators and plugging for scaffolding holes.	: PCC (1:3:6) type C1 by volume	20 mm
(d) PCC in bed blocks/plates, kerbs, padding, benching, splash stones, coping and PCC in any other situation not covered above.	: PCC (1:2:4) type B1 by volume	20 mm
(e) All Reinforced cement concrete	: M-25 (Design Mix)	20 mm
(f) RCC work for water retaining structure	: M-30 (Design Mix)	20 mm

- (f) **CURING :** Curing of RCC/PCC shall be as per clause 13.5 of IS 456-2000.
- (g) **FORM WORK:** Formwork shall comply with requirements of DSR-2018 and CPWD Manual All form work for columns, beams/bands, slabs, walls etc shall be provided of steel. However the form work for the items other than mentioned above may be of steel, plywood or timber of adequate strength. In case of any deviation involving form work, the pricing shall be done on the basis of timber form work.
- (h) **FINISHING TO EXPOSED SURFACES OF CONCRETE:** Unless otherwise indicated elsewhere or shown in drawings, exposed (RCC/PCC)/Cement concrete surfaces, shall be plastered with cement and sand mortar (1:3), minimum 5mm thick finished even and smooth after removal of form work. Exposed surfaces of lintels, beams, columns etc, which are continuous with plastered surfaces of walls shall be plastered in the same manner as specified for the walls.

23. **PRECAST CONCRETE ARTICLES:** Cement concrete lintels with or without integrally cast Chhajjas up to 1.5 metre clear span, shelves, bed blocks/plates, cover slabs, fins and the like may either be precast or cast in situ at the contractor's option, unless otherwise specified elsewhere. If precast, these shall be set in cement mortar (1:3). In case of deviation involving these items, pricing shall be done on the basis of cast-in-situ work.

24. **BRICK WORK:**

- (a) **MATERIALS :** (i) **Bricks :-** Bricks shall be kiln burnt, available locally or in the neighboring region, best quality with sub class 'B' old size bricks having minimum crushing strength of 75 Kg/Sqcm. Water absorption of bricks shall not exceed 20% when tested in accordance with IS-3495. Sampling and testing of bricks shall be carried out as per IS-5454 and IS-3495. The nominal size of brick shall be 230mm x 115mm x 75mm. The tolerance in the dimensions shall be  $\pm 8$  percent.
- (b) **Material : CEMENT :** Refer clause under 'Concrete' herein before.
- (c) **Material : SAND :** Sand for mortar shall be as specified Delhi Schedule of Rates 2018 (DSR 2018).

(d) **WORKMANSHIP** : Workmanship shall be all specified under relevant clause of DSR 2018.

25. **WOOD WORK AND JOINERY**: Timber for all joinery and woodwork shall conform to specifications given in relevant clause of DSR 2018 and shall be within the permissible limits of defects in relevant clause of DSR 2018. Timber shall be well seasoned whether air or kiln dried at the discretion of the contractor (except factory made door shutters which shall be kiln seasoned only) but without any price adjustments. The moisture contents of timber shall not exceed the limits laid down in DSR 2018.

26. **PARTICLE BOARD**: Particle board shall conform to the requirement of IS-3097(duly ISI marked) exterior grade (grade-1), specifications for veneered particle board (medium density). Particle board shall be of uniform thickness and density throughout and bonded with phenol formaldehyde synthetic resin (BWR type). Both the faces of particle board shall have sanded smooth finish. Where thickness of particle board has been shown as 20mm in the drawings / else-where, the same shall be amended to read as 18 / 19mm.

27. **PLYWOOD** : All plywood where indicated shall be BWR exterior grade conforming to IS-303. Decorative plywood where indicated shall conform to IS-1328.

28. **PRELAMINATED PARTICLE BOARD**: Pre-laminated particle board where indicated shall be factory impregnated exterior grade One or both side decorative type lamination as approved by NIPER Hyderabad. In case of one side decorative lamination, other side shall be balancing white prelamination; shall conform to IS-12823 Gde-I Type-I. Thickness of the board shall be 18/19 mm if not indicated in drawings.

29. **WORKMANSHIP FOR JOINERY IN GENERAL**: Joinery shall be wrought all over. Timber exposed to view shall be wrought and timber not exposed to view shall be clean sawn. The workmanship and fixing of joinery shall be as per relevant clause of DSR 2018. The dimensions of the various components of joinery (other than block board shutters) shown on drawings, wherever at variance, shall supersede the standard dimensions mentioned as per relevant clause of DSR 2018. However, for pricing deviations involving any joinery work, the rates in CPWD (DSR 2018) for the corresponding joinery items shall be applicable. Timber members upto 3.00 metre in length shall be in one piece.

30. **FACTORY MADE paneled/GLAZED/WIRE GAUGE SHUTTERS** : Paneled / glazed /Wire gauzed shutters of doors shall be factory made with 12mm thick plywood exterior gradepanels, manufactured in accordance with IS-1003, made of well selected kiln seasoned, chemically pressure treated, 2nd class hardwood 'Hollock'. Styles and rails shall be as specified. A Tolerance of (plus/minus) 3mm on width and height only shall be allowed, provided the shutter snugly fits into the frame. The thickness of shutters given in drawing shall be the finished thickness and no tolerance on this shall be permissible. The NIPER Hyderabad should ascertain whether the testing facilities are available for seasoning, preservative treatment of timber at approved factory and shutters are manufactured as per IS-1003 specifications.

31. **PVC DOORS AND DOOR FRAMES** :

(a) PVC doors and door frames shall be provided of dimension as per BOQ. PVC door frame(Chowkhats shall be of size 50 mm x 47 mm with a wall thickness of 5 mm made out of cotruded 5 mm rigid PVC foam shocked mitre cut at two corners and jointed with 2 Nos 150 mm long brackets of 15mm x 15 mm MS square tube. The two vertical door profiles shall be reinforced with 19 mm x 19 mm square tube of 19 gauge Rubber gasket weather seal shall be provided through out the frame. The door frames shall be fixed with wall using 65/100 mm long MS screws all as per manufacture's instructions and as directed by Engineer-in-Charge.

(b) Factory made solid panel PVC door shutters 30 mm thick consisting of frame made out of MS tubes of 19 gauge thickness of size of 19 mm x 19 mm for stiles and 15mm x 15 mm for top and bottom rails MS frame shall be covered with 5 mm thick heat moulded PVC channel of size 30 mm x 50 mm forming stiles and 5 mm thick 75 mm wide PVC sheet for top rail, lock rail and bottom rail on either side. 10 mm thick (2 x 5 mm). 20mm wide cross PVC sheet shall be provided as gap insert for top bottom rails . Panel insert of 5 mm thick PVC sheets shall be fitted in the MS frame welded/scaled to the stiles and rails with 30mm wide x 5 mm thick PVC sheet beading on either side and jointed together with solvent cement adhesive. The size of stiles and rails shall be 75 mm and 100 mm respectively. The door shutter shall be fixed to PVC door frame as per manufacturer's instructions.

32. **BUILDERS HARDWARE:**

(a) **GENERAL** : All articles of builder's hardware shall bear ISI marking. In case ISI marked articles are not manufactured, those shall conform to the relevant IS specifications given in the DSR and CPWD for the relevant item. Finish of articles shall be as specified in relevant part of DSR 2018. Screws used for fixing the articles of builders hardware shall be as specified in in relevant part of DSR 2018. Article shall be as under:-

(i) **BUTT HINGES** : Butt hinges shall be of MS steel medium weight all as specified in in relevant part of DSR 2018.

(ii) **CONTINUOUS (PIANO) HINGES**: Continuous (Piano) Hinges shall be finish as specified in relevant part of DSR 2018 and CPWD Manual. The width of the flap shall be to suit the thickness of the shutter.

(iii) **BARREL TOWER BOLTS**: Aluminium anodised barrel tower bolts of extruded section shall be as per relevant part of DSR 2018 and CPWD Manual. Size of barrel tower bolts shall be pae BOQ. Where size of barrel tower bolts not indicated, the same shall be 150 mm for doors and 100 mm for windows.

(iv) **HANDLES**: Extruded aluminium alloy handles fabricated type, anodised shall be as per DSR 2018. Size of handles shall be as per BOQ. Where size of handles not indicated, the same shall be 150 mm for doors and 125mm for windows.

(v) **HASP AND STAPLES** : Hasp and staples, safety type, aluminium anodised with mild steel hinge pin shall be as per relevant part of DSR 2018 and CPWD Manual. Size of Hasps and staples shall be as per BOQ. Where size of Hasps and staples not indicated, the same shall be 75 mm .

(vi) **DOORS SPRINGS** : Ordinary rat tail rod pattern MS spring including roller and roller plate shall be as per relevant part of DSR 2018 and CPWD Manual. Size of door spring shall be as per BOQ . Where size of door spring not indicated, the same shall be 150 mm.

(vii) **HYDRAULIC DOOR CLOSER**: Hydraulic door closer shall be hydraulically regulated designation No 2, Universal type aluminium body suitable for door shutter of weight between 36 to 60 Kg shall be provided as specified in relevant part of DSR 2018 and CPWD Manual. One number hydraulic door closer shall be provided to each shutter in all Aluminium doors.

(viii) **TOWEL RAILS** : Towel rails shall be tubular, mild steel, chromium plated, 22 gauge, min 18/19 mm bore, 'D' shaped with flanged ends for fixing. In case length is not mentioned in drawings, it shall be 60cm long. Wherever aluminium towel rails are indicated in the drawings, these shall be deemed to read as chromium plated mild steel rails as specified in this clause.

(ix) **WIRE CLOTH** :Wire cloth to be used for wire gauzed shutters shall be stainless steel with average width of aperture 1.18mm and nominal dia of wire 0.457 mm. In case of deviation, rates given in relevant part of DSR 2018 and CPWD Manual for wire cloth of nominal dia of wire of 0.56 mm shall be applicable. Where SS wire mesh is specified in the BOQ, it shall be 0.36 mm thick and 1.40mm aperture.

(x) **KNOBS**: Shutters and drawers of small size built in cabinets, switch boxes and built in furniture shall be provided with aluminium anodised knobs of not less than 38mm dia.

(xi) **ALUMINIUM DOOR STOPPER/WOODEN CLEATS**: Aluminium wooden door stoppers/wooden cleats of suitable size shall be provided to each open able shutter of window, ventilators and doors.

(xii) **HELICAL DOOR SPRING**: Where shown on drawings, wire gauged door shutters shall be provided with mild steel helical door spring 150mm long. MAKE: RITZ or Equivalent.

(xiii) **SLIDING BOLT**: Aluminium anodized sliding door bolts (type 3) 250 mm long with hasps and staple (bolttype) and fixing clips of sheet and bolt of extruded section of aluminium alloy, 16mm dia and shall be provided in all type of dwelling units. These shall be complied with IS 2681-1993 and with fixing bolts.

(xiv) **TIE HANGER:** The tie hanger in cupboards shall be of mild steel chromium plated pipe of 10mm internal diameter, 300mm long with standard mild steel chromium plated brackets as approved by NIPER Hyderabad. Wall thickness of mild steel chromium plated pipe should be more than 1mm.

(xv) **HANGING ROD:** Hanging rod of 19 mm ( $\pm 1$  mm) dia G.I. pipe light grade with appropriate socket for hanging rod in cupboards shall be provided as shown on the drawings.

(xvi) **LOCKING BOLTS:** Aluminium alloy (anodized) locking bolts (10 mm dia, 100 mm size) shall be ISI marked (IS 2681) and be provided to each shutter (one each)

(xvii) **HOOK & EYES:** Hook and eye shall be of aluminium anodized and matching with window and of size as shown on drawings. If the size is not specified in drgs, the same shall be of 125mm size.

(xviii) **MAGIC EYE:** Magic eye shall be provided to each entrance door (one per DU) as per locations shown on drawings and shall be as per sample approved by the NIPER Hyderabad (Engineer-in-charge). It shall be of brass body, with both sides lenses, and of approved make.

(xix) **BALL CATCH :** Aluminium magnetic catcher of heavy duty of standard make shall be provided in all type of Dwelling Units.

(xx) **ALDROP BOLT:** Aldrop bolt shall be aluminium anodized aldrop bolt (sliding door bolt) type 3, bolt of extruded section 16mm dia, ISI marked (IS-2681).

(xxi) **LOCK FOR CUPBOARD:** Locks for cupboard shall be of Grade -2, size 50 mm 4 levers unless otherwise specified and wherever shown in drawings shall be of brass all as specified in relevant clause of DSR 2018 and CPWD Manual. Make of locks : Godrej/Harrison/link. In case of Aluminium windows/CSWs, the edges of wire gauge shall be bent over Aluminium beads and the beads pressed well into the angle of Aluminium section to hold the gauge on two faces as shown on drawings.

33. **STEEL AND IRON WORK:** All items of steel and iron work including steel for reinforcement required for incorporation in this contract shall not be issued under Schedule "B" . Items of steel and iron brought to site by the contractor for incorporation in the work shall be new and free from defects all as specified in relevant clause of DSR 2018 and CPWD Manual and shall be conforming to IS specifications. Other parameters are as under:-

(a) **Quality Standards:**

- (i) **STRUCTURAL STEEL:** Gde E-250 (Fe410W) quality 'A' or 'B' ISI marked (IS-2062) .
- (ii) **STEEL FOR REINFORCEMENT:** High strength deformed steel bars produced by Thermo Mechanical Treatment process; TMT steel bars of Grade Fe 500/500D meeting all requirements of IS-1786.
- (iii) **MILD STEEL:** Mild Steel as in fencing posts, Hold fasts, grills, guard Bars, steel door ,railing, steel gate, members of steel windows , doors and the like; Gde E-165 (Fe-290) ISI marked (IS-2062).
- (iv) **Fabric:** Fabric reinforcement for concrete ; Conforming to IS-1566.
- (v) **Steel Sheet:** Black/Galvanised steel sheets; Conforming to IS-277. Galvanised steel sheets (plain & corrugated) shall have Class 8 coating.

(b) **PROCUREMENT:**

- (i) **TMT STEEL:** TMT Steel bars of all sizes to be supplied by the contractor shall be procured from primary/main producers of steel namely STEEL AUTHORITY OF INDIA LTD (SAIL), TATA IRON AND STEEL CO. (TISCO), RASHTRIYA ISPAT NIGAM LTD (RINL), M/S SRMB SRIJAN PVT LTD KOLKATA, M/S CONCAST STEEL & POWER LTD KOLKATA, M/S SHRI BAJRANG POWER & ISPAT LTD RAIPUR, M/S ELECTROSTEEL LTD KOLKATA, M/S KAMACHI SPONGE & POWER CORP LTD CHENNAI, M/S BDG METAL & POWER LTD KOLKATA, M/S GALLANT METAL LTD KOLKATA AND M/S RASHMI METALIKS LTD KOLKATA. However authorized conversion agents of main producers can supply the steel to the contractors provided main

producers have given such directions in a specific sale/purchase order conversion agents are producing TMT steel using Thermax or Tempcore or Evcon Turbo Technology or Siemen's HYQST/TMT. All such transactions shall be with main producers only and the contractor shall not procure any steel section (TMT steel bars) directly from the conversion agents. Purchase vouchers and Test certificates shall be from main producers.

(ii) **STRUCTURAL STEEL (E-250, Fe-410W)**: Structural steel sections shall be procured from primary/main producers of steel namely STEEL AUTHORITY OF INDIA LTD ( SAIL), TATA IRON AND STEEL CO. (TISCO), RASHTRIYA ISPAT NIGAM LTD (RINL), JINDAL STEEL & POWER LTD.

In case of non-availability of structural steel from all of the main producers mentioned above the same can be procured from secondary producers mentioned in clause here-in-after who manufacture structural steel out of ISI marked billets and are having BIS certifications of ISI marking on their products and approved by Engineer-In-Chief, with necessary minus price adjustment (@ 5% DSR 2018 rates. However in case of the desired section of structural steel is not manufactured/rolled by primary producer their shall be no price adjustment in use of structural steel procured from approved secondary producer. Secondary producers of Structural steel are;M/s KL Steel Pvt Ltd, M/s Shri Badrinarain Alloys and Steel Ltd, M/s Pushpak Steel Industries Pvt Ltd, M/S Amba Shakti Ispat Ltd, SRMB Udyog Ltd, M/s Shree Parashnath Re-Rolling Mills Ltd, M/s Tata Steel Structure, M/s KL Concast Pvt Ltd, M/s Karam Steel Corp. The correct address and contact No of secondary producers shall be obtained from NIPER Hyderabad before placing order.

(c) **DOCUMENTATION**: The contractor shall submit original purchase vouchers and Test Certificates from the manufacturer for the total quantity of steel which shall be defaced by the Engineer-in-Charge and kept on record. The Steel Acceptance Register shall be signed by Engineer-in-Charge, NIPER Hyderabad and contractor.

(d) **TESTING OF STEEL**:The NIPER Hyderabad/ shall also organize independent testing of random samples of steel drawn from various lots as applicable and from a National Test House , SEMT wing CME Pune, Regional Research Labs and NABL approved Labs, Government approved labs, Engineering college, Zonal Labs, Command Labs etc as required. The elongation shall not be less than 18%. In order to undertake Department testing, requisite facilities shall be organized by the contractor. The record of such checks shall be maintained in the steel test register. Thermo mechanically treated bars shall be tested for tensile test, bend test and re-bend test as per clause 8 of IS-1786-1985. Test specimen shall be taken as per clause 10 of IS-1786-1985. Mild steel bars shall be tested for tensile test and bend test as per clause 10 of IS-432(Part-I) 1982. Minimum yield stress shall be 250 N/Sqmm. The structural steel (E-250 and mild steel section E-165) shall be tested for tensile test and bend test as per IS-226/ IS-2062/IS-1977 as applicable. Minimum yield stress shall be 250 N/Sqmm. Chemical test shall be carried out to ascertain chemical composition, which shall conform to the norms laid down in relevant ISI codes. For TMT bars, chemical composition shall be as given in relevant Appendix 'C' attached to these particular specifications.

(e) **TOLERANCE**: Rolling and cutting tolerance of structural steel products shall be as specified in IS-1852 of 1985 Tolerance on size and weight of reinforcement bars shall be as specified in relevant clause of DSR 2018 and CWPD Manual.

(f) **SCHEDULE OF SUPPLY**: The contractor shall ensure that procurement action is taken immediately after acceptance of contract so as to adhere to schedule of activities as per CPM network.

(g) **STORAGE, ACCOUNTING PRESERVATIONS AND MAINTENANCE**: Structural steel/bars of different classification, section, sizes and lengths shall be stacked separately. Steel shall be marked with distinct painting marks for easy identification. Steel shall be recorded in MB for record purpose only. All steel shall be stored on Dunnage at-least 15cm above ground level. In case of long time storage, suitable protective measures like cement coating, provision of temporary shelter etc to save it from rusting/distortion etc shall be taken. Any item of steel that has deteriorated or corroded or considered defective by Engineer-in-Charge shall not be used in the work and shall be removed from the site of work.

34. **WELDING** : Welding wherever shown on drawings shall be by metal arc process in accordance with IS-816 and IS-823.

35. **GRILL/GUARD BARS ONLY FOR WINDOWS & VENTS OTHER THAN ALUMINIUM WINDOW/VENTS**: Mild steel Grill/Guard bars of respective type as indicated shall be provided to all external steel windows and ventilators of buildings covered under Sch 'A' Part I as per detail shown in the drawings. In case type of grill/guard bars is not mentioned in any drawings, Guard bars type-F shall be provided.

36. **HOLD FASTS/LUGS** : Flat iron hold fasts/lugs shall be provided by welding except those, to be provided to wooden chowkhats which shall be fixed with bolts/nuts as per details. Holes in wooden chowkhats shall be plugged with hard wood plugs.
37. **STEEL DOOR:-** Steel door shall be fabricated as per details. The size of door unless otherwise not shown on drawing shall be 1200mm x 1200mm and thickness of MS sheet shall be 2 mm . All iron and steel work shall be given two coats of synthetic enamel paint over a coat of red oxide primer.
38. **FLOORING:**
- (a) **GENERAL:** Ordinary portland cement as specified in relevant clause of DSR 2018 and CWPD Manual here-in-before shall be used for all flooring. Provisions contained in relevant clause of DSR 2018 and CWPD Manual are to be adopted for laying floors and pavements. Floors shall be laid to levels or to falls as shown on drgs and as directed by the Engineer-in-Charge. Floor finish shall be extended over dwarf walls, doors and other openings. Floor topping of cast-in-situ cement concrete shall be finished even and smooth without using extra cement as specified in relevant clause of DSR 2018 and CWPD Manual. Cast-in-situ terrazzo shall be in grey cement (OPC) without pigment unless otherwise indicated. In location where terrazzo with white cement has been indicated, it shall be casted with white cement and pigment. White cement shall be Birla/L&T/JK Cement. Marble aggregate (Chips) shall be of size 6mm to 12mm for terrazzo floors. The colour of marble chips shall be as shown on drawings or as approved by NIPER Hyderabad, when not indicated in drawings. Surfaces finished in terrazzo shall be grinded and wax polished as specified in relevant clause of DSR 2018 and CWPD Manual. The grinding by hand may be allowed in WC/Bath, if grinding by machine is not feasible in such situations. These situations are in addition to those as specified in relevant clause of DSR 2018 and CWPD Manual. Sub base shall not be laid in panels.
- (b) **PCC :** 40/25 mm thick PCC (1:2:4) type B-1/B0 ( using 20/12.5 mm graded crushed stone aggregates) finished even and smooth without using extra cement laid in alternate bays. 4mm thick glass dividing strips shall be provided only where mentioned in BOQ.
- (c) **NON SKID CERAMIC TILES FLOORING:** Non skid ceramic tiles flooring shall be Ist quality provided with mat superior finish ceramic tiles of size specified in the BOQ and Coloured/Pattern, Make/Brand as specified conforming to IS 15622-2006/ISO-3006 (Grade B-II (a)) Shall be laid over screed as mentioned in the BOQ using cement slurry @ 3 Kg/Sqm over PCC 1:2:4 type B-0 (using 12.5 mm graded crushed stone aggregate, over 75 mm thick PCC.
39. **PLASTERING, POINTING & SKIRTING/DADO:** Plaster and skirting/dado shall be returned in jambs, soffits of lintels and windows etc. All plastered surfaces shall be trowelled to even and smooth surfaces without using extra cement. Thickness of cement plaster mentioned is exclusive of dubbing. Dubbing may, however, be done in one operation with plaster and no separate payment for dubbing shall be admissible. All corners, angles, junctions shall be truly vertical or horizontal as the case may be and shall be carefully finished. Corners around joints openings and junction of walls shall be rounded to minimum radius of 5mm. For specification of refer clause on concrete herein before. The sand shall comply with relevant clause of DSR-2018 and CPWD Manual.
40. **GLAZED VITRIFIED,CERAMIC TILES DADO/SKIRTING:** It shall match with the floor finish.
41. **WHITE WASHING / COLOUR WASHING:** White wash / colour wash shall be done in 3 coats. The colour wash shall consist of 2 coats of colour wash over one coat of white lime wash. However, soffit of rooms shall be provided with 3 coats of white (lime) wash. Lime wash shall be carried out all as specified in relevant of DSR-2018. To achieve better finish of white wash zinc oxide shall be mixed with lime wash at the rate of 2 percent of slacked lime. In final coat of white wash fevicol DDL shall be mixed as per manufacturer's instructions. No ultramarine blue shall be mixed in any coat. However, sodium chloride, as specified in DSR 2018 shall be mixed in first and second coats.
42. **OIL BOUND DISTEMPER (WASHABLE DISTEMPER):** Oil bound distemper, shall be applied in two coats of oil bound distemper over one coats of cement primer conforming to IS: 428 -2000 & shall be provided over prepared surface. All cracks, voids and minor damages shall be patched/repared with white cement putty or with plaster of peris and surface shall be prepared with white cement based putty all as specified in relevant clause of DSR 2018 and CPWD Manual.
43. **CEMENT BASE PAINT :** Cement base paint shall be applied in two coats over a coat of alkali resistant priming paint, all as specified in relevant clause of DSR 2018 and CPWD Manual. Shade shall be approved by NIPER Hyderabad. Cement base paint shall conform to IS-5410-1992.

44. **GLAZING:** All glazing shall be with sheet glass of ordinary quality and shall conform to IS -2835. Glass shall be free from all defects viz bubbles, waviness etc. and shall be of uniform thickness. In case thickness not mentioned elsewhere glazing to windows/doors shall be with 5mm thick sheet glass. Glass used shall be plain sheet glass except in baths/WC/Toilets/Lav/WC as applicable where it shall be pinhead glass. The glazing to steel frames, shall be fixed with special spring glazing clips with putty and glazing to wooden joinery shall be fixed with wooden beading with putty all as specified in relevant clause of DSR 2018 and CPWD Manual. Glass shall be fixed to Aluminium windows /vents with aluminium snap beading alongwith PVC/neoprene gasket.

45. **PAINTING:** All synthetic enamel paints and emulsion paints shall be of 1st quality manufactured by the standard firm. The contractor shall inform the NIPER Hyderabad, within three weeks of the acceptance of the tender, the brand/ names of the manufacturers of paint proposed to be used in the work and submit samples thereof to NIPER Hyderabad before their use in work and obtain prior approval of NIPER Hyderabad. Paints for priming coat, under coat and finishing coat shall be of the same brand. Tint of paint, if not mentioned in drgs/schedule of finishes, shall be as approved by the NIPER Hyderabad. Pink primer shall be used on wooden surface and red oxide primer shall be used on steel surface. Concrete surface shall be applied with cement primer. The workmanship shall be as under:-

(a) All surfaces required to be painted shall be smoothed size and knotted and then applied with priming coat, stopping and filling [filler coat] shall be done after priming coat and surface rubbed down to a level and smooth surface and thereafter under coat and finishing coat shall be applied all as specified in relevant clause of DSR 2018 and CPWD Manual. Steel and iron work shall be painted in the manner as specified in relevant clause of DSR 2018 and CPWD Manual.

(b) All steel and wooden surfaces including wooden based surfaces such as plywood, particle board etc shall be given two coats [under coat and finishing coat] of synthetic enamel paint. Aluminium painted shall be given two coats of aluminium paint conforming to IS-2339 over a coat of appropriate primer.

46. **WATER PROOFING TREATMENT TO RCC ROOF SLABS :**

(a) Water proofing shall be provided with APP modified water proofing membrane 3 mm thick (weighing not less than 3.00 Kg/Sqm) and shall be under strict supervision of manufacturer's technical representative . The treatment over roof slab shall be carried out by providing 10 mm thick plaster in cement mortar 1:4 mixed with water proofing compound as per manufacturers instructions. While the concrete is green. The surface shall be then be painted with one coat of bitumen primer conforming to IS : 3384 - 1965@ 0.3 Kg/Sqm. A layer of APP based polymeric membrane 3 mm thick (minimum), weighing not less than 3.00 Kg/Sqm reinforced with polyester non woven mat 160 GSM thick shall be laid by torch application with side over lap of 75 mm and end lap of 100 mm. The joints /overlap shall be sealed with torch application. For parapet, the membrane shall be taken up to 30 cm and then inserted inside the parapet in a groove. 40 mm thick brick tile grouted in cement mortar 1:3 mixed with 5% crude oil by weight of cement and flush pointed in the same mortar work shall be provided as protection. Covered fillet in PCC 1:2:4 type B 0 of radius 75 mm to be provided at junction of roof and parapet.

(b) **Guarantee Clause:** The contractor shall stand written guarantee to the Government for a period of 10 years for the effectiveness of the treatment from the certified date of completion of the work. Should the NIPER Hyderabad at any time, prior to the expiry of the side guarantee of ten years, find defects in the water proofing of roof, the contractor on demand in writing from the NIPER Hyderabad, specifying the building/structures complained of shall forth with undertake to carry out such treatment as may be necessary to render the said building /structures water proof at this own expense, till expiry of the guarantee 10 years from the certified date of completion. In the event of contractor's failure to comply with NIPER Hyderabad directions (within the period to be specified) the NIPER Hyderabad may under take rectification work at the risk and cost of the contractor. The liability of the contractor under this condition shall not however extend beyond the period of 10 years from the certified date of completion unless the notice was served on the contractor previously to rectify the defects. The amount of security deposit against the guarantee for water proofing treatment calculated as per the scales laid down for calculating "Individual security Deposit" on the amount of water proofing treatment at contract rates, rounded off next Rupees.

47. **GUNITING**: Guniting shall be done as indicated in Sch 'A' BOQ. The steps to be taken while carrying out the guniting are: Taking down cement plaster, raking out joints, hacking for key. The parts of brick work which is intact shall be roughened to needful guniting. Removal of dust from joint and keys by sand blasting and wire brushing as directed. Applying polycrrete for concrete and mixture. Providing Guniting with pressure 2.2 to 2.50 kg/Sqcm with mixture of 1 cement and 2 of sand (1:2) of thickness as indicated including stripping, floating with wooden stripper for proper dimensional control including necessary form work, scaffolding complete. Dismantling of concrete member by chiseling from RCC member (Column, Beams, Slab, Chajjas, fascia etc). Exposing the existing reinforcement without disturbing the core of RCC member, cleaning the surfaces with wire brushes, providing additional reinforcement as directed at site, where required, binding with 75x75x2mm thick (dia) welded mesh with binding wire and tack welding using adhesive, plaster create for concrete admixture. The unit rate quoted by tenderer shall be deemed to be inclusive of the above provision. Guniting surfaces shall be cured by the contractor for seven days at his own cost and arrangement. The contractor shall make arrangement at his own cost for removing the rubbish etc before and after the Guniting work.

48. **SANITARY APPLIANCES AND TOILET FITTINGS**: All Sanitary ware (except flushing cistern) shall be of white vitreous china best quality ISI marked of makes as specified. The samples of sanitary fittings, fixing accessories shall be approved by the NIPER Hyderabad wherever occurs in tender documents before bulk procurement for incorporation in the work. ISI marked fittings of these brands shall be provided instead of those without ISI marked. General requirement and specific requirements mentioned as mentioned above as applicable of DSR 2018 rates shall be complied with. The contractor shall employ qualified and licensed plumber for supervision of installation and testing of the sanitary fitting and plumbing. The sanitary items shall comply with following specification also. Sanitary fittings issued under Schedule 'B' shall be fixed as per DSR 2018 relevant clause.

(a) **WATER CLOSET (SQUATT PATTERN- ORISSA PAN)** : WC shall be **Orissa pan** type conform to IS-2556 Part-III and shall be as per Cat No. 20004 of long pattern of Hindware or other equivalent approved make as specified of size 580mm x 440 mm shall be provided with 'P' or 'S' trap. The pan shall be set in cement concrete (1:2:4) using 20mm graded crushed stone aggregate at least 25cms around and finished just below the rim to receive the specified thickness of floor finish.

(b) **WATER CLOSET PADESTAL PATTERN (EWC)** : Water closet (EWC) shall be as per Cat No. **as specified and** standard with 'P' trap or 'S' trap of all as per IS-2556 Part-II. Plastic seat and cover with flat under side, solid moulding closed front pattern, with cover. Seat cover shall be white in colour with chromium plated hinges and nuts, of make as specified.

(c) **CISTERN**: 10 litre discharge capacity polythene low level flushing cistern, solid moulded with valve less syphonic fitting, manually operated with one PVC ball valve horizontally plugged type and polythene float valve shall be provided alongwith a pair of standard brackets/clamps as supplied by manufacturers. The accessories includes ; 15mm dia PVC connection pipe, 32mm dia flush pipe of chromium plated brass tube bent to required shape including chromium plated brass coupling.

(d) **WASH HAND BASIN** : Wash hand basins shall consist of ; Wash hand basin of size 530x425mm vitreous china glazed ware, flat back pattern as per Cat No CASINO and along with pedestal Cat No-1117 of Make CERA or any other equivalent model of approved make as specified with waste union and perforated grating (both fittings of brass chromium plated). Colour of WHB shall be white in all locations, 15mm bore central hole basin mixture Cat Part 167B of Jaquar or any other equivalent Model of approved Make as specified (the cost of this provision shall also be considered included quoted under Sch 'A' BOQ, a pair of cast iron brackets, 32mm dia galvanised steel medium grade waste pipe fitted with brass chromium plated waste coupling outlet complete, length of waste pipe shall be as indicated on drgs/as directed by Engineer-in-Charge, Chromium plated steel chain and rubber plug.

(e) **MIRROR**: Mirror shall be polished sheet glass 5.5mm thick on 5.5mm thick AC board and provided with wooden/polythene (PVC) moulding frame. Mirror shall be hung by key slots on screws fixed to plug embedded in walls unless otherwise shown on drawings. Size of mirror where not shown on drawings shall be 60x45cm. Colour of PVC moulding frame shall be same as that of wash hand basin.

(f) **WASTE PIPE AND COUPLING** : CP coupling with 32mm dia, PVC flexible, waste pipe of required length shall be provided with brass chromium plated waste coupling with perforated grating 32mm dia.



(g) **URINALS :** Urinal shall be provided of white vitreous china full stall urinals of approved makes as specified conforming to IS-2556 Part-VI (Section-1) with grating and union including 5 litres discharge capacity PVC automatic flushing cistern. (For set of four urinals or part thereon only one flushing cistern is to be provided as per main drgs, 20mm bore medium grade galvanised iron flush pipe, 32mm bore medium grade galvanised iron waste pipe up to outlet drain, Chromium plated brass coupling to connect urinal pan with waste pipe and chromium plated adopter to connect pan with flush pipe.

(h) **SOAP NICHE:** Soap niche shall be of size 30cmx20cmx10cm deep. The location of soap niche shall be as directed by Engineer-in-Charge and all the surfaces of niche (cill, soffit, back and sides) shall be provided with glazed ceramic tiles (coloured or white depending upon the colour of tiles to be provided in the adjoining dado), set and jointed in neat cement slurry, pointed neatly in white cement.

(i) **PEG SETS:** Peg set where ever shown/ indicated shall be of aluminium anodized. These shall be screwed with steel screw on Deodar planks (French Polished) 10cm wide x 20mm thick and of such length that the end peg is at a minimum distance of 5cm from end edge and the distance in between the respective pegs is not less than 15cm, The planks shall be fixed to wall with wooden gutties/plugs and screws. Where peg sets are indicated to be provided on the back of the door, peg sets as indicated above shall be provided on the top rail of back of the door with screw without providing wooden planks.

(j) **STAINLESS STEEL SINK WITH/WITHOUT DRAINING BOARD:** Kitchen sink without draining board shall be made out from non magnetic stainless steel sheet 1.00mm thick of specified make of size as per BOQ. The surface of the sink shall be plastic coated to make it safe and scratch free installation. If size of sink and draining board as specified are not available in the market then next (higher) nearest size available shall be provided with accessories/fittings viz; Brass chromium plated chain rubber plug arrangements, Waste coupling brass chromium plated, screwed with fly nut and washer suitable for 50mm bore pipe, Waste coupling shall be of the same make as that of sink, 50 mm bore GI light grade waste pipe from basin to trap and a pair of cast iron brackets. Kitchen sink with draining board shall be made out from single piece non magnetic stainless steel sheet 1.00mm thick.

(k) **HDPE OVER HEAD WATER STORAGE TANKS & OTHER ALLIED WORKS:** HDPE Water storage tanks shall be 3 layers type rotational moulded, cylindrical vertical type. HDPE Water storage tanks shall be ISI marked (engraved). In case the tanks of capacity as shown/indicated are not manufactured, the contractor shall provide tanks of next higher capacity without any extra cost to the department. The shall consist of Mild steel galvanized medium grade 25mm bore over flow and wash out pipe and float ball valve with brass rod and polythene ball shall be provided. Wash out pipe shall be provided with stop valve and anti-mosquito rose. Over flow pipe shall be connected to wash outlet pipe beyond the stop valve at an approximate distance of 50cm from take off point of wash out pipe and beyond this the combined wash out and over flow pipe shall be provided. In case RCC floor slab for placement of O.H tanks it shall be placed on PCC (1:2:4) Type B-1, 40mm thick shall be provided after applying neat cement slurry @3kg of cement per sqm over RCC slab. The soffit of tank slab shall be plastered in CM (1:3), 5mm thick using liquid type water proofing compound before hoisting and placing of tanks in position.

49. **PLUMBING WORK (UPVC):** Plumbing work shall be carried out as specified in relevant clause of DSR 2018 & CPWD Manual . In Case the soil/waste/vent pipes are of UPVC pipes these shall be conforming to IS-13592-1992 & fitting conforming to IS-14735-1999. All the pipes and fittings shall have ISI certification mark. UPVC pipes and fittings shall be jointed with solvent welded routs all joints as specified DSR 2018 & CPWD Manual & IS code. UPVC pipes and fittings shall be fixed to wall with mild steel clamps as specified in DSR 2018 & CPWD Manual

## 50. **INTERNAL WATER SUPPLY:**

(a) **MATERIAL:** Polypropylene Random copolymer (PP-R) pipes and fittings shall be all as specified in relevant clause of DSR 2018 and CPWD manual, bib taps, stop valves and pillar taps shall be all as specified in relevant clause of DSR 2018 and CPWD manual. Shower rose shall be of approved by NIPER Hyderabad. Mild steel galvanised tubes (pipes) and fittings shall be all as specified in relevant clause of DSR 2018 and CPWD manual, bib taps and stop valves shall be all as specified in relevant clause of DSR 2018 and CPWD.

(b) **LAYING AND FIXING PIPES** : The pipes for supply of water to all fittings in the buildings shall run on the internal walls as approved by the Engineer-in-Charge at site. Pipes for internal water supply shall run concealed in walls/floors. The cost of cutting chases, forming holes etc. and making good for concealing the pipe shall be deemed to be included in lump sum cost of building of Sch 'A' Part-I. Where pipes are laid underground, the trenches shall be excavated as directed by the Engineer-in-charge. The pipes running along face of the walls shall be clamped in the walls as specified as specified in relevant clause of DSR 2018 and CPWD manual. Where pipe is passing through a wall, a mild steel tube sleeve shall be fixed all as specified as specified in relevant clause of DSR 2018 and CPWD manual. Testing of pipes shall be carried out all as specified in relevant clause of DSR 2018 and CPWD manual.

(c) **PVC PIPE CONNECTION** : Ready made PVC connection pipes of standard make (ISI marked) shall be 450mm long suitable for 15mm bore GI pipe complete with brass chromium plated coupling nuts and rubber washer. The weight of brass coupling nuts shall not be less than 40 grams. The weight of PVC pipe 450mm long shall not be less than 40 grams.

(d) **MILD STEEL GAVANISED TUBES AND FITTINGS:-** Laying & jointing of pipes shall be done generally in accordance with relevant clause of DSR 2018 and CPWD manual unless otherwise directed by NIPER Hderabad.

(e) **UNPLASTICISED PVC PIPES:** UPVC pipes shall conform to IS 4985-2000. pecification for Unplasticised PVC pipes for potable water supply. The pipes shall be reasonably round. Internal and external surfaces of the pipes shall be smooth and clean, reasonably free from grooving and other defects. The ends shall be cleanly cut square with the axis of the pipes, UPVC pipes shall be of pressure ratings (working pressure) as 2.5, 4.5 and 10 Kg/sq cm as indicated. Fittings for Unplasticised PVC pipes shall be made of PVC or shall be as recommended by the manufacturers of the pipes used.

(f) **HIGH DENSITY POLYETHYLENE (HDPE) PIPE:** HDPE pipe shall conform to IS 4984-1995. pecification for high density polyethylene pipes for potable water supply. The Pipes shall be smooth internal and external surfaces. Slight shallow longitudinal grooves or irregularities in the wall thickness shall be permissible provided that the wall thickness remains within the permissible limits. HDPE pipe shall be of pressure ratings (working pressure) as indicated. The pipes shall carry colour bands to indicate class of pipes. Fittings to use with HDPE Pipes Shall be injection moulded or fabricated type confirming to IS 8008 (Parts I to 6)-2003, Specification for injection moulded high density polyethylene (HDPE) fittings for potable water supplies or to IS 8360 (Parts I to III)-1977, Specification for fabricated high density polyethylene fittings for potable water supplies or as recommended by the manufacturers of the pipes used.

(g) **UPVC SOIL, WASTE AND RAINWATER (SWR) DRAINAGE PIPES:** UPVC (SWR) pipes shall conform to IS 13592-1992, Type 'A' Pipe for use in ventilation pipe work and rain water application. Type 'B' Pipe shall be for use in soil and waste discharge system. The size of pipes shall be indicated. Rubber rings for pipes and fittings shall conform to IS 5382-1985. UPVC (SWR) fittings shall be used as per recommendations of the manufacturer of the pipes. In case there is no IS code for the fittings, these shall generally conform to the requirements of BS 4515 DIN 19531 and DIN 19534. UPVC (SWR) pipes and fittings shall be strong, dimensionally stable and shall be free defects.

(h) **PTMT BATH FITTINGS:** The fitting shall be as per manufacturer's instruction and as approved by NIPER Hyderabad.

**INTERNAL ELECTRIFICATION :**

(a) **GENERAL:** The materials, workmanship and the installation as a whole shall generally be governed by specifications, and rules and the principles laid down in DSR 2018 and CPWD Manual, Specifications given here under are in amplification and modifications, the specifications given here under shall take precedence. Items of electrical work shall be deemed to include interalia minor items to make the installations in the building complete in all respects, duly tested and certified as fit for switching electric supply on the taking in side the buildings. The installation shall strictly comply with the provisions contained in the latest edition of Indian Electricity Rules and latest edition of the Indian Standard Electrifications as applicable to the work, except where such regulations and rules are modified by the specifications. It shall be of high standard and approved construction used in modern electrical works as regards design as well as workmanship. Complete works shall be suitable in all respects for the type of voltage indicated in the relevant items Sch'A'. All electrical works shall be executed by skilled licensed workers. Only licensed supervisors and workers shall be employed, and the contractor on demand by the Engineer-in-charge shall produce such evidence of qualifications for his workers/supervisors either at the commencement of the work or any time there after.

(b) **CABLE :** Cable shall be with multi stranded copper conductors single core PVC insulated unsheathed cable upto 1100 volts grade conforming to IS : 694-1990. For the purpose of colour coding in conduit wiring in particular the samples for make and colour of insulation of wires shall be got approved before the wires/cables are procured and drawn into conduit. Red/yellow/blue wires for phases, black wire for neutral and green wire for earth shall be used wiring in conduit without coding will not be acceptable..Size of cables and voltage grading shall be as per Schedule 'A'/BOQ.

(c) **POWER CABLES :** Power cables suitable for LT and HT supply shall conform to the following Indian Standards as indicated. The characteristics of the cables viz. the size of the conductors, single core, twin core, three core or multi-core, whether armoured or unarmoured, type of insulation and sheathing and the rated voltage of the cables shall be as indicated :

- (i) IS 692-1994, Specification for paper insulated lead-sheathed cables for electric supply.
- (ii) IS 1554(Part 1)-1988, Specification for PVC insulated (heavy duty) electric cables, Part 1 for working voltage upto and including 1100 volts.
- (iii) IS 1554-(Part 2)-1988, Specification for PVC insulated (heavy duty) electric cables. Part 2, for working voltages from 3.3 KV upto and including 11 KV.
- (iv) IS 7098 (Part 1)-1977 and Part 2-1985 (XLPE) insulated PVC sheathed cables.

(d) **MCB DISTRIBUTION BOARDS:** Distribution boards shall be factory made and conforming to IS : 8623 suitable for universal mounting copper bus bar, Neutral bar, Earth bar, Standard DIN bar Rail and cable ties for cable management. Top and bottom shall have removable gland plates with knock outs. SPN Distribution boards shall be suitable for provision for DP/SPN MCBs/isolators as incomer and SP utgoings all as specified and shall be flush mounting type. The degree of protection shall be IP -42 protection with acrylic door . TPN Distribution boards shall be suitable for FP/TPN MCBs/Isolator as in comer and TPN/SP outgoing all as specified and shall comply with IP-42 protection with metal door.

(e) **MCBs** - All MCBs shall be conforming to IS-8828 of 1996 and shall be ISI marked. These shall be suitable for 'C curve and 10 KA Breaking capacity and shall be provided with box terminal on top and bottom both suitable for adopting cable size upto 35 Sqmm. The enclosure of MCBs shall be of Moulded Self Extinguishing thermo set plastic and these shall be suitable for snap fixing on standard Din Rail.

(f) **MCCBs** : These shall be of compact and elegant design suitable for reversible load and line terminations without affecting its performance. MCCBs shall be suitable for fixing flush on the panels and shall be provided with handle operating mechanism including Rotary Handle vari-depth type. All other specifications shall be as per DSR 2018 & CPWD Manual.

(f) **MS BOX HOUSING FOR ACCESSORIES:** All electrical accessories shall be mounted on mild steel housing of 16 gauge embedded / flush with the surface of wall. The top cover of housing must be minimum 15 mm larger in all sides. The front of the housing shall be plastic laminated sheet 3 mm thick and smooth finished. Top cover must be removable type fixed to the housing with adequate number of non rusting type polished machine screws (wood screws shall not be used for this purpose). The top surface of housing shall be provided with a groove with chamfered edge for cable entry. The housing should have suitable earth

terminal which will be connected to the earth terminal on the main / sub control boards from which the circuit originates by means 1.50 sqmm copper conductor green colour FRLS PVC insulated cable of continuity wire, the cost of which is deemed to be included in the rate per point wiring and it is deemed to include cost of supply and fixing housing and top cover also. Where fan regulators are housed, necessary ventilating holes 2.4 mm dia are to be made on top cover, No. of holes and their arrangements shall be all as directed by the Engineer-in-Charge.

(g) **CIRCUIT & CONTROL GEARS:** The circuit arrangements is planned for better operation and maintenance and shall not be altered even though it is at variance with clause of DSR 2018. Each circuit shall have its separate neutral, originating from the neutral bus / neutral terminal. It shall be ensured that in case of single phase circuits the phase conductor is taken into the single pole. Switches with single pole switches in 'OFF' position, there should be no conductor at the outlet point controlled by the Switch. Lighting circuits which have three pins outlet, the earth terminal shall be connected by means of 1.50 sqmm copper conductor green colour FRLS PVC insulated with circuit earth wire. Control gear as far as it is related to internal electrical work in building comprises of:-

(i) Distribution Board : Distribution board MCB/TPNL/SPNL, 415/240 volts of ways as described in Sch 'A'/BOQ shall be provided flush with walls. The sheet metal enclosures shall be factory fabricated preferably of the same manufacturer.

(ii) Miniature circuit breaker (MCB's) of ratings as mentioned in Schedule 'A'/BOQ shall be provided in MSB / SMB's. The MCB shall have breaking capacity of 9 KA. The MCB's shall have ISI mark on them.

(iii) The control gear at MCB's shall be housed in metal box made out of 16 gauge MS sheet with hinged front cover and locking arrangement. The box shall be recessed in the wall. Each MSB shall have proper knob as approved by Engineer-in-Charge for the convenience of opening and closing.

(h) **FITTINGS AND ACCESSORIES:** Switch of rating 5 Amp shall be piano type. Switch socket outlet combination 3 pin 5/16 Amp shall be provided as indicated in Sch 'A'/BOQ and as directed by Engineer-in-Charge. Light fittings shall be as per model Nos as described under Sch 'A'/BOQ.

(i) **Testing of electrical installation.** All the electrical installation shall be tested by the contractor in presence of Engineer-in Charge as specified in DSR 2018 and CPWD Manual. Test results shall be recorded and duly signed by the contractor and Engineer in Charge for earth test, continuity test, and Insulating resistance test.

(j) **LED LIGHTS & FITTINGS:** LED light and fittings shall be of following specifications:-

(I) **CONSTRUCTION:** Housing, used as a heat sink shall be made of at least 0.8 mm thick sheet Steel conforming to IS: 513 (Grade O)/CRCA polyester powder coated of at least 60 microns) and high U.V. & corrosion resistance. Heat sink used should be aluminum extrusion having high conductivity preferably to grade 6061 alloy or better having thermal conductivity of at least 170-180 W/m.K or aluminium die cast having high conductivity preferably ADC 12 or LM 24. Luminaires shall be provided with toughened glass of min. 0.8 mm thickness of sufficient strength and high efficiency (90%) prismatic diffuser under the LED chamber to protect the LED and luminaries and shall not show yellowness during luminarie life time. Suitable number of LED lamps shall be used in the luminaries. The contractor shall submit the proof of procurement of LEDs from above OEMs at the time of testing. Suitable reflector / lenses may also be provided to increase the illumination uniformity and distribution. Thermal management shall be done in such a way that it shall not affect the properties of the diffuser.

(II) **FEATURES**

(a) The efficiency of the LED lamps at 85 Deg C junction temperatures shall be more than 85%. The output of LED shall be more than 100 lumen per watt at minimal operating current.

(b) The working life of the lamp at junction temperature of 85 Deg C at rated current shall be more than 50,000 working hours of accumulative operation and shall be suitable for continuous operation of 24 hours per day.

(c) Colour temperature of the proposed white colour LED shall be 5700k (nominal CCT) and the color variation should be 5665 +/-365K (ANSI binning). Minimum view angle of the LED shall not be less than 120°.

(d) Power factor of complete fitting shall be more than 0.9 at full load 240V. Input frequency range shall be between 50Hz±3%. The LED luminaire shall be free of glare and the color rendering index CRI shall be more than 75. The Diffuser should be used in the luminaire to restrict the glare of LEDs and shall not have yellowness during the entire life of the luminaire

(e) The fitting shall be so designed that the illumination level shall be evenly distributed and shall be minimum 250 at 1mtr above ground level if fixed at 2.74 Mtr above floor.

(iii) **STREET LIGHTS:** The street light LED drivers shall have following specifications:-

(a) The Input voltage Range shall be within 180Vrms to 270Vrms and Operating input voltage shall be 240Vrms. No load power consumption shall be ≤ 500mW.

(b) Output voltage shall be 105VDC±3% and Output voltage ripple should be within 3%. Output over voltage protection 125VDC. The power factor shall not be less than 0.95.

(c) Full Load Efficiency shall be ≥ 90%. The THD shall remain ≤ 8 %.

(d) Load regulation shall be ±5% and current waveform should meet the EN 61000-3-2.

(e) Led Driver shall withstand, voltage of 440V for 2 hours and restore normal working when normal voltage is applied. Maximum Temperature rise shall be ≤ 30°C @ 45°C Temp with safety margin of 10°C.

(f) The driver should comply to CISPR 15 for limits and methods of measurement of Radio Disturbance characteristics. The equipment should comply to all relevant IEC norms.

(iv) **TECHNICAL REQUIREMENTS:** The driver of the luminaires depending on sizes should have following features:-

(a) 2 x 2 Fixture- Shall have Short Circuit , Over Voltage, String Open protections.

(b) 1 x 1 Fixture- Shall have Short Circuit , Over Voltage, String Open protections.

(c) Down Lighters – Shall have Short Circuit , Over Voltage protections

(d) Tube Light – Shall have Over Circuit , Over Voltage protections.

(v) **ELECTRONIC COMPONENTS:** These components used shall be as follows:-

(a) IC (Integrated circuit) shall be of industrial grade or above.

(b) Metallic film / Paper/Polyester Capacitor shall be rated for a temperature of at least 105°C.

(c) The resistors shall be preferably made of metal film of adequate rating. The actual loading versus rating shall be 3.

(d) The junction temperature of the Switching devices such as transistors and MOSFETs etc. shall not exceed 125°C (allowing thermal margin of 25 °C).

(e) The conformal coating used on PCBs must be cleared and transparent and shall not affect colour code of electronic components or the product code of the company.

(f) LED must be mounted on MCPCB, which should be made up of Metal core (Aluminum metal core) and should have the alumina coating with aerosol spray process of manufacturing to have the better heat conduction or dissipation.

(g) MCPCB shall be made with OPA dielectric thickness of 0.1mm and Al 5052H34. MCPCB must comply with IPC-A-600G and IPC-6012A class 2. UL approved solder mask and silkscreen must be used.

(h) The heat sink compound used should be of silicon with high thermal conductivity with 3W/mk.

(i) The heavy components shall be properly fixed. The solder connection shall be with good finish.

(j) The electronics covered for this equipment shall pass all the tests called for in the specification. The tenderer shall indicate the deviation or compliance otherwise the offer may not be considered for evaluation.

(k) The infrastructure for Quality Assurance facilities as called for in the specification shall be available for the manufacturing of this product. The compliance shall be indicated clearly in the tender itself.

(l) **EARTHING:** Earthing shall be all as per ISS, IEE Regulations. Earthing shall be provided all as described in respective item of Sch 'A'/BOQ and specified in DSR 2018 and CPWD manual and GI watering of pipe shall be of light grade and GI protection pipe for earth lead conductor shall be of medium grade. PCC (1:3:6) type C-1 shall be used for PCC earth pit. The charcoal dust and return filling shall be done in layers not exceeding 150 mm thick and shall be properly watered and rammed. Surplus soil shall be disposed off and site left clear and tidy on completion to a distance not exceeding 50 m. All earth electrodes shall be tested for earth resistance by means of standard earth meggar. The resistance of earth shall not exceed one ohm. In case the resistance of earth exceeds one ohm due to soil conditions, then the earthing shall be carried out through another method as per IS-3043.

(m) **TESTING OF ELECTRICAL INSTALLATION** : All the electrical installation shall be tested by the contractor in presence of Engineer-in-Charge as specified DSR 2018 and CFPWD Manual. Test results shall be recorded duly signed by the contractor and Engineer-in-Charge for Earth test, Continuity test, Insulating resistance test.

(n) **CEILING FANS:** The fan shall have 03 blades size of 1200mm, with down rod length 26 cm. The air delivery shall not be less than 230 Cum/Min with rated speed of 400 RPM. The fan shall not draw more than 75 Watt power under rated voltage of 220 to 240 Volts at 50 Hz frequency.

52. **DISMANTLING/ DEMOLITION/ TAKING DOWN:** The work of dismantling/ demolition/ taking down shall be done carefully and in a workman like manner. Any damage done by contractor or his workmen to existing sanitary fittings/ water supply fittings/ electrical fittings etc in the building while working shall be made good by him at his own expense. All the materials retrieved from demolition/ dismantling/ taking down shall become the NIPER Hyderabad property except those listed in Credit Schedule. The rates quoted by the contractor shall be deemed to include removal or disposal of all waste materials from site of work and site shall be left clean and tidy to the entire satisfaction of Engineer-in-Charge.

53. **MILD STEEL GALVANISED TUBES AND FITTINGS:-** Refer DSR 2018 and CPWD Manual.

54. **MATERIAL, LAYING, JOINTING AND TESTING OF CI PRESSURE PIPE AND FITTING BOTH FOR WATER SUPPLY & WASTE PIPE:** Refer DSR 2018 and CPWD Manual.

55.

55. **LAYING, JOINTING AND TESTING OF GI PIPE/FITTING:** Refer DSR 2018 and CPWD Manual.

56. **LAYING, JOINTING AND TESTING OF DI PIPE/FITTING:** Refer DSR 2018 and CPWD Manual.

57. **CHEQUERED CEMENT CONCRETE TILES:** Chequered cement concrete tiles, shall be of colour conform to IS 13801-1993 specification. Chequered tiles shall be with the centre to centre distance of chequers not less than 25mm and not more than 50mm, the groove in chequers being uniform and straight with the depth of grooves not less than 3mm. Tiles shall be manufactured by pressure process. Thickness of wearing layer measured from top of the chequers shall not be less than 6mm. Unless otherwise directed, the tiles shall be supplied with initial grinding and grouting of the upper layer. The upper layer of the tiles shall be free from projections, depressions and cracks, holes, cavities and other blemishes. The edges of the tiles may be rounded. All angles shall be right angles and all arises shall be sharp and true. The colour and texture of the wearing layer shall be uniform throughout its thickness. The size of Chequered Tiles shall be 300 x 300mm x 25mm thick as indicated. The tolerance on length or breadth of tiles shall be +1mm and tolerance on thickness of tiles shall be +5mm. In addition the difference in thickness between the thickest and thinnest tile in the sample shall not exceed 3mm. Laying of tile shall be as per DSR 2018 and CPWD Manual.

58. **MAKING GOOD:** The contractor is deemed to have included in his unit rates quoted in Sch 'A' the cost of cutting, leaving holes/making chases through walls, floors, ceiling, roads, bricks and concrete work etc, and making good the same to match with the existing work as required in connection with the works included in the sch 'A' except where separate items for cutting making chases given in sch 'A'. No adjustment shall however be made due to any variation in quantities indicated in sch 'A' during execution.

59. **DOUBLE WALL CORRUGATED (DWC) PIPES:** Double wall corrugated (DWC) pipes shall have unique wall structure with corrugated structure externally and smooth surface internally, which shall ensures a combination of lowest inner friction, smooth internal flow characteristics without any blockage, high flexibility, superior strength to weight ratio. Besides this corrugated structure on the external face of the pipes shall provide highest ability to support and distribute live and dead loads thereby, meeting every installation conditions. It shall have following features:-

- (a) Great flexibility – Due to lighter in weight and elastic nature, these pipes offer lot of flexibility while installation
- (b) Excellent stiffness – Suitable to withstand heavy overload pressure
- (c) Perfect hydraulic properties – Glass smooth inner surface helps in rapid disposal of flowing waste. This greatly reduces the possibility of blockage and maximizes the flow characteristics.
- (d) Excellent chemical, corrosion and abrasion resistance
- (e) 100 % watertight joints
- (f) Easy and quick installation
- (g) Maintenance free
- (h) Long life – Being free from corrosion, chemical re-activeness and excellent abrasion resistance these pipes can last over 100 years
- (i) Cost effective – 60 -70% weight saving in comparison to solid wall plastic pipes, & 95% lighter than concrete pipes.
- (j) Eco-friendly – Processing and reprocessing does not have any adverse impact on the environment and due to watertight joints there is no possibility of soil and underground water pollution.
- (k) 110 to 630 mm in SN 4 and 8 as per IS 16098

Signature of the contractor.....

Dated : .....2020

**Sdxx-**  
Accepting Officer

**APPROVED LIST OF MANUFACTURERS/MAKES**

SL NO.	NAME OF PRODUCT	MAKES/ BRANDS/ MANUFACTURER
<b><u>CIVIL WORK ITEMS</u></b>		
1.	FACTORY MADE PANELLED DOOR SHUTTER	M/S MP WOOD PRODUCT, INDORE, M/S JAINWOOD, INDUSTRIES (JAYANA BOARD), DELHI, M/S JAIN DOORS PVT LTD, SONIPAT.
2.	SOLID CORE PVC PANEL DOOR/WALL PANELING/FALSE CEILING/INTERNAL DOOR/WINDOW/KITCHEN CABINET	SINTEX, RAJSHRIPLASTIWOOD LTD, M/S DURA PLAST EXTRACTION PVT LTD, M/S FENESTA
3.	BUILDERS HARDWARE	MOWJEE, M/S KITCH ARCHITECTURAL PRODUCT PVT LTD, RS INDUSTRIES
4.	PLYWOOD FOR GENERAL PURPOSE (IS-303)	MOWJEE, M/S KITCH ARCHITECTURAL, PRODUCT PVT LTD, RS INDUSTRIES.
5.	PRE LAMINATED PARTICLE BOARD	KITPLY, BHUTAN BOARD, ECOBOARD, NEPAL BOARD, NOVAPAN, ARCHID PLY, MERINOVA. M/S GREEN PLY INDUSTRIES LTD, ECO-BOARD
6.	LAMINATED SHEETS	ARCHID LAM, SUNMICA, MERINO, LAM, MYSORE CHIP BOARD, GREELAM
7.	CERAMIC TILES, NON-SKID	KAJARIA, H & R JOHNSON, CERA
8.	TILES VERTIFIED (NORMAL/ANTI SKID)	SOMANI, KAJARIA, JOHNSON, ORIENT, BELL, NITCO, CENGRES, SIMPOLO, SUNHEART, VARMORA
9.	SHEET GLASS /STRUCTURAL GLAZING	HINDUSTAN PILKINGTON GLASS WORKS, SAINT GOBAIN, MODI FLOAT, TRIVENI FLOAT GLASS, ASI, FRESCA, EMIRATES.
10.	KITCHEN STAINLESS STEEL SINK	NIRALI, KOBRA, NEELKANTH, JAYNA, BLUE STAR
11.	FANCY BIB TAPS, STOP VALVES & PILLAR TAPS, SURGICAL BASIN MIXER, SHOWER ROSE AND OTHER BATH ROOM FIXTURES ETC.	JAGUAR, GEM, MARC, JALANGI, SHAKTI
12.	FANCY BIB TAPS, STOP VALVES & PILLAR TAPS, SURGICAL BASIN MIXER, SHOWER ROSE AND OTHER BATH ROOM FIXTURES (PREMIUM QUALITY)	MARC, JAQUAR, MARC, JOHNSON
13.	READY MADE BATHROOM CABINETS	JAGUAR, CERA, COMMANDER, PARRYWARE
14.	SANITARY WARE	HINDUSTAN SANITARY WARE, PARRYWARE, CERA, JAGUAR, NEYCER, SIMPOLO, SOMANY
15.	PVC FLUSHING CISTERN IS: 774-1984 (ISI CERTIFIED)	HINDUSTAN SANITARY WARES, COMMANDER, PARRYWARE, CERA, JAGUAR, JOHNSON PEDAR, NEYCER, SHAKTI
16.	FLOAT VALVE	LEADER, BOMBAY METAL & ALLOY CO, BOMBAY SUPERFLOW.
17.	INTEGRAL WATER PROOFING COMPOUND	WATER SEAL, IMPERMO, STP NO 1, PEDILITE, ACCO PROOF, FOSROCK, CICO. BENGAL BITUMEN, IWL
18.	WALL CARE PUTTY FOR BASE PREPARATION	BIRLA WALL CARE PUTTY, GOLD MOHAR, M/S SHALIMAR HARDWARE, BURGER, J&N, BIRLA LAVAL PLAST, CORAL, ACRO (WALLGUARD)
19.	CEMENT BASED PAINTS	SNOWCEM, ASIAN, JENSON & NICHOLSON, BERGER, DURACEM, BRITISH XTRACEM
20.	DRY DISTEMPER / OIL BOUND DISTEMPER / EXTERIOR ULSION/SILICON PAINTS & COATING/TEXTURE PAINTS	GOODLASS NEROLAC PAINTS, JENSON & NICHOLSON, BERGER PAINTS, ICI DULUX, ASIAN PAINTS, BRITISH ACRYL SILK.



SL NO.	NAME OF PRODUCT	MAKES/ BRANDS/ MANUFACTURER
<b>CIVIL ITEMS</b>		
21.	SYNTHETIC ENAMEL PAINT 1 <sup>ST</sup> QUALITY ONLY	GOODLASS NEROLAC PAINTS, JENSON & NICHOLSON, BERGER PAINTS, ICI DULUX, ASIAN PAINTS, BRITISH
22.	PVC RAIN WATER/SEWAGE PIPES (IS-4985)	SUPREME, FINOLEX, RELIANCE
23.	HDPE WATER STORAGE TANKS ( ROTATIONAL MOULDED)	SINTEX, POLYCON, SHEETAL
24.	WATER CLOSET SEATS AND COVER (SOLID BAKELITE) THERMOSTAT MOULDED TOILET SEAT COVER	PARRYWARE, JAGUAR, SOMANI, COMMANDER, CERA, NEY CER
25.	POLYMERIC WATER PROOFING MEMBRANE	IWL, STP, BENGAL BITUMEN, TIKKITAR, CORAL, TORCHTAR
26.	WELDED WIRE MESH / FABRIC	MULTIWELD WIRE CO LTD, MUMBAI, JAINSONS SALES CORP, DELHI, JAISON'S INDUSTRIES
27.	PARTICLE BOARD (VENEERED & UNVENEERED LAMINATED)	KITPLY, NOVA PAN INDUSTRIES, NEW DELHI, M/S GREEN PLY INDUSTRIES LTD, ARCHID PLY, BHUTAN BOARD, DURA BOARD MYSORE CHIP BOARD LTD
28.	FIBRE BOARD(MEDIUM DENSITY)	NOVAPAN, BHUTAN BOARD, KIT PLY, MYSORE CHIP BOARD LTD, GREEN PANEL MAX (PLAIN EXTERIOR GRADE MDF/ PRELAM/ VENEERED MDF/ GREEN FLOORMAX LAMINATED)
29.	PLASTIC EMULSION PAINT	BERGER (SILK, RANGOLI EASY CLEAN), ASIAN (ROYALE, APCOLITE ADVANCE), AKZO NOBEL (VELVET TOUCH), NEROLAC (IMPRESSION ECOCLEAN, IMPRESSION 24 CARAT), BRITISH (SPLENDOR LUXURY)
30.	PAINT EXTERIOR	BERGER (WEATHER COAT ALL GUARD), ASIAN (APEX ULTIMA), AKZO NOBLE (WEATHER SHIELD MAX), NEROLAC (EXCEL TOTAL), BRITISH (EXPA-7 ADVANCED)
31.	PTMT FITTING	PRAYAG, SHAKTI, POLYTUF
32.	MS PIPES	APL APPOLO, BHUSHAN
33.	MIRROR LOOKING	SAINT GOBAIN, MODI FLOAT, TRIVENI FLOAT GLASS
<b>ELECTRICAL ITEMS</b>		
34.	MCCB	ABB, SIEMENS, L & T, SCHNEIDER, LEGRAND, MERLIN GERIN, HAGER, INDO ASIAN, C&S, ELECTRIC, KALINGA PREMIUM, HAVELLS, HPL, BENLO
35.	MCB/ ELCB / RCCB/ DB/ ISOLATORS	L & T, ABB, SCHNEIDER, SEIMENS, LEGRAND, HAGER, INDO ASIAN, C & S ELECTRIC, KALINGA PREMIUM, HAVELLS, HPL, BENLO
36.	LT CABLES, 1100 VOLTS , XLPE	CCI, FINOLEX, UNIVERSAL CABLES, RPG, KEI INDUSTRIES PVT LTD., KALINGA PREMIUM, EON, GLOSTER, POLYCAB, HAVELLS.
37.	PVC COPPER WIRES – 650/1100 VOLTS	L & T, FINOLEX, RPG, RR KABLE, GRANDLAY, KALINGA PREMIUM, HAVELLS, HPL, POLYCAB, EON, GLOSTER, ORISON
38.	MS CONDUIT	BHARAT STEEL, JINDAL, TATA
39.	CASING CAPPING	KALINGA, BAJAJ, PLAZA, FINOLEX, TIRUPATI, POLYPACK, AKG, HARSH, VISHAL PIPES, SUPREME, DAUPHIN, DIPLAST, PALICAN, SWASTIC.
40.	PVC RIGID PIPE ( HEAVY DUTY)	PLAZA, FINOLEX, BAJAJ, KALINGA PREMIUM,,
41.	PT SWITCH / SOCKETS/ CEILING ROSES/ FAN RAGULATORS	ANCHOR, LEGRAND, CRABTREE (SCHNEIDER)
42.	MODULAR SWITCHES / SOCKETS/FAN RAGULATORS	LEGRAND, SEIMENS ABB,, CRABTREE, (SCHNEIDER), C&S ELECTRIC, HAVELLS, HPL, POLYCAB. INDO ASIAN
43.	METAL HALIDE STREET LIGHT FITTINGS	PHILIPS, CROMPTON GREAVES, BAJAJ, C & S ELECTRIC, SCHNEIDER, WIPRO, GE LIGHTING, HAVELLS
44.	BOX TYPE TUBE LIGHT FITTING	PHILIPS, CROMPTON GREAVES, BAJAJ, C & S ELECTRIC, WIPRO, GE LIGHTING, HAVELLS, HALONIX.
45.	ELECTRIC CALL BELLS	ANCHOR, LEGRAND, CONA, HAVELLS
46.	GEYSERS	CROMPTON GREAVES, BAJAJ, RECOLD, HAVELLS, MORPHY RICHARDS, VENUS, USHA LEXUS, BLACK & DECKER,

SL NO.	NAME OF PRODUCT	MAKES/ BRANDS/ MANUFACTURER
<b><u>CIVIL WORK ITEMS</u></b>		
		JAGUAR, LUMINOUS, INDOASIAN, SHRIRAM, THERMOKING, ARISE, ORISON, EON.
47.	CONTROL CABLES	L&T, FINOLEX, UNIVERSAL, ASIAN, CABCOM, GRANDLAY, NICCO.
48.	FIBRE OPTIC CABLES	LAPP, STERLITE, KEC, D-LINK, FINOLEX
49.	LED LIGHT FITTING	PHILIPS, BAJAJ,HAVELLS, OSRAM, CROMPTON GREAVES, C & S ELECTRIC,MEGA ENERGY SOLN,BIRLA POWER, HPL, SYSKA LED, HALONIX
50.	GI PIPES/ MS PIPES	JINDAL, TATA, NECO, UNCO STEEL INDUSTRIES, BHARAT STEEL TUBE DELHI, BHUSHAN, APL APPOLO
51.	HDPE PIPES/ UPVC PIPE	DUTRON, FINOLEX, TIRUPATI, SFMC PIPE, JAIN PIPE, RELIANCE(RPPPL), SWASTIK.
52.	CI PIPES	ELECTRO-STEEL / LANCO, JINDAL, RASHMI, KESORAM, LECTROTHERM, TATA METALIKS, TATA KUBOTA
53.	DI PIPES	ELECTRO-STEEL / LANCO, SRIKALAHASTHI, JINDAL, KESORAM, ELECTROTHERM, TATA METALIKS, TATA KUBOTA
54.	CI PIPE FITTING	SKF, SRIF, SINGHAL IRON FOUNDRY ,HINDUSTAN ENGINEERING PRODUCTS, JINDAL SAW, NECO (JAYASWAL), HEPCO(BINAYUDYOD)
55.	DI PIPE FITTING	KARTAR, ELECTROSTEEL/ LANCO, KEJRIWAL, KESORAM, JINDAL.
56.	PCC CABLE COVER	MEHTAB TILES, PEARLESS INDUSTRIES, HINDMOZAIC GUJRAT, JJ CONCRETE LUCKNOW
57.	SMART / TAMPER PROOF ENERGY METERS	ABB, L & T, SCHENIDER, SECURE, HAVELLS,HPL
58.	CEILING FANS(ONLY 5 STAR BEE RATING C/ FANS SHALL BE SPECIFIED) EXHAUST / WALL MOUNTED	BAJAJ, CROMPTON GREAVES, GEC, ORISON,EON, HAVELLS, POLYCAB
59.	LED LAMPS	PHILIPS, CROMPTON GREAVES, OSRAM, SURYA, BAJAJ,BENLO, SYSKA
60.	GI FITTINGS	JINDAL, TATA, BST
61.	HT XLPE CABLES 132/66/33 KV & 11 KV	CCI, UNIVERSAL CABLES, FINOLEX, ASIAN,CABLES, KEI INDUSTRIES LTD,KALINGA PREMIUM,GLOSTER, POLYCAB
62.	VOLTMETER/ AMMETER/ FREQUENCY METER/ PF METER	L & T, AE, SECURE, SCHENEIDER, LEGRAND, HAGER, , HAVELLS, HPL
63.	SLUICE VALVES/ NON RETURN VALVES/ AIR RELEASE VALVES	KIRLOSKAR, LEADER, ZOLOTO, L & T (AUDCO )

Sig of Contractor\_\_\_\_\_

Dated : ..... 2020

**RENOVATION OF VARIOUS LABS AT NIPER INSTITUTE**

<b>SI. NO.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate(Rs.)</b>	<b>(Amount)</b>
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.  All kinds of soil	5	CUM		
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:5:10 (1 cement : 5 coarse sand (zone-III): 10graded stone aggregate 40 mm nominal size)	5	CUM		
3	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	5	SQM		
4	35 mm thick factory made Solid panel PVC Door shutter, made out of single piece extruded solid PVC profiles, 5 mm (± 0.2 mm) thick, having styles & rails (except lock rail) of size 95 mm x 35 mm x 5 mm, out of which 75 mm shall be flat and 20 mm shall be tapered (on both side), having one side thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power, including reinforcing with MS tube of size 40 mm X 20 mm x 1 mm, joints of styles & rails to be mitered cut & joint with the help of PVC solvent cement, self driven self tapping screws & M.S. rectangular pipes bracket of size 190 mm X 100 mm of cross section size 35 mm x 17 mm x 1 mm at each corner. Single piece extruded 5 mm thick solid PVC Lock rail of size 115 mm x 35 mm, out of which 75 mm to be flat and 20 mm to be tapered at both ends, having 15mm solid core in middle of rail section integrally extruded, fixing the styles & rails with the help of solvent and self driven self tapping screws of 125 mm x 11 mm, including providing 5 mm Single piece solid PVC extruded sheet inserted in the door as panel, all complete as per manufacturer's specification and direction of Engineer-in-charge. Decorative finish (wood grained finish)	10	SQM		
5	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.  Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	50	SQM		

Contd.....

SI. NO.	Description	Quantity	Unit	Rate(Rs.)	(Amount)
6.	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
6.1	20 mm nominal outer dia Pipes	50	RMT		
6.2	25 mm nominal outer dia Pipes	200	RMT		
7.	Supplying and fixing of syntax water tanks 2000 L. each with all over flow arrangement and valves.	5	Each		
8.	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc. complete.	100	Sq M		
9.	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. In cement mortar.	5	Cu M		
10.	Floor polishing on masonry or concrete floors with wax polish of approved brand and manufacture.	300	SqM		
11.	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	50	SqM		
12.	Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately). Size of Tile 600x600 mm	1742	Sq M		
13.	Distempering with <b>1st quality acrylic distemper (Ready mix) having VOC content less than 50 grams/ litre</b> of approved brand and manufacture to give an even shade : Old work (one or more coats)	5723	SqM		
	<b>Total</b>				
	<b>Add Taxes</b>				
<b>SL.NO. 1</b>	<b>GRAND TOTAL (LAB RENOVATION)</b>				

RENOVATION OF DINING HALL AT NIPER HYDERABAD					
Sl. No.	Description	Quantity	Unit	Rate(Rs.)	(Amount)
1	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	35	SQM		
2	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete	45	SQM		
3	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent	3	SQM		
4	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	2	Each		
5	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	4	Each		
6	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board gound fixed to wooden cleats with C.P. brass screws and washers complete.	3	Each		
7	Distemping with 1st quality acrylic distember (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats)	45	SQM		
8	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	2	Each		

Continued.....

Sl. No.	Description	Quantity	Unit	Rate(Rs.)	(Amount)
9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. 15 mm nominal outer dia Pipes	5	RMT		
	<b>Total</b>				
	<b>Add Tax</b>				
<b>SL.NO.2</b>	<b>GRAND TOTAL (DINING HALL)</b>				

**RENOVATION OF LADIES ROOM AT NIPER INSTITUTE**

<b>Sl. No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate(Rs.)</b>	<b>(Amount)</b>
1	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	25	SQM		
2	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete	35	SQM		
3	Providing and fixing 12 mm thick pre laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.Pre-laminated particle board with decorative lamination on both sides	25	SQM		
4	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab jet Black, Cherry Red, Elite Brown,Cat Eye or equivalent.	2	SQM		
5	Distempering with 1st quality acrylic distemper (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats)	35	SQM		
	Total				
	Add Tax				
<b>SL. NO. 3</b>	<b>GRAND TOTAL (LADIES ROOM)</b>				

**RENOVATION OF PANTRY AT NIPER HYDERABAD**

<b>Sl. No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs.)</b>	<b>(Amount)</b>
1.	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	25	SQM		
2.	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete	35	SQM		
3.	Providing and fixing 12 mm thick pre laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge. Pre-laminated particle board with decorative lamination on both sides	38	SQM		
4.	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab jet Black, Cherry Red, Elite Brown,Cat Eye or equivalent.	2	SQM		
5.	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	1	Each		
6.	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour,weighing not less than 88 gms.	2	Each		
7.	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete	2	Each		

Continued.....



Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
8.	Distemping with <b>1st quality acrylic distember (Ready mix) having VOC content less than 50 grams/ litre</b> of approved brand and manufacture to give an even shade Old work (one or more coats)	35	SQM		
9.	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	2	Each		
10.	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. 15 mm nominal outer dia Pipes	5	RMT		
	<b>TOTAL</b>				
	<b>Add Tax</b>				
<b>SL.NO.</b> 4	<b>GRAND TOTAL (PANTRY)</b>				

**RENOVATION OF TOILETS NEAR STORE AT NIPER HYDERABAD**

Sl.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
1.	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. In cement mortar	1	Cum		
2.	Dismantling W.C. Pan of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in- Charge.	4	Each		
3.	Dismantling 15 to 40 mm dia G.I. pipe including stacking of dismantled pipes (within 50 metres lead) as per direction of Engineer- in- Charge.	50	RMT		
4.	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	4	Each		
5.	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	20	SQM		
6.	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	8	Each		
7.	Cleaning of chocked sewer line by diesel running vehicle mounting hydraulic operated high pressure suction cum jetting sewer cleaning machine fitted with pump having 4000 liters suction capacity and 6000 litres water jetting tank capacity including skilled operator, supervising engineer etc. for cleaning and partial desilting of manholes and dechocking of sewer lines. Dechocking and flushing of sewer line from one manhole to another by high pressure jetting system of 2200 PSI for sewer line from 150mm dia upto 300mm	100	RMT		
8.	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	70	SQM		
9.	Distempering with 1st quality acrylic distember (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats)	55	SQM		
10.	Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	2	Each		

Continued .....

Sl. No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
11.	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid	4	Each		
12.	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required : Single half stall urinal with 5 litre P.V.C. automatic flushing cistern	3	Each		
13.	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps	4	Each		
14.	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing : Rectangular shape 453x357 mm	4	Each		
15.	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	4	Each		
16.	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Semi rigid pipe 32mm dia	4	Each		
17.	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
17.1	15 mm nominal outer dia Pipes	30	RMT		
17.2	20 mm nominal outer dia Pipes	20	RMT		
18.	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : 15 mm nominal bore	8	Each		

Continued.....

Sl. No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
19.	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size), including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) : 75 mm dia	8	RMT		
20.	Providing and fixing soil, waste and vent pipes : 100 mm dia Sand cast iron S&S pipe as per IS: 1729	10	RMT		
	<b>TOTAL</b>				
	<b>ADD TAX</b>				
<b>SL.NO. 5</b>	<b>TOTAL (TOILETS NEAR STORE)</b>				

**RENOVATION OF TOILETS NEAR RECEPTION AT NIPER HYDERABAD**

Sl.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
1.	35 mm thick factory made Solid panel PVC Door shutter, made out of single piece extruded solid PVC profiles, 5 mm (± 0.2 mm) thick, having styles & rails (except lock rail) of size 95 mm x 35 mm x 5 mm, out of which 75 mm shall be flat and 20 mm shall be tapered (on both side), having one side thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power, including reinforcing with MS tube of size 40 mm X 20 mm x 1 mm, joints of styles & rails to be mitered cut & joint with the help of PVC solvent cement, self driven self tapping screws & M.S. rectangular pipes bracket of size 190 mm X 100 mm of cross section size 35 mm x 17 mm x 1 mm at each corner. Single piece extruded 5 mm thick solid PVC Lock rail of size 115 mm x 35 mm, out of which 75 mm to be flat and 20 mm to be tapered at both ends, having 15 mm solid core in middle of rail section integrally extruded, fixing the styles & rails with the help of solvent and self driven self tapping screws of 125 mm x 11 mm, including providing 5 mm Single piece solid PVC extruded sheet inserted in the door as panel, all complete as per manufacturer's specification and direction of Engineer-in-charge. Decorative finish (wood grained finish)	6.2	Sq M		
2.	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	18	Sq M		
3.	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles above 25 mm and up to 40 mm	60	Sq M		
4.	Distempering with 1st quality acrylic distemper (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats)	48	SQM		
5.	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid	2	Each		
6.	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required : Range of three half stall urinals with 10 liter P.V.C. automatic flushing cistern	1	Each		

Continued...

SI.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
7.	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	2	Each		
8.	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing : Rectangular shape 1500x450 mm	1	Each		
9.	Providing and fixing PTMT shelf 440 mm long, 124 mm width and 36 mm height of approved quality and colour, weighing not less than 300 gms.	2	Each		
10.	Providing and fixing toilet paper holder : C.P. brass	2	Each		
11.	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour. Waste coupling 31 mm dia of 79 mm length and 62mm breadth weighing not less than 45 gms	2	Each		
12.	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	2	Each		
13.	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	2	Each		
14.	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. 15 mm nominal outer dia Pipes	10	RMT		
15.	Distempering with 1st quality acrylic distemper (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade : Old work (one or more coats)	48	SQM		
16.	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	4	Each		
17.	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	48	SQM		

Continued....

Sl.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
18.	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS: 15622 (Thickness to be specified by the manufacturer) of approved make in all colours sheds except bargendi, bottle green, black of any size as approved by Engineer-in-Charge in striking, risers of steps and dados over 12 mm thick bed of cement mortar 1:3 (1 Cement : 3 course of sand) and joining with gray cement slurry @3.3 Kg per sq m including point in white cement mixed with pigment of matching shade complete.	60	SQM		
	<b>TOTAL</b>				
	<b>ADD TAX</b>				
<b>SL.NO. 6</b>	<b>TOTAL (TOILETS NEAR STORE)</b>				

ROOF TREATMENT AT ADMIN BLOCK					
Sl.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
1.	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:	650	Sq M		
	(a) After surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.				
	(b) Laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.				
	(c) Third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.				
	(d) Fourth and final layer of brick tiling with cement mortar (which will be paid for separately.				
	(For the purpose of measurement the entire treated surface will be measured.)				
	<b>Total</b>				
	<b>ADD TAX</b>				
<b>SL. NO. 7</b>	<b>GRAND TOTAL</b>				



FLOOR POLISHING					
SI.No.	Description	Qty	Unit	Rate (Rs.)	(Amount)
1.	Floor polishing of all Mosaic floor	300	Sq M		
	TOTAL				
	ADD TAX				
<b>SL NO. 8</b>	<b>TOTAL (POLISHING)</b>				

**RENOVATION OF HOSTEL AT NIPER HYDERABAD**

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
1.	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand)	20	SQM		
2.	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	6	SQM		
3.	Providing and fixing cup board shutters with 25 mm thick veneered particleboard IS : 3097 marked, exterior grade (Grade I), of approved make, including IInd class teak wood lipping of 25 mm wide x 12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of Engineer-in-Charge. With decorative veneering on one side and commercial veneering on other side	18	SQM		
4.	35 mm thick factory made Solid panel PVC Door shutter, made out of single piece extruded solid PVC profiles, 5 mm ( $\pm 0.2$ mm) thick, having styles & rails (except lock rail) of size 95 mm x 35 mm x 5 mm, out of which 75 mm shall be flat and 20 mm shall be tapered (on both side), having one side thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power, including reinforcing with MS tube of size 40 mm X 20 mm x 1 mm, joints of styles & rails to be mitered cut & joint with the help of PVC solvent cement, self driven self tapping screws & M.S. rectangular pipes bracket of size 190 mm X 100 mm of cross section size 35 mm x 17 mm x 1 mm at each corner. Single piece extruded 5 mm thick solid PVC Lock rail of size 115 mm x 35 mm, out of which 75 mm to be flat and 20 mm to be tapered at both ends, having 15 mm solid core in middle of rail section integrally extruded, fixing the styles & rails with the help of solvent and self driven self tapping screws of 125 mm x 11 mm, including providing 5 mm Single piece solid PVC extruded sheet inserted in the door as panel, all complete as per manufacturer's specification and direction of Engineer-in-charge. Decorative finish (wood grained finish)	6	SQM		
5.	Cement concrete pavement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete.	5	CUM		
6.	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	60	SQM		

Continued.....

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
7.	Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately). Size of Tile 600x600 mm	100	SQM		
8.	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	10	SQM		
9.	Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	300	SQM		
10.	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge), including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design : In 75x75 mm deep chase	200	RMT		
11.	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	10	Each		
12.	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter	180	RMT		
13.	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.Coupler 110 mm	10	Each		
14.	Single tee with door 110x110x110 mm	10	Each		
15.	Bend 87.5° 110 mm bend	10	Each		
16.	Shoe (Plain) 110 mm Shoe	10	Each		

Continued...

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
17.	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough wit sponge.	100	SQM		
18.	Distempering with <b>1st quality acrylic distember (Ready mix)having VOC content less than 50 grams Old work (one or more coats)</b>	1300	SQM		
19.	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : One or more coats on old work	300	SQM		
20.	Finishing walls with water proofing cement paint of required shade : Old work (one or more coats applied @ 2.20 kg/10 sqm) over priming coat of primer applied @ 0.80 litrs/10 sqm complete including cost of Priming coat.	1800	SQM		
21.	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	30	Each		
22.	Providing and laying in situ five course water proofing treatment with APP (Atactic Polypropylene) modified Polymeric memberane over roof consisting of first coat of bitumen primer @ 0.40 litre per sqm, 2nd & 4th courses of bonding material @ 1.20 kg/sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS : 702,3rd layer of roofing membrane APP modified Polymeric membrane 2.0 mm thick of 3.00 Kg/ sqm weight consisting of five layers prefabricated with centre core as 100 micron HMHDPE film sandwiched on both sides with polymeric mix and the polymeric mixis protected on both side with 20 micron HMHDPE film. 5th, the top most layer shall be finished with brick tiles of class designation 10grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% integral water proofing compound by weight of cement over a 12 mm layer of cement mortar 1:3 (1 cement : 3 fine sand) and finished neat (item of laying brick tiles shall be paid for separately).	1500	SQM		
23.	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid	5	Each		
24.	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	5	Each		

Continued...

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
25.	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required Kitchen sink with drain board 510x1040 mm bowl depth 225 mm	4	Each		
26.	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	4	Each		
27.	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	10	Each		
28.	Providing and fixing toilet paper holder : Vitreous china	30	Each		
29.	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	30	Each		
30.	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
30.1	15 mm nominal outer dia Pipes	100	RMT		
30.2	20 mm nominal outer dia Pipes	50	RMT		
30.3	25 mm nominal outer dia Pipes	50	RMT		
31.	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : 15 mm nominal bore	10	Each		
32.	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	6000	Liter		
33.	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
33.1	250 mm diameter	100	RMT		
33.2	150 mm diameter	50	RMT		

Continued....

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
34.	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :				
34.1	150 mm diameter S.W. pipe	50	RMT		
34.2	250 mm diameter S.W. pipe	100	RMT		
35.	Providing and fixing square-mouth S.W. gully trap class SP-1 completewith C.I. grating brick masonry chamber with water tight C.I. coverwith frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as perstandard design: 100x100 mm size P type With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5	Each		
36.	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone- III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone- III) : 8 graded stone aggregate 40 mm nominal size),inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making SUB HEAD : 19.0 DRAINAGE 364 Code Description Unit Rate No. channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size) finished with a floatingcoat of neat cement complete as per standard design : Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	10	Each		
37.	Extra for depth for manholes : Size 120x90 cm With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5	RMT		
38.	Supplying and fixing C.I. cover without frame for manholes :455x610 mm rectangular C.I. cover (light duty) the weightof the cover to be not less than 23 kg	5	Each		
39.	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand ) with precast R.C.C. vertical grating complete as per standard design : With common burnt clay F.P.S. (non modular) bricks ofclass designation 7.5	2	Each		

Continued....

Sl. No.	Description	Quantity	Unit	Rate (Rs.)	(Amount)
40.	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge. Pre-laminated particle board with decorative lamination on both sides	10	SQM		
41.	<p>Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:</p> <p>(a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.</p> <p>(b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.</p> <p>(c) Third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.</p> <p>(d) fourth and final layer of brick tiling with cement mortar.</p> <p>(For the purpose of measurement the entire treated surface will be measured.)</p>	100	SQM		
	TOTAL				
	Add Tax				
<b>SL.NO.9</b>	<b>GRAND TOTAL (HOSTEL)</b>				

**SUMMARY OF BILLS OF QUANTITY**  
**REPAIR / RENOVATION TO LABS, TOILETS AND CERTAIN OTHER MAINTENANCE**  
**WORK AT NIPER HYDERABAD**

Sl. NO.	Location	Amount (In Rs)	Taxes (In Rs)	Total (In Rs)
1.	Lab Renovation			
2.	Dining Hall			
3.	Ladies Room			
4.	Pantry			
5.	Toilets near store			
6.	Toilet Near Reception			
7.	Roof Treatment			
8.	Floor Polishing			
9.	Renovation of Hostels			
	TOTAL			