HRCE DEPARTMENT

NAME OF THE WORK: **Renovation of Madapalli, office Room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.**

THE HINDU RELIGIOUSCHARITABLE ENDOWMENTS DEPARTMENT
CHENNAI

Signature of the Contractor

Executive Officer

நாள் : 25.07.2022

தமிழ்நாடு அரசு

இந்து சமய அறநிலையத்துறை

அருள்மிகு தீர்த்தபாலீஸ்வரர் திருக்கோயில், திருவல்லிக்கேணி, சென்னை–5.

ஒப்பந்தப்புள்ளி அறிவிப்பு

இணை ஆணையர், சென்னை மண்டலம்-2 அவர்களின் செ.மு.ந.ட.ந.க. எண். 952/2022/ஆ1, நாள் : 22.04.2022

சென்னை-5, திருவல்லிக்கேணி, அருள்மிகு தீர்த்தபாலீஸ்வரர் திருக்கோயிலில் கீழ்க்காணும் பணிகளுக்கு அரசு துறையில் வகுப்பு V மற்றும் அதற்குமேல் பதிவு செய்யப்பட்ட அனுபவம் வாய்ந்த ஒப்பந்ததாரர்களிடமிருந்து ஒப்பந்தப்புள்ளிகள் வரவேற்கப்படுகின்றன. ஒப்பந்தப்புள்ளி படிவங்களை இத்திருக்கோயில் அலுவலக நேரத்தில் **25.07.2022 முதல் 11.08.2022** முடிய உரிய விலை தொகை செலுத்தி பெற்றுக்கொள்ளலாம். மேலும் **மாவட்ட ஒப்பந்தப்புள்ளி செய்தி மலரிலும், www.tntenders.gov.in மற்றும் www.tnhrce.gov.in** என்ற இணையதளத்தில் இருந்து இலவசமாகவும் பதிவிறக்கம் செய்து கொள்ளலாம். முறையாக மூடி முத்திரையிடபட்ட ஒப்பந்தப்புள்ளிகள் **12.08.2022 பிற்பகல் 3.00 மணிக்குள்** திருக்கோயில் அலுவலகத்தில் உள்ள ஒப்பந்தப்புள்ளிகள் பெட்டியில் சேர்க்க வேண்டும். வரப்பெற்ற ஒப்பந்தப்புள்ளிகள் **12.08.2022 அன்று மாலை 4.00 மணியளவில்** திறக்கப்படும்.

வ. எண்.	வேலையின் பெயர்	பணியின் தோராய மதிப்பு GST வரி உட்பட (ரூபாயில்)	முன்வைப்பு தொகை (ரூபாயில்)	பணி முடிக்க வேண்டிய காலம்	தகுதி பெற்ற பதிவு செய்த ஒப்பந்ததாரர்கள்	ஒப்பந்தப்புள்ளி படிவம் விலை மற்றும் GST வரி (ரூபாயில்)
1.	சென்னை -5, திருவல்லிக்கேணி, Dr.நடேசன் ரோட்டில் உள்ள அருள்மிகு தீர்த்தபாலீஸ்வரர் திருக்கோயிலில் பழுதடைந்த மடப்பள்ளி புதுப்பிக்கும் பணி.	4,90,000/-	4,900/-	3 (மூன்று மாதங்கள்)	அரசு துறையில் வகுப்பு V மற்றும் அதற்கு மேல் பதிவுசெய்யப்பட்ட ஒப்பந்ததாரர்கள்	750 + GST 90

மேற்கண்ட பணிகளின் ஒப்பந்தப்புள்ளிகளுக்கான முன்வைப்புத் தொகை மற்றும் ஒப்பந்தப்புள்ளி படிவத்திற்கான தொகையினை ஏதாவதொரு தேசிய மயமாக்கப்பட்ட/ வரையறுக்கப்பட்ட வங்கியின் வரைவோலை மூலம் **செயல் அலுவலர், அருள்மிகு தீர்த்தபாலீஸ்வரர் திருக்கோயில், திருவல்லிக்கேணி, சென்னை-5** என்ற முகவரியிட்டு செலுத்தப்பட வேண்டும்.

செ. தினகரன்
செயல் அலுவலர்

பா.தமிழ்செல்வி
(தக்கார்)

Signature of the Contractor

Executive Officer

HRCE DEPARTMENT

Renovation of Madapalli, office room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.

EARNEST MONEY DEPOSIT	:	**Rs. 4900 /-**
COST OF TENDER DOCUMENT	:	**Rs.750+GST 12%**
SALE OF TENDER DOCUMENT	:	**Date: 25.07.2022 to 11.08.2022**
LAST DATE & TIME OF RECEIPT OF TENDER	:	**12.08.2022 Up to 3.00 pm**
DATE & TIME OF OPENING OF TENDER	:	**12.08.2022 at 4.00 pm**
PERIOD OF COMPLETION	:	**3 months**
PLACE OF OPENING	:	

The Executive Officer, Arulmigu
Theertha Paleeswarar Thirukovil
Dr Natesan Road Triplicane
Chennai-05.

Signature of the Contractor

Executive Officer

ISSUE LETTER FOR TENDER DOCUMENT

This Tender document set Issue to:

_____

_____

_____

_____

_____

The fee for this set of Tender document is Rs……

Sale of Tender Document Vied Receipt No. ……

Dated: ……

For and on behalf of

The Hindu Religious Charitable Endowments Department

Chennai

ISSUED BY;

Signature of the Contractor

Executive Officer

1. TENDER APPLICATION

From **To**

The Executive Officer, Arulmigu Theertha
Paleeswarar Thirukovil Natesan Road
Triplicane chennai-05.
.

Sir,

SUB:TENDER for the work of "**Renovation of Madapalli, office room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.**

."– Submission of document - Regarding

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Having examined the TENDER document with price quote, I / We hereby submit all the necessary documents and relevant information for bidding the above mentioned tender.

The application is made by me / us on behalf of _ in the capacity of _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ duly authorized to submit this tender offer.

Necessary evidence admissible in law in respect of authority assigned to me on behalf of the bidding firm is herewith attached.

I / We submit the document herewith taking into consideration of all the instructions, terms and conditions in the detailed tender notice.

I / We understand that the HRCE Department reserves the right to reject any tender offer without assigning any reasons thereof.

I / We hereby agree to hold the tender offer valid for acceptance for a period of **3 months** from the date of opening of the TENDER.

Signature of the Applicant
Including title capacity

Name (IN BLOCK LETTERS)

Enclosures:

- Evidence of authority to sign
- Latest brochures if any

Signature of the Contractor Executive Officer
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2. INSTRUCTIONS TO THE TENDERERS

Read all the terms and conditions of the TENDER before you start filling up.

Tenderers are to submit the original set of the TENDER duly filled in, attach necessary documents.

The Tender should be submitted in a larger wax sealed cover duly super

scribed as "Tender for the work of "**Renovation of Madapalli, office room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.**" and submit either in person or by post so as to reach on or before the time and date specified. Tenders received after the specified date and time shall be summarily rejected.

Go through the check slip given and ensure compliance of the terms and conditions.

Tenderer is specifically informed that all the pages should be signed at the bottom of each page without any omission by the authorized signatory with name and seal of the firm.

Signature of the Contractor

Executive Officer

3. GENERAL TERMS & CONDITIONS

3.1 Tender shall be opened on **12.08.2022 at 4.00pm** in the presence of the tenderers or their authorized representative who opt to be present during the opening.

3.2 The tender forms are not transferable or assignable.

3.3 The signatory of the tender should indicate his / their status in which he / they have signed and submit necessary documentary proof admissible in law in respect of such authority assigned to him / them by the firm. If the tender opening day is declared as a holiday, the tenders shall be received and opened immediately on the next working day at the same time and place.

3.4 The tenderer should be submitted along with a covering letter giving full details as called for in the tender notice together with the copy of letter registering them in the appropriate class.

3.5 The tenderer should furnish their Permanent Account Number [PAN] in the tender document itself.

3.6 Current Sales Tax Clearance Certificate should be submitted along with the tender.

3.7 List of various machineries and other equipment of the tenderer disposal for use in the execution of work should be furnished.

3.8 Details of previous work done / work under execution by the tenderer covering the cost of work, agreement No. and date, the department in which the work was carried out etc., should be furnished so as to assess the previous experience of the tenderer. Year wise details should be furnished so as to see that these tenderers have minimum experience of major buildings.

3.9 The rate quoted in the tender shall be kept valid for **3 month** from the date of opening of tender and the tenderer at his own cost shall attend and sign the contract as soon as the acceptance of tender is communicated. Failure to attend in the manner above said shall entail forfeiture of EMD furnished by the tenderer. Besides the tenderer shall be held responsible for any loss to the Department on account of his failure to attend the manner aforesaid.

3.10 EARNEST MONEY DEPOSIT:

3.10.1 All tenders must be accompanied with the prescribed amount of Earnest Money Deposit along with tender

3.10.2 Earnest Money **Deposit amount of Rs.4900 /- (Rupees FourThousand Nine Hundred only)** to be drawn by means of Bank Demand Draft from any nationalized of scheduled Bank drawn in favour of "**The Executive Officer, Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.**"No other form of remittance shall be accepted.

3.10.3 Any tender submitted without required EMD in the prescribed form shall summarily rejected, provided that any category of tenderers specifically exempted by the Government from the payment of EMD will not be required to make such a deposit. The tenderers seeking exemption from the payment of EMD shall enclose necessary document in proof of the exemption claimed, along with the tender.

3.10.4 Should the tenderer withdraw his offer before finalization of the tender, the Earnest Money Deposit remitted by the tenderer shall be forfeited in full.

3.10.5 The Earnest Money Deposit of the successful tenderer shall be retained as security deposit, which will not bear any interest, and the same will be released after six months from the date of completion of work. The Earnest Money Deposit of the unsuccessful tenderer shall be returned after award of the agreement of the contract.

3.11 SECURITY DEPOSIT

3.11.1 After evaluation and finalization of tender, selected tenderer would be required to sign an agreement and furnish a Security Deposit such that the total value of Security Deposit including EMD already paid shall be 2 % of the order value as specified by the tender accepting authority, drawn by means of Bank Demand Draft only from any Nationalized Bank drawn in favour of "**The Executive Officer, Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.** " payable at Chennai. The EMD already paid along with tender shall be adjusted in the Security Deposit to be paid by the successful tenderer. The above Security Deposit amount will be released after 6 months from the date of completion of the work in all respects.

3.11.2 No exemption will be given for payment of Security deposit under any circumstances as per Tamil Nadu Transparency in Tenders Act and the same should be remitted by Demand Draft.

3.11.3 No interest shall be paid on Earnest Money Deposit / Security Deposit

3.12 WITHHELD AMOUNT:

3.12.1 5 % of bill value shall be retained in each bill as withheld amount and at the time of payment of the final bill 2½ % of the withheld amount shall be released to the contractor as first installment and the remaining 2½ % withheld amount will be retained as security deposit for a period of 1 year reckoned from the date of successful completion of work in order to enable the Department Officers to watch the effect of all seasons on the works. Further, an indemnity bond should also be given by the contractor for a further period of 4 years when the 2½ % balance withheld amount is released to the contractor after completion of 1 year observation period. If any defects are noticed in the above said period of 1 year, the defects should be rectified by the contractor at his own cost as directed by the Department Officers and no extra payment will be made for the rectification of such work. If the contractor fails to carry out the rectification works, the Department shall carryout the work at the risk and cost of the contractor & recovery from the pending dues.

3.13 Goods and Service tax :

The tenderer should furnish a self attested copy of the GST registration certificate along with Tender document.

The contractor shall claim GST only in case of a registered supplier and should raise tax invoice, without fail**.**

All duties, taxes and other levies payable by the contractor under the contract, or for any other cause, as applicable on the date of submission of Bid, shall be included in the rates and prices and the total bid price submitted by the bidder

3.14 Determination of value of service portion in a works contract:

As per the scheme the value of the service portion, where value has not been determined in the manner as provided shall be determined in the manner explained in the table below:

Signature of the Contractor Executive Officer

Where works contract is for..	Value of the service portion shall be..
(A) execution of original works	**Forty percent (40 %)** of the **total amount charged** for the works contract
(B) maintenance or repair or reconditioning or restoration or servicing of any goods	**Seventy percent (70 %)** of the **total amount charged** including such gross amount
(C) in case of other works contracts, not included in serial Nos. (A) and (B) above, including contracts for maintenance, repair, completion and finishing services such as glazing, plastering, floor and wall tiling, installation of electrical fittings.	**Sixty percent (60 %)** of the **total amount charged** for the works contract

3.15. AGREEMENT:

At the time of acceptance of contract the successful tenderer has to execute an agreement in non-judicial stamp paper for a value of 40/- [Rupees forty only] incorporating the terms and conditions of the contract.

If the contractor fails to execute the work satisfactorily at the tendered rate, the Department will forfeit the security deposit.

If for any reason the Department incurs any loss / additional expenditure in connection with the work during the period of contract, the same shall be recovered together with all charges and expenses from the contractor.

No increase of the rate will be allowed during the period of contract under any circumstances.

Notwithstanding anything contained in the tender schedule, no obligation is cast on the Department to accept the lowest tender and the Department shall also have the right to accept or reject any or all the tenders without assigning any reasons.

For violation of any of the terms and conditions of the contract, the Department reserves the right to terminate the contract, with or without notice as applicable.

On termination of contract, the Security Deposit is liable to be forfeited and any of the resultant loss beyond that recoverable from pending bills if any.

3.16 DISPUTES & ARBITRATION:

The Arbitrator for fulfilling the duties set forth in the Arbitration clause of General Conditions of Contract shall be in case of value of claim upto `.50,000/- [Rupees fifty thousand only] the Arbitratorwho will be appointed by the HRCE Department and if the value of claim exceeds `.50,000/- it shall be settled through the competent civil court of Chennai jurisdiction.

In case of discrepancy between the prices quoted in words and in figures, the lower of the two shall be considered.

3.17 PENALTY:

If the contractor fails in its due performance of the contract, within the time fixed or extension of time granted the contractor is liable to pay as a liquidated damage of 1 % per month subject to the maximum of 5 % on actual expenditure of contract / final bill value.

The tenderer's particular attention is drawn to the sections and clauses in the General Conditions of the Contract dealing with

a. Test, Inspection and rejection of defective materials and work
b. Carriage
c. Accidents
d. Delays
e. Sanction on particulars of payments
f. Construction plant
g. Water and lighting and
h. Cleaning up during progress and for delivery.

4. CHECK SLIP

Kindly ensure compliance of the under-mentioned requirements, as per Tender Terms and Conditions.

1	Whether the EMD amount remitted.	Yes/No
2	If yes, details of DD No., date, Bank on which drawn etc. may be furnished.	Yes/No

Demand Draft No _ _ _ _ _ _ _ _ _ _ Dated. _ _ _ _ _ _ _ _ _ _ _ _ for a value of `._ _ _ _ _ _ (Rupees _ only) drawn on (Bank) _ Branch _ _ _ _ _ _ _ _ _ _ _ _ in favour of "**The Executive Officer, Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05** payable at Chennai

3	Whether all the pages in the tender formats, have been duly signed by authorized signatory	Yes/No
4	Whether cover has been wax sealed duly super scribed as "Tender for the work of **Renovation of Madapalli, office room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.**	Yes/No

Signature of the Contractor

Executive Officer

TENDER SCHEDULE

Name of work Construction of Flat Building in Survey. No: 2682/2, Block No: 48, Door No:2 Sydaozi Lane , Triplicane Chennai-600 005

Sl. No	QTY	DESCRIPTION OF WORK	RATE	PER	T.N.B.P No. or NBC No	AMOUNT
1.	190.00m^3	Earth work open excavation in all soils and sub-soils and to full depth as may be directed except in rock requiring blasting inclusive of shoring shuttering, bailing out water wherever necessary and depositing the excavated earth with a lead of 10 mts. within the compound in places shown by the departmental officers and clearing and leveling the site, etc., complete complying with standard specification.		m^3	23 & 24 V, VI S2 23	
2.	27.00 m^3	Supplying and filling in foundation, basement, etc with filling M.sand in layers of not more than 15 cm thick well watered, rammed and consolidated etc. complete complying with standard specification and as directed by the departmental officers.		m^3	24 & 25 V, VI S2 (Spl.)	
3.	14.00 m^3	Cement Concrete 1:5:10 (One Cement, Five sand and Ten hard broken stone jelly) using 40 mm gauge hard broken granite stone jelly for foundation including dewatering wherever necessary and laid in layers of not more than 15 cm thick well rammed, consolidated and curing etc. complete complying with standard specification		m^3	24 & 25 V, VI S2	

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4.	100.00 m²	Supplying and erecting steel centering including necessary supports for plane surfaces for Reinforced Cement Concrete works such as column footings, column pedestals, plinth beams, grade beams, staircase steps, etc. which require only nominal strutting using mild steel sheets of size 90cm x 60cm and 10 BG stiffened with welded mild steel angles of size 25mm x 25mm x 3 mm for boarding, laid over silver oak joists of size 10cm x 6.5cm spaced at about 75cm centre to centre or at suitable intervals etc. complete in all floors complying with standard specification. (Payment for centering shall be given after the concrete is laid)		m²	28 V, VI S2 (SS.A) VII 39 & 39G	
5.		Supplying and erecting centering for sides and soffits including necessary supports and strutting upto 3.29 M height for plane surfaces as detailed below in all floors with all cross bracings using Mild Steel sheets of size 90 x 60 cm and 10 BG stiffened with welded Mild Steel angle of size 25mm x 25mm x 3 mm for boarding laid over silver oak joists of size 10cm x 6.50 cm spaced at abote 90 cm centre to centre and supported by casurina props of 10cm to 13 cm dia spaced at not more than 75 cm centre to centre etc. complete complying with the standard specification. (Payment for centering shall be given after the concrete is laid)			30(S) 86 86 A V, VI (S3) VII	
a	340.00 m^2	For plane surfaces such as RCC floor slab, roof slab, beams, lintels, bed blocks, landing slab, waist slab, portico slabs and beams, etc.		m^2		
b	202.00 m^2	For plane surfaces such as rectangular or square RCC columns, sunshades, top and bottom slab of RCC boxing, etc.		m^2		

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6.		Providing and laying in position standardise concrete mix M-25 grade in accordance with IS: 456-2000, using 20mm and down grade hard broken granite stone jelly for all RCC items works with minimum cement content of 325kg/m3 and maximum water content ration of 0.55, including admixture (plasticiser/ super plasticiser) in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability with about (5 cu.m) 7730kg. of 20mm machine crushed stone jelly and with about (3.3m^3 5156Kg of 10-12mm machine crushes stone jelly and with about (4.70 cu.m) 7670kg. of sand, but excluding cost of reinforcement grill and fabricating charges, centering and shuttering and also including laying, vibrating with mechanical vibrators, finishing, curing etc, and providing fixtures like fan clamps in the RCC floor/roof slabs wherever necessary without claiming extra etc., complete complying with standard specification				
a	36.00 m^3	In Foundation & Basement		m^3		
b	17.00 m^3	For Ground Floor		m^3		
c	16.00 m^3	For First Floor		m^3		
d	16.00 m^3	For Second Floor		m^3		
e	11.00 m^3	For Third Floor		m^3		

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f	10.00 m3	For Fourth Floor		m^3		
7.	130.00 Qtl	Supplying, fabricating and placing in position Mild Steel / Ribbed Tor Steel grills for all RCC works as per design given including cost of steel and G.I. binding wire in all floors etc. complete complying with standard specification. (Contractor has to make his own arrangements for the supply of steel and binding wire)		qtl	SS 86 & 86 A V, VI (S3) (S6) VII	
8.		Brick work in following Cement Mortar 1:6 using best quality of Country Bricks of size 8-3/4" x 4-1/4" x 2-3/4" for all floors including curing, etc., complete complying with standard specification.			31& similar to 31C V,VI(S5) VII	
a	31.00m^3	For Ground Floor		m^3		
b	22.00 m^3	For First Floor		m^3		
c	22.00 m^3	For Second Floor		m^3		
d	8.00 m^3	For Third Floor		m^3		
e	5.00 m^3	For Fourth Floor		m^3		
9.		Brick partition walls of 10.80cm thickness using best quality Country Bricks of size 8-3/4" x 4-1/4" x 2-1/4" in Cement Mortar 1:3 (One Cement and Three Sand) using hoop iron reinforcement if found necessary including curing etc. complete and as directed by the departmental officers. (Hoop iron reinforcement will be measured and paid for separately)				

Signature of the Contractor

Executive Officer

a	32.00 m^2	For First Floor		m^2		
b	32.00 m^2	For Second Floor		m^2		
c	100.00 m^2	For Third Floor		m^2		
10	1080.00 m^2	Plastering with Cement Mortar 1:5 (one cement and five sand), 12mm thick in all floors including curing etc., complete complying with standard specification and as directed by the departmental officers.		m^2	61V,VI (S4)3. 56 &57	
11.	545.00 m^2	Special ceiling plastering and finishing the exposed surface of all RCC items of work such as slabs, beams, sunshades, facia, canopy slab, staircase waist slab, landing slab etc., with Cement Mortar 1:3 (One Cement and Three Sand) 10mm thick including hacking the surfaces, providing cement mortar nosing, beading for sunshades, staircases, steps, landing slabs and curing, etc., in all floors complying with standard specification and as directed by the departmental officers		m^2	56 &57 (Spl)	
12.	1573.00 m^2	Painting two coats of newly plastered wall surface with ready mixed plastic emulsion paint of first class quality and of approved colour over a priming coat including thorough scrapping, clean removal of dirt, and including necessary plaster of paris putty, wherever required etc., complete complying with standard specification.		m^2		

Signature of the Contractor

Executive Officer

13.	90.00 m^2	Paving the floor with best quality Double Charged Vitrified Tiles of size 600 x 600 x 8mm of approved colour, shade and quality laid in cement mortar 1:3 (one cement and three sand) 20mm thick in all floors and the top pointed with the white cement mixed same colour pigments etc., complete complying with standard specification. (The make and brand of the tiles should be got approved by Executive Engineer before use on works)		m^2		
14.	10.00 m^2	Flooring with following DesignedAnti skid ceramic tiles of size 305 x 305 x 8 mm laid over 20 mm thick cement mortar 1:3 (One Cement and Three Sand) base mortar over the existing slab / floor including cutting the tiles to the required size with special cutter wherever necessary, laying in position and pointing with white cement mixed with colouring pigment at the rate of 0.3 Kg. / sq.m. etc., complete complying with standard specification. (The make and brand of the tiles should be got approved by Executive Engineer before use on works)		m^2		
15.	52.00 m^2	Dadooing walls with following best approved quality, white / colour glazed tiles of 300 x 450 x 6 mm sizes set in Cement Mortar 1:2 (One Cement and Two sand) 10mm thick and pointing the joints with white cement mixed with colouring pigments at the rate of 0.40 Kg. / sq.m. neatly in all floors, curing, etc., complying with standard specification and as directed by the departmental officers.		m^2		

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16.	20.00 m^2	Paving the floor with best approved quality fine polished Granite Stone Slabs of size 1200 x 600 of 18 to 20mm thick of Granite slabs (super fine polished with machine cut edges)Jet black and similar varieties with machine cut edges laid over a cement mortar bed of 20mm thick using cement mortar 1:3 (One cement and three sand) fixing the slabs with required cement slurry and laid in true right angles with minimum possible width of joints and pointing the joints with white cement mixed with matching coloring pigments etc., The granite stone slabs and other materials to be used shall be got approved by the Executive Engineer concerned before use on work, etc., complete as per standard specification.		m^2		
17.	10.00 m^2	FRP door Shutter with FRP door frames made out of FRP Sheets of 3mm thick of over all size 65mm x 50mm with rebate suitably reinforced using MS Angle / Flats, cost of holdfasts and solid core FRP shutter Panel of 5mm thick and hollow core frames of 3m wall thickness for styles and rails etc., of sizes specified by Engineers.		m^2		
18.	22.00 m^3	Supply and fixing of flush shutter with Teak wood frame necessary tower bolt, aldrop, door stopper, screws and locking arrangements including one coat primer and two coat of synthetic enamel paint etc., complete		m^3		
18. A	0.6 m^3	Teak wood frame of door		m^3		

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19.	19.50.00 m^2	UPVC Window Specification: Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Windows of casement type (open) from the profile the size of outer frame 60mm x 58mm and shutter profile are reinforcement with GI/1mm 125GSM and 100% corrosion free, the profiles are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with over all the edges of frame and shutter the shutter will be provided with Espag multi power point locks and also it operates as handle. The corners and joints should be welded and cleaned. Radiations free pin headed plain or brown colour glass 4mm thick should be provided to the shutter and it should not allow leakage of water even at most ranging storms and should have key lockable action, security protective hinges, strong locking systems and as per size for arresting noise and energy loss. The connecting mechanism between sash and outer frame that enables opening of the window. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The window should be got approved from the Executive Engineer before use on work		m^2		

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20.	5.00 m^2	UPVC Ventilator Specification: Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Louvered Ventilators of from the profile the size of outer frame 60mm x 58mm and shutter profile size of 60 x 78mm both profiles are reinforced with GI/1mm 125GSM and 100% corrosion free, the profile are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with all over the edges of frame and shutter. The corners and joints should be welded and cleaned. Radiations pin headed glass 4mm thick should be provided in the louvers. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The ventilator should be got approved from the Executive Engineer before use on work		m^2		
21.	1230.00 Kg	Supplying and fixing of M.S.grill of approved design for grill gate, grill work to doors and windows openings ramp etc., using necessary mild steel flats for inner and outer members which should be fixed on edges including priming coat of best approved quality red oxide primer etc., complete complying with standard specification.		Kg		
22.	4.00m^3	Weathering course in brick jelly lime concrete using broken brick jelly of size 20mm uniform gauge in pure slaked lime (no sand to be used) to the proportion of brick jelly to lime being 32:12.5 by volume and laid over the RCC roof slab in a single layer of required slope and finished by beating the concrete with wooden beaters of approved pattern, keeping the surface constantly wet by sprinkling lime jaggery water, etc., complete as per standard specification and as directed by the deparmental officers.		m^3		

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22 a.	23.00 m^2	Manufacturing supplying and fixing stainless steel hand rails for staircase near wet riser using 50mm dia 304 grade stainless steel pipe of 1.6mm thick will be provided with circular Tubular supports made of 304 grade stainless steel pipe of 22mm dia of 1.6mm thick welded to the railing. The supports will be grouted into wall/step thread and provided with 93mm thick stainless steel circular base plate of 304 grade. The rate shall be included for grouting into concrete with necessary supporting arrangements the hand rail in floor polishing buffing, bonding, cutting, grinding, conveyance, welding charges, electrical charges etc., complete		m^2		
23.	46.00 m^2	Finishing the top of roof with one course of machine pressed tiles of size 230mm x 230mm x 20mm of approved quality set in Cement Mortar 1:3 (One Cement and Three Sand) 12mm thick mixed with water proofing compound conforming to ISS at 2% by weight of cement used and the joints pointed neatly to full depth of tiles with the same cement mortar mixed with red oxide and water proofing compound including curing etc., complete complying with standard specification and as directed by the departmental officers		m^2		
24.		Supplying and fixing in position best approved of BIS quality PVC rain water down fall pipes having a pressure of 4 kg. / sq.cm including cost of necessry PVC shoe, PVC bend, cast iron gratings of required diameter and special clamps, brass screws, nails, etc., and fixing of cast iron gratings at junction of parapet and the RCC roof slab including finishing neatly etc., complete. The rate shall be inclusive of cost of removable cast iron grating. The PVC pipe shall be fixed in wall with special		Rm		

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		type of "U" clamp at the centre of the pipe line in addition to those for more than 3.0 metre pipe length, etc., complete complying with standard specification.				
25.	58.00 m^2	Painting new iron works such as steel doors, windows, ventilators, window bars, balustrades etc., with two coats of best approved first quality and colour of synthetic enamel paint over one coat of zinc chromate anti corrosion priming coat in all floors including cost of priming coat etc., complete complying with standard specification. (The make, quality and colour of paint should be got approved by the Executive Engineer before use on works.)		m^2		
26.	3.00 Nos	Supplying and fixing in position white / colour glazed European Water Closet of best quality and approved make with 100 mm "P" or "S" trap connecting with CI pipe of 100mm dia / PVC pipe of 110mm dia, double flapped rigid PVC black seat and seat cover with CP brass hinges including cost of white cement, cement for packing, spun yarn, teak wood plugs, brass screws, etc., including supplying and fixing 10 litres capacity PVC / 12.5 litres capacity porcelin low level flushing tank with a pair of CI brackets, etc., complete with all fittings such as 15mm brass ball valve with polythene float with brass handle, union, coupling connected by means of 40mm white PVC flush hand using Indian adopter joint including all internal fittings.....		No		

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27.	3.00 Nos	Supplying and fixing in position best quality and approved make Indian made white / colour glazed earthernware wash hand basin of size 550 x 400mm (with pedestal / without pedestal) with a pair of cast iron brackets, including cost 15mm dia brass CP pillar tap, 32mm dia "B" class GI waste pipe with rubber plug and chain, 15mm dia GM wheel valve, 15mm brass nipple, 15mm dia nylon connection, 32mm dia CP brass waste coupling including fixing of wash basin using CI brackets on to the wall in position with TW plugs and screws, rubber washers, white lead and giving necessary water supply connection and painting the brackets with two coat of painting over a priming coat of anticorrosive paint including testing for leakages etc., complete complying with standard specification and as directed by the departmental officers. (The wash hand basin and specials should be got approved by the Executive Engineer before use on works).		No		
28.		Supplying and fixing in position 15mm dia brass Long body/ Angle cock/ Stop cock / Pillar tap (heavy duty) of approved parry ware make Jade model make conforming to BIS specifications and quality including cost of shellac, thread, etc., complete complying with standard specification and including cutting and threading wherever necessary. (Taps should be got approved by the Executive Engineer before use on the works)				
a	4.00 Nos	Long Body Tap		No		
b	15.00 Nos	Angle Cock		No		

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c	3.00 Nos	Pillar Cock		No		
d	3.00 Nos	Stop cock		No		
e	3.00 Nos	Swan Neck Tap		No		
f	3.00 Nos	Head Shower (T9981A1)		No		
29.	3.00 Nos	Supplying and fixing in position Health faucets model no. T9941A1 (heavy duty) parry ware of approved make conforming to BIS specifications and quality including cost of shellac, thread, etc., complete complying with standard specification and including cutting and threading wherever necessary. (HF should be got approved by the Executive Engineer before use on the works)		No		
30.	3.00 Nos	Supplying and fixing of Two in one wall mixer tap Parry ware (G0216A1) make including labour for fixing in position etc., complete complying with slandered specification and as directed by the departmental Officers at site of work.		No		
31.	3.00 Nos	Supplying and fixing approved best quality brass CP towel rail 600mm long and 20mm dia with brackets of same materials including cost of teak wood plugs and CP screws, etc., complete complying with standard specifications. (The towel rail should be got approved by Executive Engineer before use on works).		No		

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32.	3.00 Nos	Supplying and fixing in position Indian make beveled edge mirror of approved quality and brand PVC / Fibre Glass framed 600 x 450 x 5.5mm thick mirror, shelf type with hard board backing of approved colour fixed with brass screws, rawl plug, etc., complete complying with standard specification. (The mirror should be got approved by the Executive Engineer before use on woks)		No		
33.		Supplying , laying and jointing UPVC pipes (10kg per sqcm) of approved quality and best variety conforming to BIS standards of the following Diaicluding cutting, bending and fixing UPVC specials using of adhesives etc.,and fixing into the wall with teakwood plugs, clamps and screws and drilling the wall and roofs and making the dismantled portion to look like the same again with necessary brickwork , white cement etc.,complete complying with std specifications. The UPVC pipes shall got approved by the EE concernced before use on work.				
a	45.00 Rm	50mm dia pipes		Rm		
b	30.00 Rm	40mm dia pipes		Rm		
c	70.00 Rm	25mm dia pipes		Rm		

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34.		Supplying, laying and jointing CPVC (Chlorinated Poly Vinyl Chloride) Pipe (Higher pressure rating with higher pipe thickness) Standard Dimension Ratio–11 of approved quality and best variety conforming to BIS of the following dia including cutting, threading and fixing CPVC specials using CPVC adhesives (but excluding cost of such specials) and fixing into wall with teak wood plugs, CPVC clamps and screws making holes on the wall (or) drilling holes in the roof and making good the dismantled portion to original condition with necessary brick work / cement concrete and plastering neatly wherever necessary with necessary scaffolding charges, etc., complete complying with standard specifications. The CPVC pipes shall be got approved by Executive Engineer before use on works. (Including Specials)				
	55.50.00 Rm	20mm pipes		Rm		
35.		Renewing and refixing following UPVC/CPVC special of approved quality and make including labour for fixing in position etc complete complying with standard specification and as directed by the departmental officers at site of work				
		Elbow				
a	72.00 Nos	20mm dia		No		
b	24.00 Nos	25mm dia		No		
c	24.00 Nos	32mm dia		No		

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d	8.00 Nos	40mm dia		No		
e	2.00 Nos	50mm dia		No		
		Reducer Elbow				
a	48.00 Nos	20mm X 15mm dia		No		
b	12.00 Nos	25mm X 20mm dia		No		
c	8.00 Nos	32mm X 25mm dia		No		
d	4.00 Nos	40mm X 32mm dia		No		
		Tee				
a	36.00 Nos	20mm dia		No		
b	12.00 Nos	32mm dia		No		
c	2.00 Nos	50mm dia		No		
		Reducer Tee				
a	48.00 Nos	20mm X 15mm dia		No		

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36.		Supplying and fixing in position best quality PVC soil / waste pipes of various dia having 6 kg / sq.cm. pressure BIS mark and providing leak proof joints using PVC adhesives including fixing to the wall with special PVC / MS clamp, teak wood plugs, brass screws, etc., and making connection to all sanitary fittings, dismantling masonry / RCC works wherever found necessary and making the good dismantled portion to the original condition, including testing for any leakages, etc., complete complying with standard specifications. (The PVC pipes should be got approved by the Executive Engineer before use on works). The rate for earth work excavation will be measured and paid separately in the cases where the pipe lines are proposed to laid below ground level				
a	120.00 Rm	110 mm dia		Rm		
b	120.00 Rm	75mm dia		Rm		
37.		Supplying and fixing in position PVC specials of the following dia and types of approved quality confirming to BIS and providing leak proof joints including fixing to the walls and giving connection to the PVC soil stacks, dismantling the masonry or RCC works and re-doing the dismantled portion to original condition etc., complete complying with standard specifications. (The PVC specials should be got approved by the Executive Engineer before use on works).				
		PVC Elbow with Door				
a	6.00 Nos	110 mm dia		No		

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b	6.00 Nos	75mm dia		No		
		PVC Tee with Door				
a	6.00 Nos	110 mm dia		No		
b	6.00 Nos	75mm dia		No		
		PVC Y with Single Door				
a	6.00 Nos	110 mm dia		No		
b	6.00 Nos	75mm dia		No		
38.		Supplying and fixing in position PVC cowls of following dia of best approved quality conforming to BIS, etc., complete complying with standard specifications. (The PVC cowl should be got approved by the Executive Engineer before use on works).				
		PVC Cowls				
a	6.00 Nos	110mm dia		No		
b	6.00 Nos	75mm dia		No		
39.	12.00 Nos	Supplying and fixing position CI Nahani Trap / Floor Trap of the following sizes with best stainless steel gratings of approved brand and quality, fixed over a bed of brick jelly lime concrete 1:2:5 (One part of lime, two part of sand and five part of 40mm gauge brick jelly) and finished with Cement Mortar 1:3 (One Cement, Three sand) including dismantling masonry works wherever found necessary and making good the dismantled portions to the original condition and giving connection to the CI /		No		

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		PVC pipes, etc., complete complying with standard specification. (The Nahani / Floor Trap should be got approved by the Executive Engineer before use on works)				
40.		Supplying and fixing in position first quality and approved variety of Gun metal Gate Valve / Wheel Valve with BIS make of the following dia including cost of shellac, thread balls, etc., complete complying with standard specifications (for both internal and external water supply arrangements). The valves to be used on work shall be got approved by the Executive Engineer before use on work.				
a	3.00 Nos	25mm dia		No		
b	2.00 Nos	32mm dia		No		
c	3.00 Nos	40mm dia		No		
d	2.00 Nos	50mm dia		No		

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41.	5.00 Nos	Construction of Manhole chamber of size 600mm x 600mm to a total height of 800mm that is 200mm above ground level and 600mm below ground level with base concrete of 100mm thick 1:5:10 over a sand cushion of 100mm thick the chamber should be constructed in brick masonry of 230mm thick in cement mortar with chamber bricks of size 9" x 4 3/8" x 2 3/4" the inner sides of chamber is plastered with cement mortar 1:3 20mm thick outer chamber to a depth of 300mm plasterd with cement mortar 1:5 12mm thick,chamber is covered with SRF cover slab 100mm thick rate including cost of material labour etc., complete		No		
42.	1.00 No	Supply and fixing of 1.5 HP Jet Pump Set with necessary angles and Electrical connection to run the motor.		No		
43.		Supply and laying of HDPE PIPES FOR jet motor IN BORE WELL Class-5 1 MPa or 10 kg. / cm2 pressure)				
a	45.00 Rm	32mm dia		Rm		
b	45.00 Rm	25mm dia		Rm		
		Electrical				
44	168.00 points	Wiring with 2 x 1.5 sq.mm. (22 / 0.3) PVC insulated single core unsheathed copper conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessoires in flush with wall with 3mm thick hylum sheet cover with TW switch box and 5A FT switch and making good of the concealed portion with suitable colour for PVC concealed light / fan Point (for electronic regulator) (5 points per coil)		pt		

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45	24.00 points	Wiring with 2 x 1.5 sq.mm. (22 / 0.3) PVC insulated single core unsheathed copper conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with PVC accessoires in flush with wall with 3mm thick hylum sheet cover with TW switch box and 5A FT switch and making good of the concealed portion with suitable colour for PVC concealed light (6 points per coil) (for rooms like bath, toilet & pumproom, etc.)		pt		
46	75.00 Nos	Supply and fixing of 4' 20W LED tube light fittings completed on wall or ceiling with single core unsheathed copper leads for terminals to the fittings with clamps for terminals to the fitting with clamps (make havells/ Crompton)		No		
47	33.00 Nos	Supply and fixing of 1200 mm (48") AC ceiling fan complete with stepped electronic 300W regulator with 300m down rod on the existing clamp.		No		
48	33.00 Nos	Supply and fixing of WT bulk head fitting with guard suitable for 11W CFL lamp with CFL.		No		
49	24.00 Nos	Supply and fixing of nigth lamp fitting with guard suitable for 7W CFL lamp with CFL Night lamp		No		
50	21.00 Nos	Supply and fixing of 300mm (12") sweep (light duty) AC exhaust fan complete with necessary wall opening and making good of the wall		No		
51	21.00 Nos	Supply and fixing of louvers shutters arrangements for 300 mm (12") sweep (light duty) AC exhaust fan.		No		
52	9.00 Nos	Supply and fixing of AC / DC 76mm buzzer / call bell suitable for 230 volts 50 c/s single phase AC supply on suitable TW board with push switch.		No		
53	35.00 Nos	Supply and fixing of 3 Nos. 5A (3 pin and 2 pin) combined flush type wall socket with control switches concealed in suitable TW box covered with hylem sheet in flush with wall with earth		No		

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		connection (for computer plug socket)				
54	60.00 Nos	Supply and fixing of 5A / 15A 3 pin combined flush type wall socket with 15A flush type switch concealed in suitable MS box in flush with wall and covered with 3mm thick hylem sheet.		No		
55	27.00 Nos	Supply and fixing of 20A DP plug and socket in sheet enclosure with 32A DP MCB in flush with wall with earth connection (For AC Plug)		No		
56	6.00 Nos	Supply and fixing of LED (light Emitting Diode) outdoor fitting 30 watts LED Street light fitting with 19mm dia (GI Pipe) class 'B' complete on the existing post/Wall with pvc unsheathed copper lead with MS clamp and aluminum painting (Crompton/Havells) with clamp arrangements.		No		
57	640.00 mts	Supply and run of 2 of 1.5 sq.mm. (22 / 0.3) PVC insulated single core unsheathed copper conductor of 1100V grade in rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with suitable colour.		mt		
58	1630.00 mts	Supply and run of 2 of 4 sq.mm. (56 / 0.3) PVC insulated single core unsheathed copper conductor of 1100V grade in suitable PVC rigid pipe concealed in wall and ceiling with continuous earth wire connection of 14 SWG TC wire and making good of the concealed portion with suitable colour.		mt		
59	270.00 mts	Supply and run of 4 of 6 sq.mm. (84 / 0.3) PVC insulated single core unsheathed copper conductor of 1100V grade in suitable PVC rigid consealed in wall and ceiling with continuous earth wire connection by 14 SWG TC wire and making good of the		mt		

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		consealed portion with suitable colour.				
60	10.00 Nos	Supply and fixing of 8 way single pole and neutral MCB sheet steel enclosure distribution board of double door type with metal door with IP43 protection with 1 No. 32A DP MCB as incoming and 6 Nos. 6A to 32A SPMCB outgoing in flush with wall and making good of the concealed portion with earth connection only. The MCB DB and MCB's should be with ISI mark (like standard make)		No		
61	10.00 Nos	Supply and fixing of horizontal type 4 way triple pole neutral MCB distribution board in sheet steel enclosure double door of double door type with metal door with IP43 protection with 40A 4 pole MCB isolater as incoming and 12 Nos. 6A to 32A SP MCB as outgoing in flush with wall and making good of the concealed portion with earth connection. The MCBDB and MCB's should be with the ISI mark (like standard make)		No		
62	10.00 Nos	Supply and fixing of 4 Pole isolater with 4 Pole steel sheet encloser in flush with wall with earth connections.		No		
63	11.00 Nos	Earthing as per PWD standard with an earth electrode of 2 metre Class 'B' GI pipe of dia not less than 32mm complete with necessary masonry work.		No		
64	10.00 Nos	Supply and fixing of 32A TPNMC switch on suitable angle iron frame work with MS cable entry box with earth connection only.		No		
65	60.00 mtrs	Supply and laying of the 3 1/2 x 70 sq.mm size of PVC LTUG aluminium armoured cable in a trench to be excavated at a depth of 0.75 metre putting 0.15 metre layer of sand and covering the three sides of the cable with bricks		mt		

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		and refilling the earth to make good.				
66	10.00 mts	Supply and clamping of 3 1/2 x 70 sq.mm PVC LTUG aluminium armoured cable on post or wall with MS clamp.		mt		
67	4.00 Nos	Supply and providing cable end termination of 3-1/2 x 70 sq.mm. PVC LTUG aluminium armoured cable with necessary aluminium cable sockets by crimping etc with electrical connection complete.		No		
68	4.00 Nos	Supply and fixing of brass cable gland for 3-1/2 x 70 sq.mm. PVC LTUG aluminium armoured cable with earth connection.		No		
69	6.00 mts	Supply and clamping of 3 1/2 x 70 sq.mm PVC LTUG aluminium armoured cable in suitable GI pipe on post with MS clamp.		mt		
70	10.00 Nos	Supply and fixng of TNEB meter board suitable for 32A three phase service connection with 3 Nos. 32A fuse unit (500V) 32A neutral link and earth link (1" x 1/8" copper flat) on TW plank of size 600mm x 450mm x 19mm with supporting TW reepers of 1" thick an either side with painting with suitable bolt and nuts for fixing the TW plank on wall with earth connection and inter connection with 7/20 PVC insulated copper wire from EB meter to fuse unit.		No		
71	2.00 No	Supply and fixing of 3 phase 4 wire 6 way ICDB of 32A per way with 100A, TPNMC switch with suitable trunking box MS cable entry boxes and internal connection on suitable angle iron frame work with PWD earthing.		No		
		Sub Total				
		GST 12 %				
		Total				

(Rupees . . . .

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. . . . . .Only)

71 items only

Foot Note:

The tenderer should quote the amount towards Goods and service tax for both service provider and receiver in the appropriate columns. If not quoted, it will be considered that the rate quoted is inclusive of GST.

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SCHEDULE

SPECIAL CONDITIONS

1. The work shall be carried out strictly in accordance with the specification and provision stipulated in the (TNDSS) Tamil Nadu Detailed Standard Specifications and (NBC) National Building Code unless otherwise specified.
2. The contractor shall abide to the conditions set-forth in the preliminary specification to T.N.D.S.S. 1952 reprint. Wherever the words "Executive Engineer and Superintending Engineer" occurring shall be read.,
3. The contractor shall not enter the private land without written understanding of the owner.
4. The work shall be carried out in the best workmanship manner. Pure water and best materials available in the market shall be used on the work.
5. The work site shall be kept clean always and all unused materials shall be removed from the site within one month from the date of physical completion of work.
6. The work should be completed as specified herein:

PERIOD OF COMPLETION OF WORK 3 Months

1st month from the date of handing over the site – 25 %
1st month from the date of handing over the site – 50 %
1st month from the date of handing over the site – 100 %

7. If night work is involved, the contractor shall make his own arrangements at his cost. The work shall be carried out with least hindrance to the adjacent buildings and the contractor will be held responsible for the damages caused to the existing structure, fittings etc.
8. a). The arrangement of MS & RTS Rods for reinforcement for R.C.C. works shall be in accordance with the working drawing.
   b).The planks for forms and centering for R.C.C works shall be of well seasoned timber approved by the officer-in-charge of work according to the para 10 clause 30 of T.N.D.S.S.
   c).Holes and recesses for electric wiring, water supply and drainage etc. shall be provided as directed during progress of work without any claim for extra.
   d).The broken stones for Reinforced Cement Concrete and Plain Cement Concrete works shall be of granite blasted and broken to the requiring size as specified.
   e).All the cement concrete will be machine mixed and vibrators shall be used while placing the concrete for RCC works.
9. a]. **The required quantity of steel and cement will be own arrangement by the Contractor**.
   b]. The quality of cement and steel used to the work by the tenderer to be tested as per ISI specification in the PWD quality control lab / Government Engineering college lab / Government recognized lab at his own cost and the test result shall be produced to the site Engineer-in-charge and the same shall be confirmed by the site in-charge.
   c]. The balance quantity of steel and cement will be taken by the tenderer after completion of the work.
10. The tenderer who are themselves not professionally qualified shall undertake to employ qualified staff at their cost to look after the work. The tenderers should state that in clear terms, whether they are professionally qualified or whether they undertake to employ technical staff required by the department, specified in the schedule below for the work. In case the selected tenderer is professionally qualified or has undertake to employ technical staff under him, he should see that one of the technically qualified staff is always at the site of the work during working hours, personally checking all items of works and paying extra attention to such works as may deemed special attention (e.g.) Reinforced Cement Concrete works etc. If the tenderer fails to employ Technical Assistant the recovery will be as follows:

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(In the format below enter or incorporate the latest norms fixed by Department for the employment of Technical Assistant from time to time and penalty for non employment of such Technical Assistant etc.)

S No	Value of contract	Qualification and No. of Technical Assistance to be employed
1	UptoRs. 1.00 lakh	No Technical Assistant need be employed, if situation and nature of work warrants. i. A Diploma holder in Civil Engineering (or) ii. A retired Junior Engineer may be employed.
2	From Rs. 1.00 lakh to Rs. 5.00 lakh	i. One Diploma holder in Civil Engineering (or) ii. Not less than one retired Junior Engineer
3	From Rs. 5.00 lakh to Rs. 10.00 lakh	i. One B.E. (Civil) (or) ii. Equivalent Degree holder (or) iii. Not less than one retired Assistant Executive Engineer / Assistant Divisional Engineer (or) iv. One Diploma Holder with 3 years experience.
4	From Rs. 10.00 lakh to Rs. 25.00 lakh	i. One B.E. (Civil) with 3 years experience plus one diploma holder in Civil Engineering (or) ii. Equivalent Degree holder with 3 years experience plus one diploma holder in Civil Engineering (or) iii. Not less than one retired Assistant Executive Engineer / Assistant Divisional Engineer plus one diploma holder in Civil Engineering (or) iv. Two Diploma Holders in Civil Engineering with 3 and 5 years experience respectively.
5	From Rs. 25.00 lakh to Rs. 50.00 lakh	i. One B.E. (Civil) with 3 years experience plus two diploma holders in Civil Engineering (or) ii. One B.E (Civil) with 3 years experience plus two retired Junior Engineers (or) iii. Equivalent Degree holder with 3 years experience plus two diploma holder in Civil Engineering / two retired Junior Engineers (or) iv. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus two diploma holders in Civil Engineering (or) v. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus two retired Junior Engineers.
6	From Rs. 50.0 lakh to Rs. 1.00 Crore	i. One B.E. (Civil) with 3 years experience plus two diploma holders in Civil Engineering (or) ii. One B.E (Civil) with 3 years experience plus two retired Junior Engineers (or) iii. Equivalent Degree holder with 3 years experience plus two diploma holder in Civil Engineering / two retired Junior Engineers (or) iv. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus two diploma holders in Civil Engineering (or) v. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus two retired Junior Engineers.
7	From Rs.1.00 Crore to Rs.3.00 Crore	i. One B.E. (Civil) with 3 years experience plus three diploma holders in Civil Engineering (or) ii. One B.E (Civil) with 3 years experience plus three retired Junior Engineers (or) iii. Equivalent Degree holder with 3 years experience plus three diploma holder in Civil Engineering / three retired Junior Engineers (or) iv. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus three diploma holders in Civil Engineering (or) v. One retired Assistant Executive Engineer / Assistant Divisional Engineer plus three retired Junior Engineers.
8	Above Rs. 3.00 Crore	i. Two B.E. (Civil) with 3 years experience plus three diploma holders in Civil Engineering (or) ii. Two B.E (Civil) with 3 years experience plus three retired Junior Engineers (or) iii. Equivalent Degree holder with 3 years experience plus three diploma holder in Civil Engineering / three retired Junior Engineers (or) iv. Two retired Assistant Executive Engineer / Assistant Divisional Engineer plus three diploma holders in Civil Engineering (or) v. Two retired Assistant Executive Engineer / Assistant Divisional Engineer plus three retired Junior Engineers.

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Note:

1) Item (1), (2), (3), (4) (5) and (6) should be scored No. 1 out in case where not applicable to the particular work.
2) A penalty of Rs. 2,000/- per month for Diploma holder and Rs. 5,000/- per month for degree holder will be levied in case of default on the part of contractors in following the norms laid down above.
3) The employment of Technical Assistants should be based only on the value of contract. Engineers with Mechanical Engineering qualification and retired from Civil Engineering departments are also suitable to supervise the Civil Engineering works because of their experience in Civil Engineering field.
4) In case of contract who is professionally qualified is not in position to remain always at the site of the work and pay extra attention to such work, as many demand special attention (e.g. RCC work etc.) he should employ technically qualified man as prescribed above.

11. a) The quantities provided in the schedule are approximate subject to variation up to 25% either way of requirement indicated in the tender schedule. The payment for the work done shall be restricted to the recorded measurement of finished item in sites.
b) The rate for additional items not contemplated in the agreements shall be decided at the discretion of Joint Managing Director as per the principle in vogue in PWD circles and rules applicable to the PWD special buildings circles.
12. a). The tenderer shall inspect the site and satisfy himself about the site condition and soil condition, availability of water etc. and other materials as shown in the lead statement. The rate quoted by the
13. tenderer is final and for finished item of work in site and any claims for enhancement of rate shall not be entertained.

b). Sheds for storing construction materials like cement and steel shall be provided at tenderer's cost, which shall be removed within one month from the date of completion.

c). All tools & plants, and other building materials required for the work shall be arranged by the tenderer himself.

14. The tenderer's special attention is invited to clause 37 and 38 of the Preliminary Specifications of TNDSS and he is requested to provide at his own expense sheds, latrines, and urinals for his workmen.
15. If night work is required to fulfill the agreed rate of progress, all arrangements shall be made by the tenderers inclusive of lighting without any claim for extra.
16. The tenderer shall not employ the labour below the age of 12 years and shall also note that he must offer employment to ex-servicemen, ex-to didapper, and unemployed agricultural laborers as far as possible.
17. Any of the items in the schedule may be omitted or radically altered. No variation in rate shall become payable to tenderer an account of such omission or variation in quantities.
18. Reference to TNDSS in the schedule of quantities referred to reprint 1952 and addenda corrigenda issued thereafter.
19. The construction of the building will be deemed to be completed only if all the items of works including finishing items contemplated herein are executed.
20. The tenderer shall abide by the tenderer's labour regulation of the PW frames by the Tamilnadu Government.
21. The tenderer shall be responsible for the safe custody and storage of the materials under dry conditions at the places of the work spot approved by the Engineer.
22. No royalty shall be charged where due for materials quarried from the corporation or other Government quarries. Necessary assistance will be given to the tenderer by the corporation to obtain access to quarries approved by the Department Engineer. No plot rent shall be charged so far materials stacked on the Government land during the course of construction provided all such materials are removed within the month after the work is completed.
23. The tenderer shall pay royalty or charges due for use of private quarries and private land.

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24. The tenderer shall form his own approach road to the work site for which no extra will be due to him. On completion of work, the tenderer shall not be permitted to remove the materials laid for formation of road. If the tenderer is allowed to use the existing roads, he shall maintain them in good condition at his own cost throughout the period of the contract.

25. Any surplus materials remaining at the site, will not generally taken over by the Department, whether before or after the completion or termination of contract. Such materials either which were originally procured by the tenderer or were issued to them by the Department and charged to their accounts, are the property of the tenderers and can however be taken over by Department if required, for use on other works which are in progress only by special arrangements and at the prevailing market rates. Viz. the rates at which the articles of a similar description can be procured at a given time at the stores, go-down from public market suitable to the Department office for obtaining the supply there-of.

    If the Department originally used the materials, the price allowed to the tenderer on re-acquisition shall not exceed the amount charged to the tenderer excluding the elements of storage charge if any.

    The surplus materials, which were originally issued to the tenderer by the Department for use on the work, shall not be removed from the site of work without getting the written permission of the Department Engineer.

26. The tenderer shall at his own expense provide arrangements for the provision of footwear for any labour doing cement mixing work and all other similar type of work involving the use of tar, mortar etc. to the satisfaction of the Engineer-in-charge and on his failure to do so, Department shall be entitled to provide same and recover the cost from the tenderer.

27. When there are complaints of no-payment of wages to the labour, bills of the tenderer may be withheld pending a clearance certificate from the Labour Department.

28. Rules for the provision of health and sanitary arrangements for workers employed by the Department and its tenderers.

The tenderer's special attention is invited to clause 37, 38, 39, and 51 of the preliminary specification to the Tamil Nadu Detailed Standard Specification and he is requested to provide at his own expenses, the following amenities to the satisfaction of the Department Engineer.

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1. FIRST AID:

At the work site, there shall be maintained in a readily accessible place, first aid appliances and medicines including an adequate supply of sterilized dressing and sterilized cotton roll. The appliances shall be kept in a good order. They shall be placed under the charge of a responsible person who shall be readily available during working hours.

2. DRINKING WATER:

a) Water of good quality fit for drinking purpose shall be provided for the work people on a scale of not less than three gallons per head per day.

b) Where drinking water is obtained from an intermittent public water supply each work place shall be provide with storage tank where such drinking water shall be stored.

c) Every water supply and storage shall be at a distance of not less than 15 m from any latrine, drain or other existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly closed if water is drawn from it for drinking. All such wells shall be entirely closed and be provided with a trap door, which shall be dust and waterproof.

d) A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection, which shall be done at least once in a month.

3. WASHING AND BATHING PLACES:

Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clear and drained condition. Bathing or washing should not be allowed in or near the drinking water well.

4. LATRINES AND URINALS:

There shall be provided within premises of every work place latrines and urinals in an accessible place and the accommodations separately for each of them shall be on the following scale or on the scale so directly by Executive Engineer in any particulars case.

i.	Where the number of persons employed does not exceed 50	2 Seats
ii.	Where the number of persons employed exceed 50 but does not exceed 100	3 Seats
iii.	For every additional 100 persons	3 Seats

If women are employed, separate latrines and urinals screened from those for men shall be provided on the same scale. Except in work places provided with water flushed latrines connected with a water borne sewage system all latrines shall be provided with acceptable dry earth system which will be cleared at least four times daily and at least twice during working hours and kept in strictly sanitary condition. The latrines and urinals shall be tarred inside and outside at least once a year.

Excrete from the latrines shall be disposed off at the tenderer's expenses, in outside pits approved by the local Public Health Authority. The tenderer shall also employ adequate number of scavengers, conservancy staff to keep the latrines and urinals in clean condition.

5. SHELTERS DURING REST:

At the work site, there shall be provided at free of cost, two suitable sheds one for meals and another for rest for the use of labour.

6. CRÈCHE:

At every work place at which 25 or more women working ordinary employed there shall be provided two huts of suitable size for the use of children under the age of 6 years belonging to such women. One hut shall be used for infants, games and play and the other as their bedroom. The huts shall not be constructed on lower standard than the following.

- ✓ Thatched Roofs.

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- ✓ Mud floors and walls.
- ✓ Planks spread over the mud floor and covered with matting.

The size of the crèche or crèches should vary according to the number of women workers. The crèches should properly maintain and necessary equipment like toys etc. should be provided and huts shall be provided with suitable and sufficient sweepers to keep the place clean. There shall be two ayahs in attendance. Sanitary utensils shall be provided to the satisfaction of the Health Officer of the area concerned.

The number of the huts shall be restricted to children, their attendants, and others of the children.

7. CANTEEN:

A cooked good canteen on moderate scale shall be provided for the benefits of the workers if it is considered expedient.

8. SHEDS FOR WORKMEN:

The tenderer should provide at their own expense sheds for housing the workmen. The sheds shall be on a standard not less than the cheep shelter type to live in which the works pertaining to locality are accustomed to. A floor area of about 1.80 m -1.50 m for two persons shall be provided. The sheds are to be in row with 1.50 m clear spaces between the sheds and 24 m clear space between rows if conditions permit. The work people's camp shall be laid out in units of 400 persons each. Each unit should have clear space of 14.4 m.

9. Safety provision in the building industry conditions in addition to clause 36 of preliminary specification of TNDSS.

PART - I

ARTICLE – 1

1. Suitable scaffolds shall be provided for workmen for all work cannot be safely done from a ladder or by other means.
2. A scaffold shall not be constructed, taken down, or subsequently altered except.
   a) Under the supervision of a competent and responsible person and;
   b) By competent workers possessing adequate experience in this kind of work.
3. Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use.
4. Scaffolds shall not be overloaded and so far as practicable and shall be evenly distributed.
5. Before installing lifting gear on scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.
6. A competent person shall periodically inspect scaffolds.
7. Before allowing a scaffold to be used by his workmen every employee shall, satisfy as to whether the scaffold has been executed by his workmen or not he should take steps to ensure that it functions fully with the requirement of this articles.

ARTICLE - 2

1. Working Platforms, gangway and staircase shall be so constructed that no part thereof can sag unduly or unequally.

a) Be so constructed and maintained to obviate from risks of persons tripping or slipping

b) Be kept free from any unnecessary obstructions.

c) Every working platform, gangway, working place, and staircase shall be suitably forced.

ARTICLE - 3

- Every opening in the floor of a building or in a working platform shall except for the time and to the extent required to allow the excess of persons or the transport or shifting of materials be provided with suitable means to prevent the fall of persons or materials.
- When persons are employed on a roof where there is danger of falling from height exceeding that to be prescribed by national laws or regulations, suitable precautions shall be taken to prevent the fall of persons or material.
- Suitable precautions shall be taken to prevent persons being struck by articles, which might fall from scaffolds or other working places.

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ARTICLE – 4

1. Safe means of access shall be provided to all working platform and other working places.
2. Every ladder shall be securely fixed and of such length as to provide secure handhold and foothold at every position at which it is used.
3. Every place where work is carried on the mean of approach there to shall be adequately lighted.
4. Adequate precautions shall be taken to prevent danger from electrical equipment.
5. No material on the site shall be so attached or placed as to cause danger to any persons.

PART – II

GENERAL RULES AS TO HOISTING APPLIANCES:

ARTICLE - 5

1. Hoisting machines and tackle including their attachments en hot ages and supports shall.
   a) be of good mechanical construction sound materials and adequate strength and free from patent defects and
   b) be kept in good repair and in good working order.

   Every rope used in hoisting or lowering materials or as a means of suspension shall be suitable quality and adequate strength and free from patent defects.

ARTICLE - 6

1. Hoisting machines and tackle shall be examined and adequately tested after erection on the site and before use and be re-examined in positional intervals to be prescribed by national law or regulations.
2. Every chain ring, hook shackle, swivels, and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.

ARTICLE - 7

1. Every Crane driver or hoisting appliances operator shall be properly qualified.
2. No persons under an age to be prescribed by national laws, regulations shall be in control of any hoisting machinery including any scaffold which, or give signals to the operator.

ARTICLE – 8

- In the case of every hoisting machine and every chain ring, hook shackle, swivel and pulley block used in hoisting or lowering or as a means of suspension, the safe working load shall be ascertained by adequate means.
- In the case of hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated.
- Every hoisting machine and all gear referred to in the proceeding paragraphs shall be plainly marked with the safe working load.
- No part of any hoisting machine or of any gear referred to in paragraph 1 of this article shall be loaded beyond the safe working load except for the purpose of testing.

ARTICLE - 9

1. Motors gearing, transmission, electric wiring and other dangerous parts of hoisting appliances, shall be provided with sufficient safe guards.
2. Hoisting appliances shall be provided with such means as will reduce the risk of the accidental descent of the load.
3. Adequate precautions shall be taken to reduce the risk of any part of a suspended load becoming accidentally displaced.

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PART – III

GENERAL RULES TO SAFETY EQUIPMENT AND FIRST AID

ARTICLE - 10

1. All necessary personal safety equipment shall be kept available for the use of the persons employed on the site and be maintained in a condition suitable for immediate use.
2. The workers shall be required to use the equipment thus provided and the employer shall take adequate steps to ensure proper use of the equipment by those concerned.

ARTICLE - 11

When work is carried on in proximity to any place where there is a risk of drawing, all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.

ARTICLE - 12

Adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.

ARTICLE – 13

Where large work places are situated in cities, towns or in their suburban and no beds are considered necessary owing to the proximity of city or town hospital, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals, at their work places, some conveyance facilities such as car shall be kept readily available to the injured person or persons suddenly taken seriously ill to the nearest hospital.

GENERAL QUALITY OF TILES

1. Unless otherwise required the wearing face of the terrace tiles shall be mechanically sound and flat. The wearing face of the tiles shall be plane, free from projections, depressions and cracks, (Hair-cracks not included) and shall be reasonably parallel to the back face of tiles. All corners shall be right angles and all edges shall be sharp and true.
2. Breaking transverse strength of tiles shall be given as below:

Size of tile	Span	Breaking wet test	Land based dry test
19.85 x 19.85 cm	15 cm	71 kg	106 kg
24.85 x 24.85 cm	20 cm	90 kg	120 kg
29.85 x 29.85 cm	25 cm	99 kg	149 kg

The average wear of not less than 12 specimens shall not exceed 2 mm and the wear on any individual specimen shall not exceed 2.5 cm when tested in an absorption machine.

3. The average percentage of water absorption shall not be less than six full tiles shall not exceed ten in the case of water absorption test.
4. The density of the tiles shall be in the order of about 2.4 gms. The tiles shall be laid with the minimum possible width of joints and not exceeding 1/32 inch. The joints shall be filled with gray cement to match the finish of the tiles and shall be made almost invisible when the floor is given the final polish. The polishing shall be done by means of electric polisher wherever possible

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and hand polish to other places like vertical faces, walls, coves and other areas where the machines can have no access and to a high degree so as to present a perfectly smooth and glossy surface as even as possible.

All angles at junctions of vertical faces shall be rounded off to 1½" radius with same quality of materials and colour of the tiles of the floor. But lay in site and these coves shall be measured as part of flooring and laid for at the same rates and the flat floors. The colours of the tiles shall generally match other coloured face adjacent as may be directed by the Department Officers.

The Dadooing and skirting have to be finished by giving necessary recess in the brick wall itself so that the projections does not exceed ¾" from the face of the wall i.e. the finish plastered surface

Based on the modulus or rapture of 30 kg./m² for dry test and 2/3 of the value of wet test.

5. The rates quoted by the tenderer should include all de-watering charges.
6. The works shall be proceeded with expeditiously from the date of the site is handed over and completed within the prescribed schedule.
7. In the event of the work being transferred to any other Department like PWD to execute all the powers and privileges reserve in favour of the Department.
8. The materials used for work should be of best quality and to be got approved by the Department Engineers / Officers and approved samples are to be kept at site of work till the completion of the work.
9. The tenderer will be paid only for finished items of works.
10. All fittings of furniture for doors and windows shall be best quality steel machine made and wall japanned. The iron hold fasts shall be built up in the wall in cement mortar 1:3 at the time of construction of walls. No extra claim shall be made for the same.
11. In the case if 'T' beams and 'L' Beams, the quantity of rib portion only. The top flange portion will be always measured with the general slab portion and paid for at the slab rate only. For all RCC work the rate shall include the treatment of bearing as per plate W.No.2 of 1946 as per MDSS (Page 52 of 1952 Edition).
12. The tenderer should cooperate with the tenderer for erection of machinery and provide him with necessary holes in the masonry and subsequently refill, without extra cost. There should be cooperation with the tenderers for the civil works and machinery.
13. In the case of earthwork excavation in hard rock requiring blasting the tenderer should observe the following condition.

    i). The blasting rock shall be compactly stacked for measurement. The net quantity of blasted rock shall be arrived by allowing a deduction of 40% of voids and compared with pre-measured quantity and only the lesser of the two shall be paid.

    ii). When the rock other than hard rock and hard rock mixed upon ground the two kinds of rocks shall be stacked separately for measurement. The net measurement of the two kinds of rock shall be arrived by allowing 40% deductions for voids. The total of the net measurements of two kinds of rocks shall be compared with the pre-measured quantity and only lesser of the two kinds of rock shall be paid for. If the total of net measurements if the two kinds of rocks exceeds or falls short of measurement of mixture the volume of mixture proposed to be paid shall be apportioned in the proportion of the actual measurements of stacks of the two kinds of rock.

NOTE:

α) 40% deduction for voids shall be adopted for compact and proper stacking but such deduction shall be increased for loose or improper stacks.

β) The blasted rock materials stacked, measured, and paid for shall become property of the Department.

χ) IS Code No. 1200 (Part I) 1969 method of measurement of building and Civil Engineering works Pare-I earthwork may be referred to.

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EXTRACT OF:

NATIONAL BUILDING CODE OF INDIA 1970

PART – VI, SECTION 5-A: PLAIN AND REINFORCED CONCRETE

4.2. GRADE OF CONCRETE.

4.2.1. Plain and Reinforced Cement Concrete shall be in seven grades as designed M100, M150, M200, M250, M300, M350, and M400.

NOTE: In the designation of a concrete mix, letter "M" refers to the mix and the number of the specified 28 days of works cube compressive strength of that mix expressed in Kg./cm².

4.2.2.1. Where ordinary port-land cement or port-land blast furnace slag cement conforming to accepted standard VI.5 (2) IS 269/1967 specification for ordinary rapid hardening and low heat port-land cement.

IS 455/1967 specifications for port-land and blast furnace slag cement is used. The compressive strength requirements for various grades of concrete shall be as given in Table-1. Where rapid hardening port-land cement is used, the 28 days compressive strength requirements specified in Table-1 shall be met at 7 days where other cement are used, the Engineer-in-charge shall specify the corresponding requirements preferably on the basis of preliminary test.

4.2.2.2. The strength requirements specified in Table-1 shall apply to both controlled concrete and ordinary concrete (see 4.3.1) preliminary tests need not however be made in the case of ordinary concrete.

1. In order to get a relatively quicker idea of the quality of concrete optional works tests on beams for modulus of rupture at 72 + 2 hours or at 7 days or compressive strength tests at 7 days may be carried out in addition to 28 days compressive strength test. In all cases, the 28 days compressive strength specified in Table-1 shall alone be the criteria for acceptance or rejection of the concrete. If however from tests carried out in a particular job over a reasonably long period, it has been established to the satisfaction of the Engineer-in-charge that a suitable ratio between the 28 days compressive strength and the modulus of rupture at 72 + 2 hours or at 7 days or compressive strength at 7 days may be accepted. The Engineer-in-charge may suitably relax the frequency of 28 days compressive strength test specified in Table 5 provided the expected strength values given at the specified early age are consistently met. For this purpose the values given in table 2 may be taken for general guidance in the case of concrete made with ordinary cement.
2. Whether the strength of a concrete mix as indicated by test lies between the strength for any two grades, specified in Table-1, such concrete shall be classified for all purposes as a concrete belonging to the lower of the two grades between which its strength lies.

4.3 PROPORTIONING AND WORKS CONTROL.

4.3.1. METHODS OF PROPORTIONING:

The determination of the proportion of cement aggregate and water to attain the required strength shall be made by one of the following:

a. With preliminary tests by designing the concrete mix. Such concrete shall be called controlled concrete.

b. Without preliminary tests by adopting nominal concrete mixes. Such concrete shall be called ordinary concrete.

4.3.2. CONTROLLED CONCRETE:

4.3.2.1. As far as practicable, controlled concrete should be used on all concrete works. Controlled concrete for use in plain and reinforced concrete structures shall be in grade M 100, M 150, M 200, M 250, M 300, M 350, and M 400.

4.3.2.2. The concrete mix shall be designed to have a average strength corresponding to the values specified for preliminary test in Table-1. The proportions chosen should be such that the concrete is of adequate work ability for the conditions prevailing on the work in question and may be properly compacted with the means available.

The maximum total quantity of aggregate by weight per 50 Kg. of cement shall not exceed 450 Kg. except where otherwise specifically permitted by the Engineer-in-Charge.

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4.3.2.3. Except where it can be shown to the satisfaction of the Engineer-in-charge that supply of properly graded aggregate of uniform quality may be maintained over the period of work, the grading of aggregate should be controlled by obtaining the coarse aggregate in different sizes and blending them in the right proportion when required the different sizes being stocked in separate stock piles. The materials should be stock piled for several hours preferably a day before use. The grading of course and fine aggregate should be checked as frequently as possible, the frequency for a given job being determined by the Engineer-in-charge to ensure that the suppliers are maintaining the grading uniform with that on the samples used in the preliminary tests.

4.3.2.4. In proportioning concrete the quantity of both cement and aggregate should be determined by weight. Where the weight of cement is determined by accepting the manufacturer's weight per bag, a reasonable number of bags should be weighed separately to check the net weight. Where the cement is weighed on the site and not in bags it should be weighed separately from the aggregates. Water should be either measured by volumes in calibrated tanks or weighed. All measuring conditions and their accuracy may be periodically checked.

4.3.2.5. It is most important to maintain the water cement ratio constant at its correct value. To this end, determination of moisture contents in both fine and coarse aggregates should be made as frequency as possible the frequency for given job being determined by the Engineer-in-charge according to weather conditions. The amount of the added water should be adjusted to compensate for any observed variations in the moisture contents. Their determination of moisture content in the aggregate shall be carried out in accordance with good practice (VI-5-9) IS 2386 Part III-1963. To allow for the variation in weight of aggregates due to variation in their moisture content suitable adjustment in the weight of aggregate should also be made.

4.3.2.6. On substitution in materials used on the work or alteration in the established proportions except as permitted in 4.3.2.5 shall be made without additional tests to show that the quality and strength of concrete are satisfactory.

4.3.2.7. Work ability of the concrete should be checked at frequent intervals. To slump test or where facilities, exist the compacting factor test conducted in accordance with good practice [VI-5 (10)] may adopted for this purpose.

4.3.2.8. A competent person should be employed whose first duty will be to supervise all stages in the preparation and placing of the concrete. All works test specimens should be made and site tests carried out under his direct supervision.

4.3.3. ORDINARY CONCRETE:

4.3.3.1. Where, it is considered not practicable to use controlled concrete and ordinary concrete may be used for concrete of grades M 100, M 150, M 200, M 250. The proportions of materials for nominal concrete mixes for ordinary concrete shall be in accordance with Table-3.

4.3.3.2. In proportioning concrete, the quantity of cement should be determined by weight. The quantity of fine and course aggregates may be determined by volume but these should also preferably be determined by weight. In the latter case, the weight should be determined from the volume specified in Table-3 and the weight per liter of dry aggregate. If fine aggregate is moist and volume batching is adopted, allowances to be made for bulking in accordance with good practice [VI-5 (9)].

4.3.3.3. The water cement ratio shall not be more than those specified in Table-3.

The cement content of the mix specified in Table-3 for any nominal mix may be increased if the quantity of water in a mix has to be increased to overcome the difficulties of placement and compaction, so that the water cement ratio specified in Table-3 is not exceeded.

NOTE 1: In the case of vibrated concrete, the limit specified may be suitably reduced to avoid segregation.

NOTE 2: The quantity of water used in the concrete mix for reinforced concrete work should be sufficient, but should not be more that what is sufficient to produce a dense concrete of adequate, work ability for the purpose, which will surround and properly grip, all the reinforcement, work ability of the concrete should be controlled by maintaining a water cement ratio that is found to give a concrete which is just sufficient wet to be placed and compacted without difficulty with the means available.

4.3.3.4. Work ability of the concrete should be controlled direct measurement of water content, making allowance for any surface water in the fine and course aggregates. The slump test may be conducted in accordance with good practice [VI-5(10)].

4.3.3.5. Allowance should be made for surface water present in the aggregate when computing the water content. Surface water shall be determined by field methods in accordance with good practice [VI-5 (9)]*. In the absence of exact date the amount of surface water may be estimated from the values given in Table-4.

4.3.3.6. If ordinary concrete made in accordance with the proportions given for a particular grade does not yield the specified strength due to proper qualities of materials not being available, such concrete shall be classified as belonging to the appropriate lower grade.

Ordinary concrete proportioned for a grade given in accordance with Table-3 shall not however, be placed in a higher grade on the ground that the test strengths are higher than the minimum specified. No interpolation shall be permissible.

4.4. SAMPLE SIZE OF ACCEPTANCE CRITERIA.

4.4.1. All tests shall be carried out in accordance with good practice [VI-5 (4)]. +

4.4.2. The number of test specimens required, the frequency of the sampling and the criteria for acceptance of a concrete as conforming to the specified grade shall be in accordance with Table-5 for both ordinary concrete and controlled concrete. No preliminary tests are however necessary in the case of ordinary concrete.

IS 199-1959 methods of sampling and analysis of concrete?

* IS 2386 (Part III) 1963 specific gravity, density, and voids absorption and bulking methods of tests for aggregate of concrete? Specified density, gravity, voids absorption, and bulking.

- IS 516-1959 methods of tests for strength of concrete.

TABLE - 1. STRENGTH REQUIREMENTS OF CONCRETE

(CLAUSE 4.2.2.1 and 4.2.2.2) (All Values in kg/cm²)

Compressive strength of 15 cm cubes at 28 days after mixing conducted in accordance with good practice [VI 5(4)]~.

Grade of Concrete	Preliminary tests Minimum	Works test Minimum
M 100	135	100
M 150	200	150
M 200	250	200
M 250	320	250
M 300	380	300
M 350	440	350
M 400	500	400

NOTE 1: PRELIMINARY TEST:

A test conducted in a laboratory on the mix* of the concrete produced in the laboratory with the object of

1. Designing a concrete mix, before the actual concreting operation starts.
2. Determining the adjustments required in the designed mix when there is a change in the mater also used during the execution of work, or
3. Verifying the strength of concrete mix.

NOTE 2: WORK TEST:

A test conducted either in the field or in laboratory on the specimens made out of the concrete being used on the works.

NOTE 3: SIZE OF CUBES:

In the working test, with the approval of the Engineer-in-charge, 10 cm cubes may be used in place of 15 cm cubes provided the maximum nominal size of aggregate does not exceed 20 mm. Even the use of 15 cm cubes should normally be restricted to concrete having a maximum nominal size of aggregate not exceeding 40 mm. Where concrete with aggregates larger than 40 mm size is required to be tested, the size of cubes should be specified by the Engineer-in-charge, keeping in view that generally the

length of size of the cube should be about four times the maximum nominal size of aggregate in the concrete constituting the cubes specimen.

NOTE 4: STRENGTH IN RELATION TO SIZE OF THE CUBE:

Where 10 cm cubes are used, the values obtained from tests on 10 cm cubes shall be reduced to the extent established by comparative preliminary tests with 10 and 15 cm cubes, or in the absence of such comparative tests, by 10 % of the value determined from the tests, in order to give the equivalent strength for 15 cm cubes, when cubes larger than 15 cm are adopted, generally no modification is necessary unless otherwise specified by the Engineer-in-charge.

~IS 516-1959 methods of test for strength of concrete?

NOTE 5: Cylinder strength-compressive strength test may, with the approval of the Engineer-in-charge, be conducted on 15 cm diameter and 30 cm high cylinders in accordance with good practice [VI-5 (4)*] instead of one cube, where cylinder strength figures adopted the compressive strength figures given above shall be modified according to the formula. Minimum cylinder compressive strength requires, 0.8, compressive strength specified for 15 cm cubes.

*THE CENTRAL BOARD RESEARCH INSTITUTE, New Delhi has carried out tests with a view to establishing a relation between water cement ratio and the compressive strength of concrete using ordinary port-land cements manufactured in the country confirming to accepted standards [VI-5 (2)].**

As a result of these, it has been considered advisable to give graphs showing the relationship between the compressive strength of concrete mixes with different water cement ratios and the 7 days compressive strength of cement tested in accordance with good practices [VI-5 (2)]**. These graphs have been given in Appendix-A as they would be some assistance in obtaining the water cement ratio for trail mixes of concrete.

TABLE - 2: OPTIONAL WORKS TEST REQUIREMENTS OF CONCRETE

CLAUSE 4.2.2.2.(a) (All Values in kg/cm².)

All tests shall be conducted in accordance with good practice [VI-5(4)*].

Grade of Concrete	Compressive strength of 15 cm cubes minimum at 7 days	Modulus of rupture by Beams Test	
		At 72+2 hours	At 7 hours
M 100	70	12	17
M 150	100	15	21
M 200	135	17	24
M 250	170	19	27
M 300	200	21	30
M 350	235	23	32
M 400	270	25	34

NOTE:

Notes 3 to 5 under Table -1 are also applicable to this Table.

* IS 516-1959 Methods of test for strength of concrete.

- IS 269-1967 Specification for ordinary, rapid, hardening, and low heat port-land cement.

TABLE - 3.CONCRETE MIX PROPORTIONS

(CLAUSE 4.3.3.) ORDINARY CONCRETE

Grade of Concrete	Total quantity of dry aggregates by volume per 50 Kg. of cement to be taken as the sum of the individual volumes of fine and coarse aggregates Max	Proportion of fine aggregate to coarse aggregate	Quantity of water per 50 kg of cement
M 100	300 liters	Generally 1:2 for fine aggregate by volume but	34 litres
M 150	220 liters		32 litres

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M 200	160 liters	subject to an upper limit of 1: 1½ and a lower limit of 1:3 *	30 litres
M 250	100 liters		27 litres

NOTE: It may be noted for general guidance that M 100, M 150, M 200 and M 250 of ordinary concrete correspond approximately to 1:3:6, 1:2:4, 1:1½:3 and 1:1:2 nominal mixes of ordinary concrete currently used in the country.

* The proportions of the aggregate should be adjusted from upper limit to lower limit progressively as the grading of fine aggregate becomes finer and the maximum size of coarse aggregate becomes larger. Example, for an average grading of fine aggregate that is, Zone II in accordance with good practice [VI-5 (1)] # the proportion shall be 1:1½, 1:2 and 1:3 for maximum size of aggregate 10 mm, 20 mm and 40 mm respectively.

TABLE - 4. SURFACE WATER CARRIED BY AVERAGE AGGREGATEs

Aggregate	Approximate quantity of surface water lit/m³
Very wet sand	120
Modulate wet sand	80
Moist sand	40
*Moist gravel or crushed work	20 to 40

*Coarser the aggregate, less the water it will carry.

IS 383-1963 Specification for coarse and fine aggregates for natural sources for concrete.

IS 516-1959 Specification for natural and manufactured aggregates for use in mass concrete

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ACCEPTANCE CRITERIA FOR CONCRETE (ALL GRADES)

PRELIMINARY TEST				WORKS TEST						
Minimum No. of specimen from each batch [cubes]		Minimum frequency	Criteria for acceptance	Maximum No. of specimen taken from the same days work				Minimum frequency		Criteria for acceptance
7 days compressive strength test as an optional test if desired	28 days compressive strength test			7 days compressive strength test as an optional test if desired	28 days compressive strength test	72+2 hrs. test as an optional test if desired	7 days test as an optional test if desired	In terms of the quantity of concrete	In terms of period	
5	5	For each batch with a minimum of three batches	Accept if average compressive strength of the specimens tested is not less than the compressive strength specified in Table 1 [for optional test see Table 2] subject to the conditions that only one out of five consecutive tests may give a value less than specified strength	3	3	3	3	For every 150 m of concrete or part thereof	At such intervals as the Engineer-in-charge may decide. However, in the case of controlled concrete, samples shall be drawn on each day for the first 4 days of concreting and there after at least once in 7 days of concreting	Accept if average strength of the specimens tested is not less than the strength specified in Table 1[for optional tests see table 2] subject to the conditions that only one out of three consecutive tests may give a value less than specified strength but this shall not be less than 90 % of specified strength

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PRELIMINARY TEST				WORKS TEST						
Minimum No. of specimen from each batch [cubes]				Maximum No. of specimen taken from the same days work				Minimum frequency		
7 days compressive strength test as an optional test if desired	28 days compressive strength test	Minimum frequency	Criteria for acceptance	7 days compressive strength test as an optional test if desired	28 days compressive strength test	72+2 hrs. test as an optional test if desired	7 days test as an optional test if desired	In terms of the quantity of concrete	In terms of period	Criteria for acceptance
	10	For each batch with a minimum of three batches	Accept if average compressive strength of the specimens tested is not less than the compressive strength specified in Table 1 subject to the condition that the average compressive strength shall be more than the specified compressive strength in Table 1 by at least the value of standard deviation* of the series of test	5	5	5	5	For every 150 m of concrete or part thereof	At such intervals as the Engineer-in-charge may decide. However, in the case of controlled concrete, samples shall be drawn on each day for the first 4 days of concreting and there after at least once in 7 days of concreting	Accept if average strength of the specimens tested is not less than the strength specified in Table 1 [for optional tests see Table 2] subject to the condition that one out of five consecutive tests may give a value less than specified strength

* Standard deviation: Where d = Individual deviation from the average and
n = Number of specimens tested.

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FOR TENDERER'S SPECIAL ATTENTION

1. Clean river sand shall be used in all cases.
2. Only clean fresh water shall be used on the work. The tenderer shall make their own arrangements for water and shall meet all charges therefore. The special attention of the tenderer is drawn to clause 39 of preliminary specification of the TNDSS regarding water and lighting.
3. The broken stone for concrete and RCC works should be of granite and passed by the Department Engineer / Officer.
4. All iron work or steel work of every kind such as to be embedded in concrete shall immediately on arrival at the site be properly scrapped and wire brushed and given priming coat of approved lead painting without claim for extra.
5. The iron hold fasts shall be built up in walls in cement mortar 1:3 at the time of construction of walls. No extra claim shall be due for the same wherever hold fasts are to be provided to 9" thick walls. Those should be fixed with cement concrete 1:3:6 using 20 mm gauge broken granite stone jelly for proper anchorage and proper binding. No separate rate for such pockets of concrete filling at hold fast points will be allowed and this will be measured as masonry along with adjacent masonry.
6. The teak wood shall be best Indian teak wood only and shall be subject to inspection and approval by the Department Engineer / Officer before use on the work. Country wood where specified shall be Karimarudu or Congo for scantling and Aiyini for planks.
7. Holes for electric wiring, water supply and drainage etc., shall be provided as directed during progress of work without any claim for extra.
8. The work will be carried with the least hindrance to the adjoining building and the tenderer will be responsible for any damages, caused to the existing fixtures, electric fittings, etc. in the course of execution and the tenderer shall make good any damages without any claim for extra.
9. In the case of Rs. T' beams and Rs. L' beams, the quantity shown in the schedule is the quantity of rib portion only. The top flange portion will be always measured with the general slab portion and paid for at the slab rate only. For all RCC works the rate shall include the treatment of bearing as per plate No. 2 of 1946 as per TNDSS (Page 3 of 1964 Edition).
10. CONCRETE WORK: All exposed concrete surfaces will be required to be finished by cement plaster as detailed in schedule ‘A'.
11. PLASTERING: All external corners, edges of beams, edges of doors and window openings etc., shall be finished sharp using richer mortar and also finished truly vertical or horizontal as the case may be. The rate for plastering shall include the cost of finishing as above and no separate extra for the corners, edges, and beams etc., shall be paid.
12. If rates are not separately called for, for similar items of works in different floors, the tenderer should note that one rate is applicable for all floors indicated in the detailed plans. Any claims for extra for such items floor will not be entertained under any circumstances.
13. The Joint Managing Director reserves the right, to split up the work and entrust the main work, internal water supply and sanitary arrangements to different tenderers without assigning any reason therefore.
14. The projection if any to the masonry will be measured under the relevant items and no extra will be paid for finishing the same.
15. a). The work in the Department executed by the tenderer, under the contract shall be maintained by the tenderers until the work is taken over by the Department Engineer. The tenderer shall accordingly arrange his own insurance against fire, flood, volcanic eruption, earthquake, other convention of nature and all other natural calamities risks arising out of acts of God during such period and that the Department shall not be liable for any loss or damage occasioned by or arising out of any such acts of God.

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b). Provided however that the tenderer shall not be liable for all or any loss or damages occasioned by or arising out of acts of foreign enemies, invasion hostilities or war like operations (before or after declaration of war) rebellion, Ministry or usurped power.

REVENUE RECOVERY ACT

c). Whenever any amount has to be paid by the tenderer in view of termination of the contract by virtue of clause 87 (4) any amount that may be due or may become due from the tenderer under their presents and the tenderer is not responding to the demands for the payment of said amount, then the Department shall be entitled to recover the said amount under the provision of the Revenue Recovery Act.

RISK INSURANCE

d). The work executed by the tenderer or under these contract shall be maintained by the tenderer's risk until the work is taken over the Department Engineer. The Department should not be liable to pay for any loss or damages occasioned by (or) arising out of fire, flood, volcanic, eruption, earth-slake other conclusion of nature and all other natural calamities risks arising out of acts of God during such period and that the option whether to take insurance coverage (or) not to care such risks is lift to the tenderer.

The tenderer shall not be liable for all or any loss of damages occasioned by or out of acts of foreign enemies' invasions, hostilities or war like operation (before or after declaration of war) rebellion, military or usurped power.

ADDITIONAL SPECIFICATIONS

1. The arrangements of M.S. & RTS rods for all RCC works shall be in accordance with the working drawing supplied.
2. i). The planks for forms and centering for RCC works shall be of well seasoned timber approved by the Department Engineer according to clause 10 of TNDSS No. 30. They must be made smooth and perfectly level at top so as to give smooth and even finish to the RCC ceilings. Alternatively, the tenderer may use steel sheets over wooden forms provided the required finish to the outside of the slab is obtained. Mango planks shall not be used under any circumstances. Centering and form work shall be provided to the extent and area ordered by the Department Engineer during execution.

   ii). Payments for centering works for all RCC items shall be made only after the concrete is laid, even though separate items for centering works are included in the schedule. The centering and form shall be provided to the extent and area ordered by the Department Engineer during execution.

   iii). All cement concrete for RC works shall be machine mixed and vibrated.

   iv). All lime mortar shall be ground in mortar well as per TNDSS.

ADDITIONAL CONDITION

SPECIFICATION FOR SANITARY, DRAINAGE AND WATER SUPPLY ARRANGEMENTS

1. Water closets, basins, urinals, sinks and other sanitary-ware shall be approved make as required in the relevant items. The fixing of these shall be in accordance with the specification attached.
2. The rates shall include all dismantling, making holes in walls or slabs, and restoring the structure to the original conditions after the completion of the work.
3. The work should be carried out with least hindrance to the adjoining buildings and the tenderer shall be responsible for any damage caused to the existing fixtures, electrical fittings etc. in the course of execution and the tenderer shall make good any such damage without claim for extra.
4. The rate for laying stoneware pipes shall include necessary earthwork excavation for trenches (irrespective of nature of soil and depth) and all incidental charges such as shoring, strutting and balling out water, refilling trenches after the completion of work

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and consolidating, removing the surplus earth to places shown within the compound and making good the damages to roads and other structure.

5. The rate for laying GI Pipes and CI Pipes (or PVC Pipes) shall include earthwork for trenching and refilling them and fixing with wooden plugs, GI /CI clamps and brass screws where the pipes are fixed to walls. The rates for the pipes shall also include wrapping them with tarred tape where they are buried in earth tarring the portions embedded in masonry and painting with white lead two coats for portions above ground level.
6. The clamps for GI Pipes, fittings should not be spaced more than 150 mm apart. The wooden plugs for pipe and bracket fittings should be properly fixed in CM 1:3 in holes made in masonry with the wide and wedge shaped plugs inside and not hammered with them and into walls. The size of plugs should not be less than 1 square inch at one end and 1½ square inch at other end with a depth not less than 9 inch.
7. Paint with two coats of best white glazed paint or any other colour approved by the Department Engineer over a priming coat of red lead to all flushing tanks, brackets, clamps used for fixing pipes and all lead connections.
8. The tenderer should employ sufficient number of qualified licensed plumber with necessary experience and skill in the trade to the satisfaction of the Department Engineer concerned for execution of water supply and sanitary fittings of work.
9. The Indian Type Water Closet shall be with Rs. P' or Rs. S' trap and glazed earthenware footrests it shall be fixed in position of floor level in a bed concrete brick jelly in lime mortar 1:2 so as to completely embed the closet, trap and footrests. The existing masonry structure after dismantling the floor making the holes etc. shall be restored to its original conditions after completing the work. The flooring round the closet shall be finished off in cement mortar with adequate slope all round for drainage into as per the sanitary Engineer's type design. The footrests should be fixed at an angle as per standards.
10. The PVC flushing tanks shall be of three gallons capacity of Indian make (confirming to ISI specification) supported on CI brackets with necessary GI chain and handle for pull float bell valve ½" PVC connections to the water main and closet including prior to the white glazed paint two coats over a priming coat of red lead.
11. The fixing of water closet shall include the dismantling of existing floor wherever indicated making holes in masonry walls etc. and restoring structure to original condition after completion of the work. The flushing tank and accessories will be fixed to the walls with necessary clamps and brackets in cement mortar 1:4.

ADDITIONAL CONDITION FOR TENDERER'S SPECIFIC CONDITION

If at any time the Department Engineer shall be of the opinion that the tenderer is delaying commencement of the work or violating any of the progress of work is defined by the tabular statement rate of progress in the article of agreement the Department Engineers shall also advise the tenderer in writing and at the same time demand compiled. If the tenderer neglects to comply with such demand within 7 days after the receipt of the notice it shall those or at any time thereafter be lawful for the Joint Joint Managing Director to determine the contract. Which determination shall carry with the forfeiture of the security deposit and total sum of the amount withheld from the final bill together with value of such work as may have been executed and not paid for such proportion of such total sums as shall be assessed by the Department Engineer.

The water for the works shall be as far as practicable free from earth vegetable or organic matter and from salts or other substance likely to interfere with the setting of mortar or otherwise prove harmful to the work.

All terms of works shall be done in accordance with relevant classes of TNDSS and addenda volume to the TNDSS or addenda from time to time.

The tenderer shall be responsible for the safe custody of all the departmental materials once they are handed over to the tenderer at the departmental stores. The cost of any materials in the custody of the tenderer stolen, destroyed or damaged or if rendered unfit for the work will be recovered from the tenderer at the issue rate.

For testing the concrete and aggregate the tenderer must procure the following equipment and make them available at site.

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a) Steel mould for 45 cm cubes of concrete (the mould will be in two halves for easy removal)

b) Slump cone for testing consistency (slump test) the cone will be 30 cm height truss castled cone with top and bottom diameters of 20 cm and 30 cm respectively. In addition a steel rod 25 cm dia and 50 cm in length and with tamping and rounded is to be procured.

c) For finishing fineness moulds, and coarse aggregate expand operated over apparatus may be procured along with weighing machine for weighing the aggregate and sand.

d) In the case of any breach of the terms of the contract the contract will be closed at the risk of cost of the tenderer in addition to the forfeiture of the EMD and security deposit.

e) The testing is to be done at the tenderer's cost for all building materials and also for concrete cubes.

f) The work shall be executed and measured as per metric dimension given in the schedule of quantities, drawings etc. (F.P. Units where indicated are for guidance only).

g) Unless otherwise specified all the rates quoted by the tenderers shall be for works at all levels of the buildings.

h) Rates for every item of works to be done under this contract shall be for all lifts and leads, heights, depths, lengths and widths except when specifically mentioned in the item, otherwise nothing extra will be paid on this account.

i) The rate for all item in which use of cement is involved is inclusive of charges for curing.

ADDITIONAL CONDITIONS

WATER SUPPLY FOR CONSTRUCTION AND OTHER USE

Unless otherwise specified the tenderer shall make their own arrangement for water for the work and nothing extra shall be paid for the same.

The water used by the tenderer shall be fit for drinking as well as construction purposes to the satisfaction of the Department Engineer.

The tenderer may be allowed to construct temporary tube well / open well in the project site for getting water after he has got written consent of the Department Engineer. The tenderer shall be required to provide necessary arrangements to avoid any accident or damage to the buildings, roads and service lines adjacent to the tube well / open well sunk. The tenderer shall dismantle the tube well / open well after completion of work and restore the ground to its original condition at their cost.

In case the Department supplies water, it shall be on the following conditions:

1. Water charges at 0.50 % shall be recovered from the total value of contract from each interim bill.
2. The water shall be provided at one point in the site at the discretion of the Engineer. The tenderer shall make their arrangement for water connection and distribution pipelines in the construction area.
3. The Department shall not guarantee the maintenance of uninterrupted water supply. It will be the responsibility of the tenderer to make alternative arrangements for water supply at their own cost in the event of any breakdown so that the progress of work is not affected for want of water. No claim or damage or refund of water charges shall be entertained on account of such breakdown.

POWER (ELECTRICITY) SUPPLY

Unless otherwise specified the tenderer shall have to make his own arrangements for the power supply at his own cost. All the works shall be done as per IEA rules. The temporary lines shall be removed by the tenderer at his cost after the completion of the work or if there is any hindrance, to the other works due to the alignment of these lines, during the contract period.

In case the Department provides the power supply, it shall be on the following conditions:

1. The supply shall be made at one point in the site at the discretion of the Engineer. The tenderer shall make their own arrangement to carry and distribute the power wherever it is required within the site as per IEA rules.

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2. An Energy Meter shall be installed at the site by the tenderer for recording the power consumed by the tenderer and the same shall be recovered at the prevailing rate of supply of Electricity by the local electricity board or other local authorities as the case may be.
3. If at any time during the period of contract the Energy meter is found to be faulty the electricity charges shall be recovered from the interim bills of the tenderer at 0.50 % of the value of work done during that particular period.
4. Power required for commissioning and trial runs of the plant shall be supplied free of cost.
5. The temporary supply lines shall be removed and the tenderer shall clear the site after the completion of the work at their own cost.

SCHEDULE 'A'

SCHEDULE OF RATES AND APPROXIMATE QUANTITIES

The quantities given here and those upon which the lump-sum tender most of the work is based but they are subject to alteration, omissions, deductions and additions as provided for in the condition of their contract and do not necessary to show the actual quantities of work to be done. The unit rates noted below is this governing payment for extras or deductions or omissions according to the conditions of contract as set for in the preliminary specifications of the Tamil Nadu Detailed Standard Specification and other condition of specification of the contract.

It is to be expressly understood that the measured works is to be taken net (not standing any custom or practice to the tenderer) according to the drawing or as may be ordered from time to time by the Department Engineer and the cost calculated by measurement or weight.

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TENDER SCHEDULE

NAME OF THE WORK: Renovation of Madapalli, office room and shed in Arulmigu Theertha paleeswarar Temple at Dr Natesan Road Triplicane Chennai-05.

SI.No	Qty	DESCRIPTION OF THE WORK	RATE	UNIT	AMOUNT
1	1.00	Brick work in following Cement Mortar using best quality of Second Class Ground Moulded Chamber Burnt Bricks 9" x 4-1/2" x 3" for foundation and basement including curing, etc., complete complying with standard specification.		m3	
2	10.00	Brick partition walls of 11.50cm thickness using best quality II Class Ground Moulded Chamber Burnt Bricks of size 9" x 4-1/2" x 3" in Cement Mortar 1:3 (One Cement and Three Sand) using hoop iron reinforcement if found necessary including curing etc. complete and as directed by the departmental officers. (Hoop iron reinforcement will be measured and paid for separately)		m2	
3	40.00	Plastering with Cement Mortar 1:5 (One cement and Five sand), 12mm thick in all floors including curing etc. complete complying with standard specification and as directed by the departmental officers.		m2	

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4	250.00	Supply and painting with 2 coats of interior/exterior emulsion paint over one coat of primer including scaffolding, neatly finishing etc.., complete as directed by the officers and as per standard specification		m2	
5	500.00	Fabrication, supply and eaction of steel structures as per the specification, dimensions and design requirement including all labour charges and other charges etc.. Complete (including primary and secondary framing, foundation bolts, stiffeners plate cleat plate, fasteners, cold formed purlin members, MS angle, rectangular Hollow section, sag roads bracing road, end plate base plate, connection plate etc using welding.		Kg	
6	75.00	Paving the floor with (Required shape and design) of 20mm thick GRANITE of approved quality and colour laid in Cement Mortar 1:3 (One Cement and Three sand) 20mm thick and pointed with white cement mixed with colouring pigment at the rate of 0.40 Kg. / sq.m., curing, etc., complete complying with standard specification and as directed by the departmental officers. (The make and brand of the tiles should be got approved by Executive Engineer before use on works)		M2	

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7	50.00	Painting iron with two finishing coats of synthetic enamal ready mixed paint of approved quality and colour over one priming coat in all floors including cost of priming coat etc., complete complying with standard specification. (The make, quality and colour of paint should be got approved by the Executive Engineer before use on works.)		m2	
8	46.00	supply and fixing in position with powder coated MS roofing sheet 0.47 mm including the coat of material and labour coat,screws., complete as directed by the departmental officers and as per standard specification		m2	
9	25.00	Supplying and laying and jointing UPVC Pipes (10 Kg/sq cm) of approved quality and best variety conforming to BIS standard of the following dia including the cost of cutting bending and fixing UPVC specials using of adhesive etc.., and fixing into the wall with teak wood plugs clamps and screws and drilling the wall and roof and making the dismantled portion to look like the same again with necessary brick work white cement etc., complete as directed by the departmental officers and as per standard specifications.(25mm dia pipe)		RM	
10	6.00	Supply and fixing in positioning 15mm dia brass long body tap/angle cock/ pillar cock (heavy duty) of approved parry ware make confirming to BIS specifications including the coat of shellack thread est.., complete as directed as by the union officers and as per standard specifications.		nos	

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11	10.00	Supply and fixing of PVC pipe 110mm dia 6kg/sq cm including the cost of PVC specials accessories and labour etc., complete as directed by the departmental officers and as per standard specifications.		Rm	
12	20.00	Paving the floor with fine polished cuddapah slab of 38/40 mm thick laid in cement Mortar 1:3 (One cement and Three sand)20mm thick and pointed with white cement mixed with block axide at the rate of 0.40 Kg. / sq.m curing,esc., complete complying with standard specification and as directed by the departmental officers.		m2	
13	1.00	Dismantling AC sheet roof and madapalli inner wall including the cost of labour and clearing away the debris from the site etc., complete as directed by the departmental officers and as per standard specifications.		lot	
		SUB TOTAL			
		G.S.T 12%			
		TOTAL			

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