TENDER DOCUMENT: PART – I (TECHNICAL BID)

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE & INDUSTRY
The Patent Office at Bouddhik Sampada Bhawan, CP – 2, Sector – V, Salt Lake,
Kolkata - 700091

CONSTRUCTION AND RENOVATION WORKS
FOR
THE LIBRARY ROOM AT GROUND FLOOR OF THE PATENT OFFICE
AT
BOUDDHIK SAMPADA BHAVAN, CP-2, SECTOR – V,
SALT LAKE CITY, KOLKATA - 700091

Name & Address of Tenderer :

______________________________

______________________________

______________________________
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Part – I (Technical Bid)

Ministry of Commerce & Industry Government of India
The Patent Office at Bouddhik Sampada Bhawan, CP – 2,
Sector – V, Saltlake, Kolkata - 700091

NOTICE INVITING TENDER

The Controller General of Patents, Designs and Trademarks (CGPDTM), invites online bid in 2 parts i.e. Part – I (Technical Bid) & Part – II (Financial Bid) from reputed Construction Companies for the following work to be carried out based on design and drawings supplied by CGPDTM.

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<th>Sl. No.</th>
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<td>POK/Civil Works-1/2017</td>
<td>Construction &amp; Renovation works for the Library Room at ground floor of the Patent Office at Bouddhik Sampada Bhawan, CP-2, Sector–V, Kolkata–700091</td>
<td>Not Exceeding 10 (Ten) Lakh</td>
<td>Rs. 20.00 Lakhs</td>
<td>Two similar works of value not less than 60% of estimated cost OR one similar work of value not less than 80% of estimated cost.</td>
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For the purpose of the above criteria, similar works of comprehensive Buildings / Commercial Complexes, etc. and sanitary, plumbing, electrical & allied works carried out by bidder in Government / Semi-Governments / Undertakings / Autonomous / Statutory Bodies / Local Bodies, reputed Corporate Firm shall be considered for Technical & Financial Bids.

Following minimum documents should accompany along with the online bid offer for qualifying the eligibility criteria:

1. Basic information about the organizations set-up, year of establishment, names of Directors/Partners /Proprietor, designation, address, contact nos. etc.

2. Proof of experience justifying the qualifying criteria (i.e. Completion Certificate) and complete credential document duly attested.
(3) Copies of valid Trade Licence from Local Statutory Authority, GST Registration No., Copy of PAN / TAN card, Copy of registration with other organization, Details of litigations, if any.

(4) IT Returns for last three years ending March 31, 2016.

(5) List of competent personnel employed with the organization.

(6) List of plants & equipment's available for work.

(7) The tender documents issued to the bidders duly signed and sealed in each page along with all the above documents, Earnest Money deposit shall be put in a sealed envelope super scribing – Tender Notice no. and Technical Bid (Part – I).

Financial Bid (Part – II) Tender of the bidders found eligible in Part – I (Technical Bid) only will be opened.

(8) Tender document can be downloaded from below mentioned websites and / or hard copy can be obtained from the Administrative Officer, Patent Office, Kolkata situated at the address given above.

(9) http://www.ipindia.nic.in
http://www.tenders.gov.in

(10) CONTACT PERSON:
Sri T. P. Soren, Administrative Officer, Tel: 033 2367 1353

(11) An amount of Rs. 16,000.00 (Rupees Sixteen Thousand only ) in the form of Pay Order / Demand Draft drawn in favour of “The Controller of Patents” payable at Kolkata placed in envelope super scribing ‘EARNEST MONEY’ should accompany Technical Bid.

Interested parties should submit their complete details within the stipulated time and date as mentioned in para 0.8. of Section – I electronically on the CPP Portal, using valid Digital Signature Certificates. The applicant should apply for the work as noted in the table, indicating name of the work, etc. CGPDTM reserves the right to accept or reject any or all bids received, or terminate the entire process at any stage without assigning any reason whatsoever & without paying any compensation.

The Controller General of Patents, Designs and Trademarks
SECTION - I

NOTICE OF INVITATION OF TENDER

Online bid in two parts on price bid basis are invited from bonafide, reputed and eligible Contractors for Construction and Renovation works for the Library Room of the Patent Office at Bouddhk Sampada Bhavan, CP-2, Sector – V, Salt Lake, Kolkata – 700091.

The Controller General of Patents, Designs and Trademarks
Bouddhk Sampada Bhawan,
CP- 2, Sector – V
Kolkata – 700 091

0.1 Name of Work : Construction and Renovation works for the Library Room of the Patent Office at Bouddhk Sampada Bhavan, CP-2, Sector – V, Salt Lake, Kolkata - 700091

0.2. Estimated Cost : Not Exceeding 10 (Ten) Lakh

0.3. Time of Completion : 45 (Forty five) days. The date of commencement shall be reckoned after 07 (Seventh) day from the date of Work Order issued to the successful tenderer.

0.4. Earnest Money : Rs. 16,000/- (Rupees Sixteen Thousand only) by Demand Bank Draft / Pay Order drawn in favour of “The Controller of Patents” payable at Kolkata.

0.5. Cost of Tender : NIL (Copy can be collected from office during 11hrs - 16hrs) (Soft copy can also be downloaded from GOI CPPP portal, www.ipindia.nic.in)

0.6. Availability of Tender : Tender document is available from following websites:-
http://www.ipindia.nic.in
http://www.tenders.gov.in

Alternatively document is available from 13/12/2017 to 26/12/2017 on all working days (Except Saturday / Holidays) from 11 hours to 16 hours at the Office of The Controller General of Patents, Designs and Trademarks, Bouddhk Sampada Bhawan, CP-2, Sector – V, Kolkata- 700091.

0.7. Tender to be addressed to : The Controller General of Patents, Design and Trademarks Bouddhk Sampada Bhawan, CP – 2, Sector – V, Saltlake Kolkata - 700091

Contd.
0.8. Date and Place of Submission of Tender: Upto 3.00 P.M. on 27/12/2017 on the CPP Portal, using valid Digital Signature Certificates. More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app.

0.9. Opening of Part-I (Technical Bid): 28/12/2017 at 3.00 P.M. at the Office of the Controller of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP – 2, Sector – V, Kolkata – 700091

0.10. Opening of Part-II (Financial Bid): 29/12/2017 at 3.00 P.M. at the Office of the Controller of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP – 2, Sector – V, Kolkata – 700091. The Financial Bid (Part – II) Tender of the Bidder found eligible in Part – I (Technical Bid) only will be opened

0.11. Validity of tenders: 45 (Forty five) Days from the date of opening of tender.

0.12 Inspection of site: Anytime before the date of submission of tender, the site can be Inspected with due written permission during office hours.

0.13. Liquidated damages: If Contractor fails to complete the job within the stipulated time, for delay the authority will be entitled to charge liquidated damage@ 1% of the accepted contract sum per week subject to ceiling of 10% of the accepted contract.

0.14. Retention Money: 10% of the Value of the Work including EMD

0.15. Release of Retention expiry Money: 50% after virtual completion of work and balance 50% of Defects liability period of Twelve months.

0.16. Labour Cess: 1 % (One percent) of the Gross Bill value to be deducted as per statutes.

0.17. Mode of submission: The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app.

0.18. Clarification, if any: Interested Bidder may request for query regarding any technical matter to the Patent Office and upon receipt of such request, approved Consultant / Architect of Patent Office shall attend the same.

0.19. Taxes: GST or any other Tax on materials or on finished works like Work Contract Tax, Turnover Tax as applicable in respect of this contract shall be borne by the Contractor only and Authority will not entertain any such claim in this
respect. TDS for Income Tax, Work Contract Tax and 1% Labour Cess shall be deducted as applicable from all bills / payments to be made in connection with this work.

0.20. The competent authority does not bind himself / herself to accept the lowest or any other tender, and reserves to himself / herself the authority to reject any or all of the tenders received without the assignment of a reason. Tenders in which any of the prescribed conditions found missing are liable to be rejected.

0.21. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

0.22. This Notice Inviting Tender shall form a part of the contract document. The successful Tenderer / Contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work sign the contract consisting of :-

The notice inviting tender, all the documents including additional conditions, specifications and drawings, if any, is forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.

0.23. The Authority does not bind itself to accept the lowest tender and reserves to itself the right to reject any or all the tenders received without assigning any reasons thereof. The notification of award of contract will be made to the successful tenderer in writing by the Controller General of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700 091

0.24 Tender to be submitted online by the Tenderer within the date and Time as mentioned in para 0.8. of Section – I. More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app. Intending tenderers are advised to visit regularly CPP Portal https://eprocure.gov.in/eprocure/app regularly till closing date and time of submission of tender for any corrigendum / addendum/ amendment.

0.25. The competent authority reserves the right to open and check the bid. The authority also reserves the right of accepting the whole or any part of the tender and the renderer shall be bound to perform the same at the rate quoted.

The Controller General of Patents, Designs and Trademarks
Bouddhik Sampada Bhawan, CP-2, Sector – V,
Kolkata - 700091
SECTION-II
GENERAL RULES AND INSTRUCTION
FOR THE GUIDANCE OF TENDERER

Tenders in two parts i.e. Part – I (Technical Bid) & Part – II (Financial Bid) are hereby invited
by the Controller General of Patents, Designs and Trademarks, Bouddhik Sampada
Bhawan, CP-2, Sector – V, Kolkata – 700091 for Construction & Renovation works for the
Library Room of the Patent Office at Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata
- 700091

1. Tender Document consisting of the following :
   i) Notice of Invitation of Tender  
   ii) General rules and instructions for the Guidance of Tenderers.  
   iii) Form of tender  
   iv) Articles of Agreement  
   v) General Conditions of Contract with Appendices  
   vi) Safety Code  
   vii) Technical Specifications  
   viii) Schedule of Quantities  
   ix) Drawings issued

2. All works proposed for execution by contract will be based on notice upon bonafide
resourceful experienced agencies enlisted (Class – II) with CPWD, Govt. of West
Bengal / Government of West Bengal Undertakings / other State or Central
Government Agencies or outside bonafide agencies having experience in similar type
of works.

3. The site of the work is available.

4. Tenders are to be submitted in soft copies of their bids electronically on the CPP
Portal, using valid Digital Signature Certificates.

5. Bidder should take into account any corrigendum published on the tender document
before submitting their bids.

6. Part – I (Technical Bid) will be opened as mentioned in para 0.9. of Section – I. After
verification of the documents submitted in Part – I, the successful Bidders will be
shortlisted. The Financial Bid of the Bidders found successful in Part – I will only be
opened subsequently as mentioned in para 0.10. of Section – I.

7. When there is a difference between the rates in figure and in words, the rate which
corresponds to the amount worked out by the Contractor, shall be taken as correct.
When the amount of any item is not worked out by the Contractor or it does not correspond with the rate written either in figures or in words, then the rate quoted by the Contractors in words shall be taken as correct.

8. The Contractor, whose tender is accepted will be required to furnish by way of security deposit for the due fulfillment of his contract, such sum as detailed in Clause No. 06 of the General Conditions of Contract.

9. The acceptance of a tender will rest with the Controller General of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091, who does not bind itself to accept the lowest tender and reserves to itself the authority to reject any or all the tenders received without assignment of any reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

The Employer reserves the right to accept the tender in full or in part and the tenderer shall have no claim for revision of rates or other conditions if his tender is accepted in parts.

10. Canvassing in connection with tenders is strictly prohibited and tenders submitted by the Contractors who resort to canvassing will be liable to rejection.

11. On acceptance of the tender, the name of the accredited representative(s) of the Contractor who would be responsible for taking instructions from the Employer / Architect shall be communicated to the Employer / Architect.

12. GST, Work Contract Tax or any other tax on materials or on finished work in respect of this contract whether in vogue or likely to be imposed in future shall be payable by the Contractor and the Employer will not entertain any claim whatsoever in this respect at any time. Rates should be firm and include all these taxes.
SECTION-III

FORM OF TENDER

Date :……./…../2017

To
The Controller General of Patents, Designs and Trademarks
Bouddhik Sampada Bhawan, CP-2, Sector – V,
Kolkata – 700091

Respected Sir (s),

Re : Construction, Maintenance & Renovation works for the Library Room of the Patent Office at Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata - 700091

1. I/We refer to the tender notice issued by The Controller General of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091 on your behalf in connection with the above work.

2. I/We do hereby offer to perform, provide, execute, complete and maintain the work in conformity with drawings, conditions of contract, specifications, schedule of quantities for the sum and at the respective rates quoted in the schedule of quantities.

3. I/We have satisfied myself / ourselves as to the site conditions, examined the drawings and all aspects of the tender conditions. Subject to above, I/We do hereby agree, should this tender be accepted in whole or in part to:
   a) Abide by and fulfill all the terms and provisions of the said conditions annexed hereto:
   b) Complete the work within 45 (Forty five) days, as stipulated by working in two or three shifts, if considered necessary by the Authority at no extra cost.

4. I/We have deposited earnest money of Rs. 16,000/- (Rupees Sixteen Thousand only) in the form of Demand Bank Draft / Pay Order, payable at Kolkata and drawn in favour of “The Controller of Patents”. I/We note that the same shall not bear any interest and is subject to forfeiture solely by The Controller General of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091 discretion if:
   i) The work is not commenced by me / us within 15 (fifteen) days from the date of issue of formal work order.
   ii) The offer is withdrawn within the validity period of acceptance. or
   iii) The agreement of the contract is not executed within 30 days from award of contract.

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

Contd..
6. The acceptance of this tender shall constitute a binding contract and any failure as mentioned in item 4 above shall constitute a breach of contract by us and the tender accepting authority shall be entitled to have the work executed at our risk and cost and to claim extra cost / expenditure incurred by them from us.

7. Our Bankers are:
   i) [Name]
   ii) [Name]
   iii) [Name]

8. Name of Partners / Directors of our Firm:
   i) [Name]
   ii) [Name]
   iii) [Name]
   iv) [Name]

Yours faithfully,

Signature of Contractor with Seal & Date.

Name of Partner / Director of the Firm Authorised to sign or Name of attorney to sign the contract:

(Certified true copy of power of attorney should be attached)

Signature and addresses of Witnesses:

a) Signature: [Name]
   Address: [Address]

b) Signature: [Name]
   Address: [Address]

Designation: [Designation]
SECTION-IV
ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT made the _________ day of ________ 2017 between the Controller General of Patents, Designs and Trademarks, Boudhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091 (hereinafter called the Employer) of ONE PART

And

M/s.____________________________________________________________________
(Hereinafter called the Contractor) of the OTHER PART.

WHEREAS the Employer is desirous of Construction & Renovation works for the Library Room of the Patent Office at Boudhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091, West Bengal (hereinafter called the Work) and has caused drawings and bills of quantities showing and describing the work to be done as per the Architectural / Design as approved by the Employer.

AND WHEREAS the said Drawings, the Specifications have been understood and examined by or on behalf of the parties hereto.

AND WHEREAS the Contractor has agreed to execute upon and subject to the conditions set forth herein and to the conditions set forth in the General Conditions of Contract and other conditions mentioned in the Tender Documents (all of which are collectively hereinafter referred to as the said conditions) the works shown upon the said Drawings and /or described in the said Specifications therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (hereinafter referred to as the said Contract Amount).

IT IS HEREBY AGREED AS FOLLOWS

0.1. In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said conditions, the Contractor shall upon and subject to the said conditions execute and complete the work shown as per the Drawings and described in the said specifications and instructions issued by the Architect form time to time.

0.2. The Employer shall pay the Contractor the said Contract amounts or such other sums as shall become payable on satisfactory completion of work and on production of the certificate of payment issued by the said Architect, at the times in the manner specified in the said conditions.

Contd...
0.3. The said conditions and appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by, submit themselves to the said conditions and perform the agreements on their part respectively in the said conditions contained.

0.4. The plans specifications, directions, instructions, agreement and documents etc. mentioned therein shall form the basis of this Contract.

0.5. The rates offered by the contractor and accepted by the Employer include Contract Tax/GST. and any other taxes or duties etc in complete, as may be applicable up to the end of contract to carry out the work in respect of Construction & Renovation works for the Library Room of the Patent Office at Boudhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091 to be paid at the rates quoted in the tender, till the completion of the work.

0.6. The Contractor shall provide details of all his Labourers to the Employer and ensure security, safety and cleanliness of the premises. The Contractor shall not cause any type of hindrance to the other employees of Employer.

0.7. The Contractor shall provide every reasonable facility to other agencies for carrying out of all works in the manner laid down in the said conditions, and shall make good at their cost any damages done to walls, floors etc., after the completion of such works to the satisfaction of the Architect.

0.8. The Employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.

0.9. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work immediately after the site is handed over to him or from the Fifteenth day after the date of signing of formal agreement as provide for in the said conditions whichever is earlier and to complete the entire work within specified time subject nevertheless to the provisions for extension of time.

0.10. All payments by the employer under this Contract will be made only at Kolkata.

0.11. All Disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Kolkata and only courts in Kolkata shall have jurisdiction to determine the same.

Contd…
0.12. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor and has satisfied himself about the correctness and feasibility thereof.

IN WITNESS WHEREOF THE EMPLOYER and the Contractor have set their respective hands to these present hereof the day and year hereinabove written.

Employer:
Signature __________________________
(Name & Designation with Seal) _________________________
In the presence of 1)_______________________
Address __________________

Contractor:
Signature __________________________
(Name & Designation with Seal) _________________________
In the presence of 1)_______________________
Address __________________

2) _______________________    2) ______________________________
Address __________________    Address __________________________

SECTION-V
GENERAL INSTRUCTIONS TO CONTRACTORS

0.1 The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates not later than closing time and date as mentioned in para 0.8. of Section – I.

0.2 a) Tender shall remain open to acceptance by the Employer for the period of **45 (Forty five)** days from the last date of receiving the tenders which period may be extended by mutual agreement and the Tenderer shall not cancel or withdraw the tender during this period. No tender will be received after the stipulated time and date as mentioned under any circumstances, whatsoever.

b) The Tender must use only the forms issued by the Employer for the purpose of the tender.

0.3(a) The tender form must be filled in English and all entries must be made by hand and written in ink. If any of the documents is missing, or unsigned; the Employer in its discretion may consider the tender invalid.

b) Rates should be quoted in word and figures both & if any discrepancy, only rate quoted in word will be guiding. All erasures and alterations made, while filling the tender must be attested by initials of the Tenderer. Overwriting of figures is not permitted and failure to comply with either of these conditions will tender the tender void at the Employer’s option. No advice of any change in rate or conditions after the opening of the tender will be entertained.

c) Each of the tender documents should be signed by the person or persons submitting the tender in token of his/their having acquainted himself/ themselves with the General conditions of Contract and site conditions, specifications, special conditions, etc. As laid down. Any tender with any of the documents not so signed will be rejected.

d) The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed Contract. Otherwise the tender may be rejected by the Employer.

0.4. The Employer does not bind itself to accept the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part, without assigning any reasons for doing so.

0.5 Intending Tenderers shall pay an initial Earnest Money of **Rs. 16,000/-**(Rupees Sixteen Thousand) onlyby a Demand Draft/ Banker’s Cheque drawn in favour of “The Controller of Patents” payable at Kolkata and should be attached to the tender. Tender, which is not accompanied by such Earnest Money, will not be considered. The Earnest Money will be returned to the Tenderer if his tender is not accepted but without any interest thereon. Under
no circumstances the Earnest Money and/or Security Deposit will be accepted in the form of
fixed deposit receipt or bank or insurance guarantee.

0.6. The total initial Security Deposit shall be 2% (Two percent) of the Contract amount and the
amount is to be paid by the successful Tenderer on acceptance of his tender (the amount paid
as earnest money at the time of submission of the tender shall be adjusted) and shall be held
by the Employer as security deposit for the execution and due fulfillment of the Contract. No
interest shall be paid on the said deposit.

0.7(a) Over and above the Initial Security Deposit under clause and as further security for the due
fulfillment of the Contract by the Contractor; 8% of the value of the work done will be
deducted by the Employer from each payment to be made to the Contractor as retention
Money and thus making the total security deposit amount to 10% (Ten percent) of the value
of the work done.

On issuance of the Architect’s certificate of the virtual completion of the works, the
Contractor would be paid 50% of Retention Money and remaining 50% will be released by
the Employer along with the final completion certificate issued by the Architect only after
rectification of the defects pointed out during the defects liability period of one year are
carried by the Contractor.

b) All the compensation or other sums of money payable by the Contractor to the Employer
under the terms of this Contract may be deducted from his Earnest Money and the security
deposit, if the amount so permits and the Contractor shall, unless such deposit has become
otherwise payable within ten days after such deduction, make good in cash the amount so
deducted.

0.8. The Contractor shall not assign the Contract to any other contractor or he shall not sublet any
portion of the Contract except with written consent of the Employer. In case of breach of
these conditions, the Employer may ask the Architect to serve a notice in writing to the
Contractor rescinding the Contract whereupon the security deposit shall stand forfeited to the
Employer, without prejudice to his other remedies against the Contractor.

0.9. The Contractor shall carry out all the work strictly in accordance with Drawings,
specifications, directions, details and instructions issued from time to time by the Architect. If
in opinion of the Architect, changes have to be made in the design and with the prior approval
of the Employer they desire the Contractor to carry out the same, the Contractor shall carry
out the same without any extra charge. The Architect’s decision in such cases shall be final
and shall not be open to arbitration.

Contd…
0.10. All reinforced concrete work shall comply with the requirements of controlled concrete as per latest I.S. codes. Necessary laboratory shall be established at site for mix design, on volumetric basis or Trial method basis for testing of cubes as directed by Architect. Requirement of I.S. codes shall prevail over the tender Specification if any, or necessary Test C certificates from Govt. authorized Laboratories may be required.

0.11. The Tenderer must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a tender and for entering into a Contract and must examine the drawings and must inspect the site of work and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto.

0.12. The Rates quoted in the tender shall include all charges for clearing of site before commencement as well as after completion, double scaffolding, centering, boxing, staging planking, timbering and pumping out water including bailing, fencing, hoarding, plant and equipment, storage and other sheds for which he shall at his cost obtain necessary prior approval from the concerned local authority, watching & lighting, by night as well as day including Sundays and Holidays, temporary plumbing and electric supply protection of the public and safety within the compound and adjacent roads, streets cellar, vaults, chemicals pavement, walls, houses, buildings and all other erection, matter or things and the Contractor shall take down and remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring, etc., as occasion shall require or when ordered to do so, and fully reinstate and make good all matters and things disturbed during the execution of work and to the satisfaction of the Architects / Consultant. The rates quoted shall be deemed to be for the finished work to be measured at site. The rates shall also be firm and shall not be subject to exchange variations, labour conditions, fluctuations in railways freights or any other conditions whatsoever. Levied by the Central Government or any State Government or local authority on supply of building materials / labour and for undertaking the work under this Contract, if applicable. No claim in respect of sales tax, works Contract tax, GST, Excise Duty, or any other taxes, duties or levies shall be entertained by the Employer.

0.13. The whole of the proposed WORK must be completed within specified months from the date of issue of Work Order, failing which a specified penalty per week by which the work is delayed beyond the date of completion specified, will be levied as liquidated damages, subject to maximum limit as specified in appendix- 1 of the Total Contract Price. The above period has been fixed taking into account all Sundays and other public holidays and all other factors such as rains and curing period required and no extension or non-working period shall be granted for these or any other reasons whatsoever. Work shall not be delayed even on payment of penalty beyond 3 months from the completion date as specified. Thereafter the Contract shall be deemed to have been terminated at the Employer’s sole discretion and in
such event the employer shall be entitled to continue with the remaining work through any other agency at the Contractor’s risk and cost.

If the labour employed by the Contractor falls within the purview of the provision of the E.S.I. Act 1948, the contribution payable by him in respect of such labour will be deducted from his bill, unless otherwise the Contractor has produced a receipt of such payments.

0.14. If the Progress of the work gets behind the bar Chart by 20%, specified penalty will be recovered for the delayed period from the Contractor’s bill, which will be released as and when the Contractor recovers the progress as per the Bar Chart and Completes the entire work within the Contract period or extended period as approved by the Employer.

0.15. The Contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the cause of delays may be, including delays arising out of modification to the work entrusted to him or in any sub-contracts connected therewith or delays in awarding Contracts for other trades or project or in commencement or completion of such works or in procuring Government controlled or other building materials or in obtaining water and power connections for construction purposes or for any other reason whatsoever and the Employer shall not be liable for any claim in respect thereof. The Employer does not accept liability for any sum besides the tender amount subject to such variations as are provided for herein.

0.16. The successful Tenderer is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the tender. The Employer will issue schedule of instructions in respect of such additional items in writing.

0.17. The successful Tenderer must cooperate with the other Contractors appointed by the Employer as advised by the Architect, so that the work shall proceed smoothly with least possible delay and to the satisfaction of the Employer and Architect.

0.18. The Contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications and directions made by the Employer with the advice of the Architect and also in compliance of the requirements of the Local public authorities and no deviations on any account will be permitted.

0.19. The successful Tenderer should make his own advanced arrangement to obtain all materials required for the work.

0.20. For water and power, the Contractors for subsidiary trades if appointed by the Employer shall be allowed connection from the temporary water and power supply arranged by the General Contractor for civil works and for such facility the sub-contractors will pay to the general Contractor the consumption charges to be decided by the Architect. The sub-contractors shall install a sub-meter for measuring consumption of electric energy at their own cost and maintain the wiring installation in good condition and order and pay the consumption charges directly to the General Contractor. If no such facility is available at site of work and if
available but found inadequate is shall be the responsibility of the Contractor to make h is own arrangement for obtaining water and power at his own cost.

0.21. All Municipal fees charges / taxes etc. for drainage and water connection and for its consumption for construction purposes shall be borne by the contractor and fees and deposits if any payable for permanent connections shall be paid by the Employer. The Employer to the electric supply authority will pay the fees for electric supply connection and cable charges for the permanent supply. For electrical consumption during construction period by the contractor, a meter shall be installed for the contractor and the charges will be recovered from contractor’s bill.

0.22. The Contractor shall at his own cost strictly comply with the provision of safety code annexed hereto.

0.23. The security deposit of the successful Tenderer will be forfeited if he fails to comply with any of the conditions of the Contract.

0.24. The Tenderer is requested to visit the site of work before filling up the tender.

0.25. The Contractor shall study all relevant drawing / plans in order to enable himself to offer correct rate for the proposed work, to the entire satisfaction of the Architect and Employer.

0.26. The tender drawings are only to give an idea about the work. The Architects reserve their right to amend, alter or delete any design details which may be necessary for the proposed execution and implementation of propose work and the Contractors shall not claim anything extra for such changes.

0.27. The Employer’s decision in all matters relating to the plans, the specifications, terms and conditions related to the construction work as also the levy of the liquidated damages will be final and binding to the Contractor.

0.28. Fluctuations in the prices of any materials including for cement and steel will not be taken into account either for compensation or for damages or for extra. The rates quoted shall be firm throughout the tender of the contractor (including extension of time, if any granted)

0.29. The Contractor shall comply with all the requirements of the health department particularly in regard to anti – malaria measures.

0.30. The Contractor shall not assign the Contract or sublet any portion except with the written permission of the Architect / Consultant and Employer.

0.31. Acceptance of the tender will be solely at the discretion of the Controller General of Patents, Designs and Trademarks, Bouddhik Sampada Bhawan, CP-2, Sector – V, Kolkata – 700091 who does not bind himself / herself to accept the lowest or any other tender or part thereof. No reason will be furnished for acceptance or rejection of any tender.
I/We hereby declare that I /We have read and understood the above general instructions to the Contractor and accept the same as part of the tender conditions.

Witness: ________________________________  Signature of Contractor / Tenderer

Date: ________________________________
# APPENDIX –I

**HEREIN BEFORE REFERRED TO**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Defect liability period</td>
<td>Twelve months from the date of issue of virtual completion certificate.</td>
</tr>
<tr>
<td>2</td>
<td>Period of final measurement</td>
<td>Three months from the date of submission of Final Bill together with all other requisite details.</td>
</tr>
<tr>
<td>3</td>
<td>Date of commencement</td>
<td>Seventh day from issue of Work Order.</td>
</tr>
<tr>
<td>4</td>
<td>Period of completion</td>
<td>45 (Forty five) days. The date of commencement shall be reckoned after 7th (Seventh) day from the date of Work Order issued to the successful tenderer.</td>
</tr>
<tr>
<td>5</td>
<td>Liquidated damages at the rate of</td>
<td>1% of the total value of the work per week, to the maximum of 10% of Contract amount subject to discretion of the Authority.</td>
</tr>
<tr>
<td>6</td>
<td>Minimum value of works for Interim Certificates</td>
<td>Rs. 2 Lac (Two Lac)</td>
</tr>
<tr>
<td>7</td>
<td>Earnest Money Deposit</td>
<td>Rs. 16,000/- (Rupees Sixteen Thousand) only by Crossed Demand Bank Draft / Pay Order / Bankers cheque drawn in favour of “Controller of Patents” payable at Kolkata.</td>
</tr>
<tr>
<td>8</td>
<td>Initial Security Deposit</td>
<td>2.5% (Two point Five percent) of the net accepted value of the Tendered amount less EMD</td>
</tr>
<tr>
<td>8a</td>
<td>Retention Money</td>
<td>7.5% (Seven point Five percent) from each Bill</td>
</tr>
<tr>
<td>9</td>
<td>Total Retention Money</td>
<td>Not to exceed 10% of the value of work (including EMD)</td>
</tr>
<tr>
<td>10</td>
<td>Release of Retention Money</td>
<td>50% after virtual completion and balance 50% after expiry of the defects liability period.</td>
</tr>
<tr>
<td>11</td>
<td>Period for honoring Certificates</td>
<td>30 days for Interim Certificates and six (6) weeks for the final certificate from the date of certification</td>
</tr>
<tr>
<td>12</td>
<td>Interest for delayed payment</td>
<td>Nil.</td>
</tr>
<tr>
<td>13</td>
<td>LabourCess</td>
<td>1% (one) will be Deducted from each Certified Bill (Gross Bill) as per statutes.</td>
</tr>
</tbody>
</table>

**EMPLOYER**                                                                                                                                                                                                                                                                                                                                 |

Date:                                                                                                                                                                                                                                                                                                                                 |

**CONTRACTOR**

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GENERAL CONDITIONS OF CONTRACT

1. Interpretation Clause: In construing these conditions, the specifications and Contract agreement, the following words shall have the meanings herein assigned to them, except where the subject or context otherwise requires.

   a) “Employer” shall mean The Controller General of Patents, Designs and Trademarks (CGPDTM) and shall include its assigns and successors in office.

   b) “Engineer in Charge” shall mean The Controller General of Patents, Designs and Trademarks (CGPDTM) and shall include its assigns and successors in office.


   d) “Contractor” or Contractors shall mean the Contractor to whom the work is awarded and shall include its assigns and successors in office and shall include the proprietors, partners, successors of the said firm and the legal representative of a deceased partner.

   In the case of individual: “Contractor” shall mean individual Shri ………………………………

   Trading in the name and style of……………………………………………………………………

   And shall include his heirs, successors and legal representatives.

   In the case of Company : : Contractor” shall mean

   ……………………………………………………………………………………………………a company incorporated under

   ……………………………………………………………………………………………………2017 and having its registered office at

   ……………………………………………………………………………………………………

   and shall include its successors and assigns.

   d) Site: “ Site” shall mean site of the Contract works permitted to the Contractor for execution of the work as per this Contract. However notwithstanding what is contained in this tender, it is clearly and explicitly understood that the parties hereto that rights title and interest of any nature whatsoever including its physical possession of the site shall always vest with Employer and the Contractor shall be only licensee on the site.

   e) This Contract: shall mean the Articles of Agreement, General / Special instructions, General Conditions, Appendix & Annexure, Schedule of Quantities, Specifications, Drawings and amendments & other directions attached hereto and duly signed.

   f) Notice in writing: Notice in writing or writing notice shall mean a notice in written typed or printed characters sent (unless delivered personally or otherwise provided to have been received by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.

   g) Act of insolvency: Shall mean any type of insolvency as defined by the presidency towns’ insolvency act or the provincial insolvency act or any act amending such original.
h) **Net prices:** If in arriving at the Contract amount, the Contractor shall have to add to or deduct from the total of the items in the tender any sum either as a percentage or otherwise then the net price of any item in the tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the tender as the price of that item a similar percentage or proportionate sum provided always that in determining the percentage or proportion of the sum so added or deducted by the percentage or proportion of the sum so added or deducted by the Contractor the total amount of any prime cost in terms and provisional sums of money shall be deducted from the total amount of the tender.

i) **The Works:** Shall mean the work or works to be executed under the contract for Construction & Renovation works for the Library Room of the Patent Office at BouddhikSampadaBhawan, CP-2, Sector – V, Kolkata – 700091 of The Controller General of Patents, Designs and Trademarks (CGPDTM).

2. **Scope of Contract:** The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Architect / Employer. The Architect may in his absolute discretion and from time to time issue further drawings and/or written instruction, details directions and explanations which are hereafter collectively referred to as Architect’s instructions in regard to:

a) The Variation or modification of the design quality or quantity or works or the addition or omission or substitution of any work.

b) Any discrepancy in the Drawings or between the schedule of quantities and/or drawings and/or specifications.

c) The removal from the site of any materials brought thereon by the Contractor and the substitution of any material therefore.

d) The removal and or re-execution of any works executed by the Contractor.

e) The dismissal from the works of any person employed thereupon by the Contractor at the sole discretion of the Architect/ Consultant without assigning any reasons thereof.

f) The opening up for inspection of any work & covered up.

g) The amending and making good any defect under Clause 18 hereof.

The Contractor shall forthwith comply with and duly execute any work comprised in such Architect’s instructions provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Architect shall, if involving a variation be confirmed in writing by the contractor within seven days, and if not dissented from in writing within a further seven days by the Architect ; such shall be deemed to be Architect’s instructions with the scope of the Contract.

3. **Drawings and schedule of quantities of agreement:** The Contract shall be executed in triplicate and the Architect, the Employer and the Contractor shall be entitled to one executed copy each for his use. The Contractor on the signing hereof shall be furnished by the
Architects free of cost one copy of each of the said Drawings and of the specification and one copy of and all further drawings issued during the progress of the agreed works. Any further copies of such drawings required by the Contractor shall be paid for by him. The Contractor shall keep one copy of all drawings at the site of works and the Architect or his representative shall at all reasonable times have access to the same. Before the issue of the final certificate to the Contractor, he shall forthwith return to the Architect all drawings & specification.

4. **Contractor to provide everything necessary at his cost:** The Contractor shall provide at his cost everything necessary for the proper execution of the works according to the intent and meaning of the Drawings, Schedule of quantities and Specifications taken together whether the same may or may not be particularly necessary shown or described therein provided that the same can reasonably be inferred there from, and if the Contractor finds any discrepancy in the drawings or between the drawings, schedule of quantities and specifications he shall immediately and in writing refer the same to the Architect who shall decide which is to be followed.

5. **Setting out of works:** The Contractor shall set out of the works and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time error in this respect shall appear during the progress of the works or even after the completion of the works; the Contractors shall, if so required, at his own expense rectify such error to the satisfaction of the Architect.

6. **Materials and workmanship to confirm to description:** All materials and workmanship shall so far as procurable be of the respective kind described in the Schedule of quantities and/or Specifications. And in accordance with the Architects instructions and the Contractor shall upon the request of the Architect furnish him with all invoices, accounts receipts and other vouchers to prove that the specifications of materials comply therewith. The Contractor shall on his own arrange for and/or carry out any test of any materials which the Architect may require. Contractor should arrange to get the Test Certificate for any materials brought for their own project use from the reputed agencies if asked for.

7. **Contractor’s superintendence and representative at the works:** The Contractor shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Architect may consider necessary until the expiration of the defects liability period stated in the Appendix hereto. The Contractor shall also during the whole time the works are in progress employ competent and qualified engineers & supervisors as approved by the Architect who shall be constantly in attendance at the works while the men are at work. The said engineers /supervisors will not be removed from the site, without the Architect’s prior approval and without the proper replacement as approved by the Architect.
Any directions, explanations, instructions or notices given by the Architect to such representative shall be deemed to have been given to the Contractor.

8. **Dismissal of workmen:** The Contractor shall on the direction of the Architect and/or Employer immediately dismiss any person employed thereon by him who may in the opinion of the Architect/Employer be incompetent or misconduct himself and such persons shall not be again employed on the works without the permission of the Architect/Employer.

9. **Access to work** The Employer, the Architect and their respective representative shall at all reasonable times have free access to the work executed by the Contractor and or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall give every facility to the Employer and/or the Architect and their representatives that is necessary for inspections and examination and test of the materials and workmanship. No person not authorized by the Employer or the Architect except the representative of public authorities with proper identification shall be allowed on the works at any time.

10. **Assignment and sub-letting:** The whole of the works included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or under-let the Contract or any part or share thereof or any interest therein without the prior written consent of the Employers. And no undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.

11. **Addition, alteration, omissions etc.:** No addition, alteration, omission or variation shall vitiate this contract but in case the Architect thinks proper at any time during the progress of the works to make any alterations in or additions to or omissions from the works or any alteration in the kind or quality of the materials to be used therein and shall give notice thereof in writing under his hand to the Contractor; the Contractor shall alter, add to or omit from as the case may be in accordance with such notice but the Contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviation from any of the provisions of the Contract stipulation specification or Contract drawings without the previous consent in writing of the Architect and the value of such extra alterations additions or omissions shall in all cases be determined by the Architect and the same shall be added to, or deducted from the Contract amount accordingly, as the case may be.

12. **Schedule of Quantities:** The schedule of quantities unless otherwise stated shall be deemed to have been prepared in accordance with the standard method of measurement. Any error in description or in quantity or in omission of items from the schedule of quantities shall not vitiate this Contract but shall be rectified and the value thereof as ascertained under Clause 16.
hereof, shall be added to, or deducted, from the Contract amount (as the case may be) provided that no rectification of errors, if any, shall be allowed in the Contractor’s schedule of rates.

13. **Sufficiency of schedule of quantities:** The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices stated in the Schedule of quantities and/or Specifications and /or the Schedule of rates and prices which shall cover all his obligations under the Contract and all matters and things necessary for the proper completion of the works.

14. **Measurement of works:** The Architect may from time to time intimate to the Contractor and the Employer that he requires the works to be measured and the Contractor shall forthwith attend or send a qualified agent to assist the Architect or the Architect’s representative or the assistant engineer in taking such measurements and calculations and to furnish all particulars or to give all assistance required by any of them. Should the Contractor not attend or neglect or omit to send such agent then the measurement taken by the Architect or a person approved by him shall be taken to be correct measurements of the works. Such measurements have been detailed in the specifications. The Contractor or his agent may, at the time of measurement, take such notes and measurements as he may require. All authorized extra works, omissions and all variations made without the Architect’s knowledge but subsequently sanctioned by him in writing shall be included in such measurements.

15. **Prices for extras etc. ascertainment of:** The Contractor, when authorized and when directed in writing by the Architects with the approval of the Employer, may add to, omit from or vary the works shown upon the drawings or described in the specification or included in the schedule of quantities but the Contractor shall make no addition, omission or variation without such authorization or direction. A verbal authority of direction by the Architects, if confirmed by them in writing within seven days, be deemed to have been given in writing. No claim for an extra shall be allowed unless it shall have been executed under provisions of clause 12 hereof or by the authority of the Architects with the concurrence of the Employer as herein mentioned. Any such extra is herein referred to as authorized extra shall be made in accordance with the following provisions.

a) The net rates of prices in the original tender shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work period therein. Rates for all items wherever possible should be derived out of the rates given in the priced schedule of quantities.

b) The net prices of the original tender shall determine the value of the items omitted provided if omissions very conditions under which any remaining items or works are carried out of prices for the same shall be valued under sub- clause (c) hereof.
c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out or if the amount of any omissions or additions relative to the amount of whole or the contract works or to any part thereof shall be such that in the opinion of the Architect the net rate or price contained in the priced schedule of quantities or tender or for any item of the works involves loss or expenses beyond that reasonably contemplated by the Contractor or by reason of such omission or addition rendered unreasonable or inapplicable the Architect shall fix such other rate or price as in the circumstances he shall think reasonable and proper with the prior approval in writing of the Employer.

d) It is clarified that for all authorized extra items where rates cannot be derived from tender; the Contractor shall submit rates supported by rate analysis worked out on the actual cost basis plus 10% towards establishment charges, Contractor’s overhead and profit.

e) Where the extra work cannot be properly measured or valued; the Contractor shall be allowed day work prices as the net rates stated in the tender or the priced schedule of quantities or if not so stated then in accordance with the local day work rates and wages for the district; provided that in either case vouchers specifying that daily time (and if required by the Architect, the workmen’s names) and materials employed be delivered for verification to the Architect or his representative at or before the end of the week following that in which the work has been executed.

The measurement and valuation in respect of the Contract shall be completed within the period of final measurement stated in the appendix or if not stated then within two months of completion of the work as defined in clause 20 hereof.

16. **Unfixed materials when taken into account to be the property of the Employer**: Wherein any certificate (of which the Contractor has received payment) the Architect has included the value of any unfixed materials intended for and/or placed on or adjacent to the works such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Architect. The Contractor shall be liable for any loss of or damage to such materials.

17. **Removal of improper work**: The Architects shall during the progress of the works have power to order in writing from time to time the removal from the works within such reasonable time or any materials which in opinion of the Architect are not in accordance with the specifications or the instructions of the Architect, the substitution of proper materials and the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions, and the Contractor shall forthwith carry out such order at his own cost. In case of default on the part of the Contractor to carry out such order: the Employer shall have the power to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto.
as certified by the Architect shall be borne by the Contractor or may be deducted by the Employer from any moneys due or that may become due to the Contractor.

18. **Defects after virtual completion**: Any defect or shrinkage or settlement or other fault which may appear within the defects liability period stated in the appendix hereto or if none stated, then within twelve months after the virtual completion of the works arising in the opinion of the Architect from materials or workmanship not in accordance with the Contract shall upon the directions in writing of the Architect and within such reasonable time as shall be specified therein be amended and made good by the Contractor at his own cost and in case of default the Employer may employ and pay other persons to amend and made good such defects, shrinkage, settlement or other faults and all damages, losses and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damages, losses and expenses shall be recoverable from him; the Employer, upon the Architect’s/Consultant’s certificate in writing, may in lieu of such amending and making good by the Contractor deduct, from any moneys due to the Contractor or that may become due to the Contractor, a sum to be determined by the Architect/consultant equivalent to the cost of amending such work and in the event of the amount retained under Clause 31 hereof being insufficient, recover the balance from the Contractor together with any expenses the Employer may have incurred in connection therewith. Should any defective work have been done or material supplied by any sub-contractor employed on the works who has been nominated or approved by the Architect as provided in Clauses 11 and 21 hereof; the Contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by, the Contractor and been subject to the provisions of this clause and clause 21 hereof. The Contractor shall remain under the provisions of this clause notwithstanding the signing of any certificate or the passing of any accounts, by the Architect.

19. **Certificate of virtual completion and defects liability period**: The works shall not be considered as completed until the Architect has certified in writing that they have been virtually completed. The defects liability period shall commence from the date of such certificate.

20. **Other persons employed by Employer**: The Employer reserves the right to use premises and any portions of the site for the execution of any work not included in this Contract which he may desire whatsoever to have carried out by other persons and the Contractor shall allow all reasonable facilities for the execution of such work but shall not be required to provide any plant or material for the execution of such work except by special arrangement with the Employer, such work shall be carried out in such manner as not to impede the progress of the works included in the Contract and any damage or delay which may happen to or occasioned by, such work.
21. **ALL RISK INSURANCE:** The Contractor shall be responsible for all injury to persons, animals and/or neglect of himself and/or any nominated sub-contractor and/or any employee of either, whether such injury or damage arises from carelessness accident and/or any other cause whatever in any connected with the carrying out of this Contract. This clause shall be held to include inter alia any damage to buildings whether immediately adjacent or otherwise and any damage to roads, streets, foot-paths, bridges or pathways as well as all damage caused to the buildings and works forming the subject of this Contract by frost, rain, wind or other inclemency of weather. The Contractor shall indemnify the Employer and hold it harmless in respect of all and expenses arising from any such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any Acts of any legislature or otherwise and also in respect of any award or compensation for damages consequent upon such claim.

The Contractor shall re-instate all damage of every sort mentioned in this clause, so as to deliver up the whole of the Contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of third parties.

The Contractor shall indemnify the Employer against all claims which may be made against the Employer and/or Architect by any member of the public or other third party in respect of anything which may arise in respect of the works or in consequence thereof and shall at his own expense arrange to effect and maintain till the virtual completion of the Contract.

The Contractor shall also similarly indemnify the Employer and/or Employer and/or Architect against all claims which may be made against the Employer and/or Architect whether under the Workmen’s Compensation Act or any other statute in force during the currency of this Contract or at Common Law in respect of any death or disability etc. of the affected persons including the employee of the Contractor or any Sub-contractor and shall at his own expense effect and maintain, until the virtual completion of the contract, with an approved policy of insurance in the joint names of the Employer and the Contractor against such risks and deposit such policy or policies with the Architect from time to time during the currency of the Contract.

The Contractor shall also be responsible for any liability, which may be excluded from the insurance policies above referred to and also for all other damages to any persons, animal or property arising out of an incidental to the negligent or defective carrying out of this Contract. He shall also indemnify the Employer in respect of any costs, charges or expenses arising out of any claim or proceedings and also in respect of any award of compensation or damages, arising there from.

The Employer shall with the Concurrence of the Architect, be entitled to deduct the amount of any damages and compensation, costs, charges and expenses arising or accruing from or in
22. **Fire insurance:** a) The Contractor shall, within 14 days from the date of commencement of the works at his cost and keep them insured until the virtual completion of the works insure the works at his cost and keep them insured until the virtual completion of the works against loss or damage by fire with an office to be approved by the Architect in the joint names of the Employer and the Contractor (the name of the former being placed first in the policy), for the full amount of the Contract and for any further sum if called upon to do so by the Architect, the premium of such further sum being allowed to the Contractor as an authorized extra. Such policy shall cover the property of the Employer only and the Architects and surveyors fees for assessing the claim and in connection with his service is generally in the reinstatement and shall not cover any property of the Contractor or of any sub-contractor or employee. The Contractor shall deposit the policy and receipts for the premiums with the Architect and surveyor’s fees for assessing the claim and in connection with his services generally in the reinstatement and shall not cover any property of the Contractor or of any sub-contractor or employee. The Contractor shall deposit the policy and receipts for the premiums with the Architect. In default of the Contractor insuring as provided above; the Employer, or the Architect on his behalf may so insure the works and may deduct the premium paid from any moneys due or which may become due to the Contractor without prejudice to the other rights of the Employer in respect of such default. In case it becomes necessary to suspend the works the Contractor shall, as soon as the claim under the policy is settled, or the works reinstated by the insurance office should they elect to do so, proceed with all due diligence with the completion of the works in the same manner as though the fire had not occurred and in all respect under the same conditions of Contract. The Contractor in case of rebuilding or reinstatement after fire shall be entitled to such extension of time alone for completion as the Architect deems fit.

b) The amount so due as aforesaid shall be the total value of the works duly executed and of the Contract materials and goods delivered upon the site for use in the works up to and including a date of the said Certificate less the amount to be retained by the Employer (as hereinafter provided) and less any installments previously paid under this clause provided that such certificate shall only include the value of the said materials and goods as and from... to time as they are reasonably, properly and not prematurely brought upon the site and then only if properly stored and/or protected against weather.

23. **Date of commencement and completion:** The Contractor shall be allowed admittance to the site on the “date of commencement” stated in the appendix hereto or such later date as may be specified by the Architect and he shall thereupon and forthwith begin the works and shall regularly proceed. With and complete the same (except works such as painting or other...
decorative work as the Architect may desire to delay) on or before the “date of completion” stated in the Appendix subject nevertheless to the provision for extension of time hereinafter contained.

24. **Damages for non-completion:** If the Contractor fails to Complete the works by the date stated in the appendix or within any extended time under clause 27 hereof and the Architect certifies in writing that in his opinion, the same ought reasonably to have been completed the Contractor shall pay the Employer the sum named in the appendix as liquidated damages for the period during which the said works shall so remain incomplete and the “Employer may deduct such damages from any moneys due to the Contractor.

25. **Delay in Completion:** If in the opinion of the Architect the works is delayed (a) by force major or (b) by reason of any exceptionally inclement weather or (c) by reason or proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractor’s own default or (d) by the works or delays of other Contractors or tradesmen engaged or nominated by the Employer or the Architect and not referred to in the schedule of quantities and or specification or (e) by reason of Architect’s instructions as per Clause 2 hereof (f) by reason of civil commotion, local combination of workmen or strike or lockout affecting any of the building trades or (g) in consequence of the Contractor not having received in due time necessary instructions from the Architect for which he shall have specifically applied in writing or (h) from other causes which the Architect may certify as beyond the control of Contractor or (i) In the event, the value of the work exceeds the value of the priced schedule of quantities owing to variation; the Architect may allow a fair and reasonable extension of time for completion of the Contract works; in case of such strike or lockout, the Contractor shall as soon as possible give written notice thereof to the Architect but the Contractor shall as soon as possible give written notice thereof to the Architect but the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of the Architect to proceed with work.

26. **Failure of Contractor to comply with Architect’s instructions:** If Contractor, after receipt of written notice form the Architect requiring compliance within seven (07) days, fails to comply with such further drawings and / or Architect’s instructions; the Employer may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer on the certificate of the Architect as a debt or may be deducted by him from any moneys due to the Contractor.

27. **Termination of Contract by the Employer:** If the Contractor being an individual partner or a firm commits any act of insolvency or shall be adjudged an insolvent or being an incorporated company shall have an order for compulsory winding up made against it or pass
an effective resolution for winding up, as the case may be, shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Architect that he is able to carry out and fulfill the Contract and to give security, if so required by the Architect.

Or if the Contractor (whether an individual, firm or incorporated company) shall suffer execution or other process of court attaching property to be issued against the Contractor.

Or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the Contractor.

Or shall assign or subject this Contract without the consent in writing of the Employer first had and obtained.

Or shall charge or encumber this Contract or any payments due or which may become due to the Contractor hereunder.

Or if the Architect certify in writing to the Employer that the Contractor,

i) Has abandoned the Contract, or (ii) Has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon. Or (iv) Has failed to remove materials from the site or to pull down and replace work for 7 days after receiving from the Architect written notice that the said materials or work were condemned and rejected by the Architect under these conditions, or (v) Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the Contractor for 7 days after written notice shall have been given to the Contractor requiring the Contractor to observe or perform the sake; Then and in any of the said cases, the Employer may, notwithstanding any previous waiver, after giving seven days’ notice in writing to the Contractor the whole of which shall continue in force as fully as if the Contract had not been so determined and as if the works subsequently executed by or on behalf of the Contractor.

And further the Employer by his agents or servants take possession of the works and all plants, scaffoldings, sheds, machinery system and other power utensils and materials lying upon the premises or the adjoining land or roads and use the same as his own property or may employ the same means of his own servants and workmen in varying on and completing the works or by employing and other Contractor or other person or persons to complete the works and the Contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other Contractor or other person or persons employed to completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon as thereafter, whichever convenient; the employer shall give a notice in writing to the contractor, failing to do so within a period of 14 days after receipt thereof by him, the Employer may sell the same by public auction and give credit to the Contractor for the net amount realized. The Architect shall thereafter ascertain and certify in writing under
his hand what (if anything) shall be due or payable to, or by the Employer for the value of
the said plant and materials so taken in possession by the Employer and the Expenses or loss
which the employer shall have been put to in procuring me works to be completed and the
amount which shall be certified shall thereupon be paid by the Employer as the case may be
and the certificate of the Architect shall be final and conclusive between all the concerned
parties.

28. **Termination of Contract by contractor:** If the payment of the amount payable by the
Employer under certificate of the Architect shall be in arrears and unpaid for 90 days from
the date of receipt of the Architect's certificate in writing requiring payment of the amount by
Employer or if the Employer interferes with or obstructs the issue of any such certificate, or if
the Employer shall repudiate the Contract or if the works be stopped for three months under
the order the Architect or the employer or by any injunction or other order of any court of law
then and in any of the said cases the Contractor shall be at liberty to determine the Contract
by notice in writing to the Employer, through, the Architect and he shall be entitled to
recover from the Employer, payment for all works executed and for any loss he may sustain
upon any plant or materials supplied or purchased or prepared for the purpose of the Contract.
In arriving at the amount of such payment the net weight contained in Contractor's original
tender shall be followed or where the same may not apply then valuation shall be made in
accordance with Clause 16 hereof.

29. **Certificates and payments:** The Contractor shall be paid by the Employer from time to
time by installments in the Interim Certificates to be issued by the Architect to the Contractor on
account of the works executed when in opinion of the Architect work to the approximate
value named in the Appendix as “Value of work for interim certificate” (or less at the
rescannable discretion of the Architect) has been executed in accordance with this Contract
subject however to a retention of the percentage of such value named in the Appendix hereto
as retention percentage for Interim Certificate until the total amount retained shall reach the
sum named in the appendix as “total Retention Money” after which time the installments
shall be up to the full value of the work subsequently so executed and fixed in the building.
The Architect may in his discretion include the Interim Certificate such amount, as he may
consider proper on account of materials delivered upon the site by Contractor for use in the
works. And when the works have been virtually completed and the Architect shall have
certified in writing that they have been completed; the Contractor shall be paid by the
Employer in accordance with the certificate to be issued by the Architect the sum of money
named in the Appendix as installment after virtual completion being a part of the said total
Retention Money. And the Contractor shall be entitled to the payment of the final balance in
accordance with the certificate to be issued in writing by the Architect at the expiration of
the period referred to as “the defects liability period” in the appendix hereto from the date of
virtual completion or as soon as after the expiration of such period as the works shall have been finally completed and all defects made good according to the true and intent and meaning hereof which ever shall last happen provided always that the issue of any certificate by the Architect during the progress of the works or at or after the completion shall not relieve the Contractor from his liability under Clauses 2 and 19 nor relieve the Contractor of his inability in cases of fraud, dishonesty, or fraudulent concealment relating to the works or materials or to any matter dealt within the certificate and in case of all defects and insufficiencies in the works or the material which a reasonable examination would not have disclosed. No certificate of the Architect shall of itself be conclusive evidence that any works or materials to which it related are in accordance with the Contract neither will the Contractor have a claim for any amounts which the Architect might have certified in any Interim Bill and paid by the Employer and which might be subsequently be discovered as not payable and in this respect the Employer’s decision shall be final and binding.

The issue of Interim Certificate will always be treated as a form of advance payment towards the work which ultimately will be accounted for while preparing the final bill for payment. It is also made clear to the Contractor that the issue of the Interim Certificate does not mean that the quantities, rates and workmanship of the work mentioned in the interim bill have been approved and accepted by the Architect. The same will be considered as final and approved by the Architect only when the final certificate is issued by the said Architect.

The Architect shall have power to withhold any certificate if the works or any part thereof is not being carried out to his satisfaction. The Architect may by any certificate make any correction in any previous certificate, which shall have been issued by him. No certificate of payment shall be issued by the Architect if the Contractor fails to insure the works and keeps them insured till the issue of the virtual completion certificate. Payments from the Architect’s / Consultant’s certificate shall be made within the periods named in the Appendix as “period for honoring certificates” after such certificates have been delivered to the Employer.

30. **Materials to be finally determined by the Architect:** The decision, opinion direction, certificate (except for payment) with respect to all or any of the matters under clauses 2 (a), 2(b) 4,6,11, 18, 27 (a, b, c, d, f & g) hereof (which matters are herein referred to as the excepted matters) shall be final and exclusive and binding on the parties hereto and shall be without appeal. Any other decision, opinion direction, certificate or valuation of the Architect/Consultant or any refusal of the Architect to give any of the same shall be subject to the including right of arbitration and review under clause 34 hereof in the same way in all respects (including the provisions as to opening the reference) as if it were a decision of the Architect.

31. **Settlement of dispute by arbitration:** Except where otherwise provided in the contract, in case any dispute or difference arise between the parties either during the progress or after the
completion or abandonment of the work as to the construction or as to the meaning of these specifications, designs, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or those conditions or otherwise concerning the works, or the execution, or failure to execute the same, then such dispute and difference shall be and is hereby referred to the sole arbitration of The Controller General of Patents, Designs and Trademarks (CGPDTM). Should he be for any reason unwilling or unable to act as such arbitrator, such questions and disputes shall be referred to an arbitrator so appointed had to or had not to deal with matter to which the contract relates and that in the course of his duties he had expressed views on all or any of the matters in disputes or difference. The arbitrator to whom the matter is originally being referred or vacating his office or being unable to act for any reason should act as arbitrator and if for any reason that is not possible the matter is not to be referred to arbitrator at all. In all cases the arbitrator shall give reasons of the award.

Such as aforesaid the provisions of the Indian Arbitration Act, 1940 or any statutory modification or reenactment thereof and the rules thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. It shall also be a term or contract that the part invoking the arbitrator shall specify the dispute referred to the arbitration under this clause together with amount or amounts claimed. If any, in respect of each such dispute. It shall also be a term of contract that if the contractors do not make any demand for arbitration in respect of any claim in writing within 90 (ninety) days of receiving the intimation officially that the bill is ready for payment, the claim of the contractors will be deemed to have been waived and absolutely barred and The Controller General of Patents, Designs and Trademarks (CGPDTM), shall be discharged and released of all liabilities under the contract in respect of those claims. The Arbitrator may, from time to time with the consent of the parties, enlarge the time for making award.

32. **Right of technical scrutiny of final bill:** The Employer shall have a right to cause a technical examination of the works and the final bill of the Contractor including all supporting vouchers, abstracts, etc, to be made at the time of payment of the final bill, if as a
result of this examination or otherwise any sum if found to have been overpaid or over certified it shall be lawful for the Employer to recover the sum.

33. **Employer entitled to recover compensation paid to workmen**: If for any reason the Employers is obliged, by virtue of the provisions of the Workmen’s Compensation Act, 1923 or any statutory modification or re-enactment thereof to pay compensation to a workmen employed by the Contractor in execution of works, the Employer shall be entitled to recover from the Contractor the amount of compensation so paid and without prejudice to the rights of the Employer shall be entitled to recover from the Contractor the amount of compensation so paid, and without prejudice to the rights of the Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Employer to the contractor under this Contract or otherwise. The Employer shall not be bound to contest any claim made against it under the said Act except on the written request of the Contractor and upon his giving to the Employer full security and satisfaction of the Employer for all causes for which the Employer might become liable in consequence of contesting such claim.

34. If at any time after the acceptance of the tender, the Employer shall, for any reasons whatsoever, not require the whole or any part of the works to be carried out, the Architect shall give notice in writing to the Contractor who shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the whole works.

35. **Right of Employer to terminate Contractor in the event of death of Contractor, if individual**: Without prejudice to any of the rights or remedies under this Contract if the Contractor being an individual dies, the Employer shall have the option of terminating the Contract without incurring any liability for such termination.
TECHNICAL SPECIFICATION

Section ‘A’ GENERAL

The scope of work covers execution and completion of the proposed renovation work in accordance with drawings and specifications prepared by and under the direction and to the satisfaction of the Architect / Employer

Contract: The form of Contract shall be according to the Conditions of Contract. The following clauses shall be considered as an extension and not in limitation of obligation of the Contract.

Drawings: Two copies of all drawings shall be furnished by the Architect/Employer to the Contractor for his own use until the completion of the Contract, and shall be accessible at all reasonable times to the Architects or their representatives. All-important drawings are to be mounted on boards and placed in racks and indexed.

Dimensions: Figured dimension are in all cases to be accepted in preference to scaled sizes. Large-scale details take precedence over small-scale drawings. In case of any discrepancy the Contractor shall ask for clarification before proceeding with the work. The Contractor shall include in his rates for all the items listed in this section.

1. Contractor to inspect site: The Contractor shall visit and examine the construction site and satisfy himself at his own cost as to the nature of the existing roads or other means of communications, the character of the soil and the excavations, the extent and magnitude of the work and facilities for obtaining materials and shall obtain generally his own information of any misunderstanding or incorrect information on any of these points or on the grounds of insufficient description, will be allowed.

2. Access to site: The Contractor is to include in his rates for forming access to site, with all temporary roads gangways required for the works.

3. Setting out: shall set our building in accordance with the plans. All grid / centerlines shall be pegged out to the satisfaction of the Architects. The Contractor shall be responsible for the correctness of the lining out and any inaccuracies are to be rectified at his own expense. He will be responsible for taking ground levels of the site before setting out and recording them without any extra charge. The Contractor shall construct and maintain proper bench marks at the intersection of all main walls, columns etc., in order that the lines and levels can be accurately checked at all times.

4. Access for inspection: The Contractor is to provide at his own cost all times during the progress of the works and the maintenance period proper means of access, with ladders, gangways etc. and the necessary attendance to move and adapt as directed for the inspection of measurement of the works by the Architects or their representatives.

5. Attendance upon all trades: The general Contractors shall be required to attend on all the tradesmen or sub-contractor appointed by the Employer for water supply and sanitary,
electrical installation, lifts, air-conditioning, security, equipment, hardware, telephone and other specialist Contractors. The rates quoted shall be inclusive of all attendance and also allow the other inclusive of all attendance and also allow the other Contractors, appointed by the employer, use of his scaffolding and retain until such time the relevant sub-contract works are completed.

6. **Water supply:** Water shall be arranged in accordance with Clause 21(a) of general instructions to Contractor. The general Contractor shall allow the use of water for other works on the site done by other Contractors appointed by the Employer and the consumption charges shall be paid by each agency as appointed by the Architects.

7. **Gatekeeper and watchmen:** The Contractor shall provide at his own cost for necessary sheds of adequate dimension for storage and protection or materials like cement, lime, timber and such other materials including tools and equipment which are likely to deteriorate by the action of sun, wind rain or other natural causes due to exposure in the open. Approval for construction of such sheds will be obtained directly by the Contractor at their cost from concerned authority. All such sheds shall be cleared away and the whole area left in good order on completion of the Contract to the satisfaction of the Architects. All materials which are stored on the site such as bricks, aggregates etc. Shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials.

8. **Cost of transporting:** The Contractor shall allow at his cost for all transporting unloading, stacking and storing of supplies of goods and materials for this work on the site and in the places approved from time to time by the Architects. The Contractor shall allow at his price for transport of all materials controlled or otherwise to the site.

9. **W.C. and sanitary accommodation and office accessories and accommodation:** The Contractor shall provide at his own cost and expense adequate closet and sanitary accommodation complying in every respect to the rules and regulations in force of the local authorities and other public bodies, for his workmen, for the workmen of nominated sub-contractors and other Contractors working in the building, the controller and other Employer’s agents connected with this building project and maintain the same in good working order.

The Contractor shall also provide at his own expense office accommodation for the controller preferably contiguous to his office and shall provide light fan attendant etc., for the same and shall remove them after completion of the works. He shall arrange to supply at his own expense office furniture with drawing accessories for the official use of the controller and at all times maintain in good working order a dumpy level and a theodolite at site to enable the controller to check the lines and levels of the work.

10. **Materials workmanship & samples:** Materials shall be of approved quality and the best of their kind available and shall generally conform to I.S. specifications. The Contractor shall
order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead of requirement for use in the work. The work-involved calls for high standard of workmanship combined with speed and to the entire satisfaction of the Architects.

11. **Rates for non-tender items:** Rates of items not included in schedule of specification shall be settled as per current PWD schedule of rates if not available then to be settled as per variation clause of the condition of contract.

**Rates to include:** The rates quoted shall be for all heights and depths and for finished works, in any shape. The ascertain from Contractors for the other trades: The Contractor shall ascertain from other Contractors as directed by the Architects all particulars relating to their work with regard to the order of its execution and the position in which chases, holes and similar items will be required, before the work is taken in hand as no claims for extra will be allowed for cutting away work already executed in consequence of any neglect by the Contractors to ascertain these particulars beforehand.

**Before ordering materials, the Contractor shall get the samples approved from the Architects well in advance.**

12. **Testing of work and material:** The Contractors shall, if required by the if required by the Architects, arrange to test materials and/or portions of the work at his own cost in order to prove their soundness and efficiency. If after any such test the work or portion of work is found in the opinion of the Architects to be defective or unsound, the Contractor shall pull down and redo the same at his own cost, defective materials and the debris shall immediately be removed from the site.

13. **Mechanical plant:** Besides the provisions made in Clause No.4 of the Conditions of the Contract, the Contractor will be required to provide and maintain in working order the following power driven equipment during the construction work –

- **a)** Concrete mixers of more than 200 litre capacity (7 C.ft).
- **b)** Mechanically operated hoist to lift up materials to the highest level of the building of the capacity of 280 liters (10c.ft) per lift, powered by suitable machinery capable of lifting the bucket with a speed of 15 meters per minute.
- **c)** Immersion and shutter type vibrators for concrete in R.C.C. beams, columns and walls and surface type vibrators for consolidation concrete in slabs. Vibrators shall be adequate in number. A set of standby vibrators shall also be maintained on site of work.
- **d)** Tile polishing machine in adequate numbers.
- **e)** Pumps for bailing out water.
- **f)** Any other machineries like plate compactor, etc., as and when required and as ordered by the Architects.
14. **Foreman and Tradesmen:** All tradesmen shall be experienced men properly equipped with suitable tools for carrying out all the work of carpentry and joinery and other special trades in a first class manner and where the Arch intents deem necessary, the Contractor shall provide any such tools, special or ordinary which are considered necessary for carrying out the work in a proper manner. All such tradesmen shall work under an experienced and properly trained Forman, who shall be capable of reading and understanding all drawings pertaining to this work and the contractor shall also comply with other conditions set out in Clause 8 of the conditions of the Contract.

15. **Work programme weekly progress report:** The Contractor shall prepare and submit to Architects for approval, a bar chart showing the programme of construction of various items, fitted within the period stipulated for completion, along with submission of the tender. The Contractor shall also furnish necessary particulars to the controller for compiling weekly progress reports in the form furnished by the Architects.

16. **Clearing of site:** The Contractor shall after completion of the work clear the site of all debris and left over material at his own expense to the entire satisfaction of the Architects and municipal or other public authorities.

17. **Photographs:** The Contractor shall at his own expense supply to the Architects with duplicate copies of large coloured photographs not less than 25 x 20 cm. (10´´ x 8´´) of the works taken from two approved portions of each building, at beginning of the work, at completion of work and at intervals of not more than one month during the progress of the work, or at every important stage of construction without fail.

18. **Preparation of building for occupation and use on completion:** The whole of the work shall be thoroughly inspected by the Contractors and all deficiencies and defects put right. On completion of such inspection, the Contractor shall inform the Architects in writing that he has finished the work and it is ready for the Architect’s inspection.

19. **Contractor to provide Name board etc.:** The Contractor shall provide a name board on proper support 2m X 1m in a position approved by the Architects. He shall get at his cost painting and lettering stating name of work, name of Architects, Structural Consultants, general Contractor and sub-contractor, all letters except that of the name of the work shall be in letter on exceeding 5 cm in height and all to the approval to the Architects.

20. **Vouchers:** The Contractors shall furnish the Architect with vouchers on request to prove that the materials are as specified and to indicate the raise at which the materials are purchased in order to without the rate analysis of tender and non-tender items which he may be called upon to carry out thereafter.

21. **Protection:** The Contractor shall properly cover up and protect all work throughout the duration of work and until completion, particularly masonry, moldings, steps, terrazzo or special floor finishes, staginess and balustrade3s, doors and window frames, plaster, angles,
lighting and sanitary fittings, glass, paint work and all finishing at his cost till the same is handed over to the owner.

Section ‘B’ MATERIALS

GENERAL:

1. Materials shall be of the best –approved quality obtainable and they shall comply with the respective Indian standard specifications.

2. Samples of all materials shall be got approved before placing order and the approved sample shall be deposited with the Architects.

3. In case of non-availability of materials in metric sizes, the nearest size in FPS units shall be provided with the prior approval of the Architects for which neither any extra will be paid nor shall any rebate by recovered.

4. Materials shall be tested in any approved testing laboratory and the test certificate in original shall be submitted to the Architects and, the entire charges connected with testing including charges for repeated test if ordered, shall be borne by the Contractor.

5. It shall be obligatory for the Contractor to furnish certificate, if demanded by the Architects, from manufacturer or the material supplier that the work has been carried out by using their materials and as per their recommendations.

6. All materials supplied by the Employer to any other specialist firms shall be properly stored and the Contractor shall be responsible for its safe custody until they are required on the works and till completion of work.

7. Unless otherwise shown on Drawings or mentioned in the schedule of quantities or special specifications, the quality of materials workmanship, dimension etc. Shall be as specified hereunder.

8. All equipment and facilities for carrying out field test on materials shall be provided by the Contractors without any extra cost.

a) Cement: Cement shall comply in every respect with the requirements of the latest publication of IS: 269 and unless otherwise specified, Ordinary Portland Cement shall be used. The weight of ordinary Portland cement shall be taken as 1440 Kg. per cu.m (90 lbs. Per cu.ft.)and the cement shall be measured by weight and in whole bags, and each undisturbed and sealed 50 Kg. bag being considered equivalent to 35 litters (1.25 cu.ft) in volume. Care should be taken to see that each bag containing full quantity of cement. When part bag is required cement shall be taken by weight or measured in measuring boxes. No other make of cement than that approved by the Architects will be allowed on works and the course of supply shall not be changed without approval of the Architects in writing. Test certificates to show that cement is fully complying the specifications shall be submitted to the Architects and not withstanding this, the Architect at his discretion, may order that the cement
brought on site and which he may consider damaged or doubtful quality for any reason whatsoever, shall be re-tested in an approved testing laboratory and fresh certificates of its soundness shall be produced. Cement ordered for re-testing shall not be used for any work pending results of pre-test.

Cement shall be stored in weatherproof shade with raised wooden plank flooring to prevent deterioration by dampness or intrusion of foreign matter. It shall be stored in such a way as to allow the removal and use of cement in chronological order or receipt i.e. first received being first used. Cement deteriorated and/or clotted shall not be used on work but shall be removed at once from the site. However, allowing the use of swept cement and warehouse set cement shall be determined by the Architect.

Daily recorded of cement received and consumed shall be maintained by the Contractor in an approved form and submitted to architects.

b) **Lime:** Lime shall comply in every respect with the requirements of IS: 712 and shall be made from approved limestone or Kankar and properly burnt. It shall be free from excess of unburnt Kankar or lime stone ashes or other extraneous materials and shall be stored in weatherproof sheds. Lime, which has been damaged by rain, moisture or air sulking, shall not be used but shall be removed from the site of work forthwith. Lime shall be slaked with fresh water and screened through appropriate screens and stored and used within 14 days provided it is protected from dyeing out. Field test according to I.D: 1624 shall be carried out from time to time to determine the quality of lime.

c) **Fine aggregate:** Sand shall conform to IS: 383 and relevant portion of IS: 515, it shall pass through a I.S. sieve 4.75 mm (3/16B.S.) test sieve, leaving a residue not more than 5%. It shall be form natural source of crushed stone screenings, if allowed, chemically inert, clean, sharp hard durable well graded and free from dust, clay, shale, large pebbles, salt, organic matter, loam, mica or other deleterious matter. The sum of percentages of all deleterious materials in sand shall not exceed 5% by weight. It shall be washed if directed to reduce the percentage of deleterious substance to acceptable limits. Sand containing any trace of salt shall be rejected. The fine aggregate for concrete shall be graded within limits s specified in IS: 383 and the fineness modulus may range between 2.60 to 3.20. The fine aggregate shall be stacked carefully on a clean hard dry surface so that it will not get mixed up with deleterious foreign materials. If such a surface is not available a platform of planks or corrugated iron sheets or bricks floor or a thin layer of lean concrete shall be prepared.

d) **Coarse aggregate:** Shall consist of crushed or broken stone 95% of which shall be retained on 4.75 mm IS: test sieve. It shall be obtained from crushing granite, quartzite, trap, basalt or similar approved stones from approved quarry and shall conform to IS: 515 coarse aggregate shall be chemically inert when mixed with cement and shall be cubical in shape and free from soft, friable, the in porous laminated or flaky pieces. It shall be free from dust and any other
foreign matter. Gravel/ shingle of desired grading may be permitted as a substitute in part of full in plain cement concrete if the Architect is otherwise satisfied about the quality of aggregate. For all RCC works the size of coarse aggregate shall be 40 mm and down gauge.

e) **Reinforcement:** Reinforcement shall be of mind steel quality confirming to IS: 432-1966 and any other ISS applicable or deformed bar of grade Fe 415 conforming to IS: 1786 or hand drawn steel wire fabric conforming to IS 1566: 1967. All finished bars shall be free from cracks, surface flaws, and laminations. Jagged and imperfect edges.

f) **Bricks:** Bricks shall generally comply with IS : 1077. Depending upon the quality of bricks they shall be classified as 1st and 2nd class. Size of the bricks to be used shall be 250 mm X 125 mm X 75 mm or 230 mm X 115 mm X 65 mm. with tolerance as per I.S. Code., Water Absorption max. 20% by weight, Compressive strength shall be 75 to 90 kg /cm². Testing shall be carried out as per IS 3945 latest issues.

g) **Neeru:** Shall be made of class C : lime (i.e. pure fat lime) as mentioned IS : 712. It shall be slaked with fresh water and then sifted and reduced to a thick paste by grinding in a mill. Neeru thus prepared shall be kept moist until used and no more than that can be consumed in 15 days shall be prepared at a time.

h) **Timber** shall be well seasoned; its moisture content does not exceed the following limits:

i) Timber for frames -14% (ii) Timber for planking, shutters etc – 12% The moisture content of timber shall be determined according to method described in paragraph 4 of IS: 287 for maximum permissible moisture content of timber used for different purposes in different climatic zones. In measuring cross-sectional dimensions of the frame pieces tolerance up to 1.0 mm shall be allowed for each planed surface.

j) It shall be of good quality and well seasoned. Defects or any kind. No individual hard and sound knot shall be more that 1 cm. in diameter and aggregate area of all knots shall not exceed ½% of the area of the piece. It shall be closet grained and there shall not be less than 6 growth rings per 25-cm. widths.

k) **Wood:** To be of good quality and well seasoned. It shall have uniform colour, reasonably straight grains and shall be free from large, loose dead knots, cracks, shakes, warp, twists, bends, sap wood or defects of any kind. No individual hard and sound knot shall be more than 2.5 cm. in diameter and aggregate area of all knots shall not exceed 1% of the area of the piece. There shall not be less than 5 growth rings per 2.5-cm. widths.

l) **2nd class Indian teak wood:** Shall be similar to 1st class Indian teak wood except that knot up to 4 cm. diameter and aggregate area of all knots up to 1.5% of the area of the piece shall be allowed.

m) **Flush Doors:** All flush doors shall be solid core superior grade unless otherwise specified and it shall generally conform to IS: 2202 and shall be fabricated as described under specification.
n) **Steel windows & doors**: Steel windows and door shall be fabricated out of steel sections conforming to IS: 226. They shall conform to IS: 1038. Unless otherwise specified the details of construction etc. Shall be as described under specification.

o) **Aluminum windows & doors**: Aluminum windows and doors shall be fabricated as per Architects design and out of 16 gauge aluminum sections unless otherwise specified in schedule of quantities. Anodizing shall be done up to 15 microns unless otherwise specified.

p) **Floor tiles**: Plain cement tiles, chequered tiles, mosaic tiles terrazzo shall conform to IS: 1237 for neutral shade tiles gray cement shall be used. Tiles shall be compacted by mechanical vibration and hydraulically pressed. It shall be of choice shade and shall have desired pattern of chip distribution. The sizes of chips and proportion of chips to cement in terrazzo or mosaic floor shall be as specified in IS: 1237. The size and thickness of tiles shall be as approved by the Architect.

q) **Glazed tiles**: White or coloured glazed tiles shall comply with IS: 777. It shall be flat and true to shape. They shall be free from cracks, crazing spots, c hipped edge and corners. The glazing and colour shall be of uniform shade and unless otherwise specified the tile shall be 6 mm. thick.

r) **Marble**: Marble slabs for flooring, dado veneering etc. Shall be of the kind specified in the item such as white or pink, markana, chittor, black, bhanslana black, jaisalmeer yellow, Baroda green, patiala (pepsu) gray, etc. Marble from which the slabs are made shall be of selected quality hard sound dense and homogeneous in texture free from cracks, decay weathering and flaws before starting the work the Contractor shall get the sample of marble slabs approved by the Architect. The slabs shall be machine cut and machine polished.

s) **Kotah / Shahabad / Cudappa / Granite**: Shall be of selected quality hard sound dense and homogenous texture, free from cracks, decay weathering and flaws. Stone slabs shall be of uniform colour and as approved by the Architect. They shall be machine cut and machine polished wherever specified and shall conform to the required sizes. Thickness shall be as specified in the respective items.

t) **Glazing**: Glass used for Glazing shall be float glass of best approved quality free from flaws, specks, bubbles and shall be 5.0 mm. thick unless otherwise specified in the schedule of quantities.

u) **Asbestos roofing & rain water pipes**: All asbestos pipes and fittings shall comply with IS: 459 and free from cracks, c hipped edges or corners and other damages.

v) **C.G.I. Sheets**: C.G.I. Sheets shall be of the gauge specified in the description of the item and shall conform to IS: 277. The sheets shall be free from cracks, split edges, twists, surface flaws, etc. They shall be clean, bright and smooth, Galvanizing shall be uninjured and in perfect condition. The sheets shall show no signs of rust or white powdery deposits on the surface. The corrugations shall be uniform in depth and pitch and parallel.
w) **Paints:** Lime for lime wash, dry distemper, oil bound distemper, cement primer, oil paint enamel paint, flat oil paint, plastic emulsion paint, anti-corrosive primer, red lead, waterproof cement paint shall be from an approved manufacturer and shall conform to the latest Indian Standard for various paints. Ready mixed paints as received from the manufacturer without any admixture shall be used except for addition of thinner, if recommended by the manufacturer.

x) **Mortars : Lime Surkhi Mortar :** Lime And Surkhi shall conform to the specifications. It shall be composed of approved lime and surkhi in proportion of 1 lime and 2 surkhi mixed thoroughly. The ingredients shall be accurately gauged by measure and shall be well and evenly mixed together on a platform and water added to make it homogeneous. When large quantities are required the mortar shall be mixed in a mechanical grinder.

**Cement mortar :** Cement mortar shall be of proportions specified for each type of work in schedule. It shall be composed of Portland Cement and sand. The ingredients shall be accurately gauged by measure and shall be well and evenly mixed together in a mechanical pan mixture, care being taken not to add more water than is required. No mortar that has begun to set shall be used. River sand shall be used unless otherwise specified. If hand mixing is allowed then it shall be done on pucca waterproof platform. The gauged materials shall be put on the platform and mixed again until it is homogeneous and of uniform colour. Not more than one bag of cement shall be mixed at one time and which can be consumed within half of its mixing.

**Composite lime, cement, sand mortar :** The mortar shall be of proportion specified for each type of work in the schedule of quantities. It shall comprise of Portland cement, lime & sand. Lime shall be measured in gauge boxes similar to one used for measuring cement and sand to the proportions specified and sufficient water then be added to it to form a thick slurry. The slurry thus obtained shall then be added to dry cement and sand mixture and thoroughly mixed to make a workable homogeneous mortar of uniform colour by adding more water, if necessary. Mechanical mixers shall generally be used for mixing such mortars. If hand mixing is allowed it shall be done on pucca platform.

Clearing of site, Excavation & Earth Filling:

Section ‘A’ **WORKMANSHP**

**GENERAL**

a) Excavation work shall include for clearing of site, making of layout of building, fixing grid points, establishing bench marks, etc., as required and as directed the Architect.

b) Excavation work shall include shoring, timbering, strutting. Etc. for protection of excavated sides, bailing and pumping out of water for himself as well as for any other agency including waterproofing agency at any stage of the work until all work below water level is finished to the complete satisfaction of the Architect.
c) Excavation work in any soil, soft rock, old foundation of all description, boulders, hard rock, etc., shall include hire charges of plant and machinery, blanketing etc., including spreading of excavated materials in the plot and surplus to be carted away from the site as directed by the Architect.

d) Black cotton soil shall not be used for refilling around foundation and in plinth. Only selected materials approved by the Architect shall be used.

e) Excavation work shall include all lifts, leads and re-handling of soils etc. as necessary.

f) Architect decision regarding hard rock or soft rock shall be considered as final for payment. Trenches for wall foundation, column footings, raft foundations, pile caps, plinth beams, water tanks, cuss pits etc. shall be excavated to the exact length and width as directed by the Architects. If taken out to greater length, width or depth than shown or required, the extra work occasioned thereby shall be done at Contractor’s expenses. Extra depth shall be brought up by plain cement concrete filling 1:4:8 proportion and extra length and width filled in by rammed earth or murum or if the Architect thinks it necessary for the stability of the work by 1:4:8 concrete, as may be directed, at the Contractor’s cost.

Excavated materials shall be used for filling in plinth, or each side of the foundation blocks or trenches or it shall be spread elsewhere on or near the site of work including watering, ramming and consolidating or carted away from site, free of charge, as may be ordered. The Contractor shall at his own expense and without extra charge, make provision for supporting all utility services, lighting the trenches, separating and stacking serviceable materials neatly, shoring, timbering strutting, bailing out water either sub-soil or rain water including pumping at any stage of the work.

Trenches shall be kept free of water while masonry or concrete works are in progress and till the Architects consider that concrete sufficiently safe.

Excavation excluding in hard Rock: Excavation shall be carried out in any type of soil, murum (soft or hard), fort rock, boulders, old foundations, concrete, asphalt, or stone paved surfaces old masonry or concrete (plain or reinforced).

Excavation in Hard Rock: Rock, which is in solid beds, which can only be removed either by blasting or by wedging or chiseling, shall be treated as hard rock. A boulder or detached rock measuring one cubic meter or more shall also be treated as hard rock if the same cannot be removed without blasting wedging or chiseling. Where hard rock is met with and blasting operation is considered necessary, the Contractor shall intimate the same to the Architect. The Contractor shall obtain license from district / public authorities for carrying out blasting work as well as for obtaining transporting and storing explosives as per explosive rules 1940 or as amended. He shall purchase the explosives, fuses, detonators, etc. only from a licensed dealer. He shall maintain the account of explosive etc. purchased and used by him. He shall be responsible for safe custody and proper accounting of explosive materials. The Architect
shall have access to check store or explosives and accounts thereof. Blasting shall normally be
done with gunpowder. Dynamite, gelatin or any other high explosive shall only be used in
special cases with written permission of the Architect and district /public authorities
concerned under the Explosives rules. Blasting operation shall be carried out under
supervision of a responsible representative of the Contractor during certain hours, preferably
during lunch- break as approved in written by the Architect. The representative shall be
conversant with rules of blasting.
Proper precautions for safety of persons shall be taken. Red flags shall be prominently
displayed around the area to be blasted and all people on work except those who actually light
fuses shall be withdrawn to safe distances or not less than 100 meters from the blast. Blasting
shall not be done within 100 meters of an existing masonry or any other kind of structure
unless special precautions are taken by heavy blanketing etc. Where blasting is not practicable
or prohibited; excavation shall be done by wedging or chiseling and it shall by restricted to
the quantity required to enable the necessary foundations etc. to be put in. In case the
dimension or trenches exceed those shown in drawings or a directed by the Architect, the
excess shown shall not be paid for. The item also covers bailing out sub-soil or rainwater
including pumping at any stage of the work, shoring strutting etc.
Earth Filling:
General : Filling shall be done with good earth, murrum or stone c hips, it shall be free from
salts, organic matter, black cotton or slushy earth and combustible materials. All clods shall
be broken.
a) Filling in Plinth : Shall be done in layers not exceeding 25 cm., amply watered and
consolidated by ramming with the iron or wooden rammers weighing 7 to 8 kg. and having
base of 20-cm. square or 20-cm. diameters. When the filling reaches the finished level,
surface be flooded with water for at least 24 hours, allowed to day and then rammed and
consolidated after making good any settlement in order to avoid settlement at a later stage
special care shall be taken to pack earth under plinth beams and column corners. Finished
level of filling shall be kept to a slope intended to be given to the floor.
b) Filling in outdoor portions and for site development: shall be done in layer of 30 cm. Each
layer shall be adequately watered. When filling reaches the required level the topmost layer
shall be dressed to proper section, grade and camber and rolled by 8 to 10 tons power roller
and adequately watered to aid compaction.
DRY RUBBLE PACKING & LEVELLING COURSE:
Dry Rubble packing: Ground shall first be leveled up and thoroughly consolidated by means
of heavy log. Hammer or frog rams. Rubble of specified thickness shall be laid and set with
hand. It shall be consolidated by hand roller or wooden log hammer, free use of water being
made during consolidation. All hollows and interstices after consolidation shall be filled up
with quarry spills, stone chips etc. and the packing blinded with stone grit and watered and consolidated by log hammer.

Rubble packing in road work shall be thoroughly consolidated by means of power roller or 9 ton capacity instead of log hammer and the surface shall be brought to proper graded and camber. After checking the level, grade and camber, the surface will again be watered and rolled to receive road structure.

Leveling course: It shall be either plain cement concrete or lime concrete which shall be proportioned as stipulated in the relevant item and mixed and placed in position conforming to line and level shown in the drawing and compacted by approved means and cured adequately.

Lime concrete shall be prepared by mixing sand and slaked lime in proportion of three parts of sand and one parts of lime and ground in suitable mill and the mortar so prepared shall be added to six parts of brickbat passing through 50 mm. mesh, mixed well and placed in position and compacted by approved means. The concrete shall be cured adequately.

PLAIN & REINFORCED CEMENT CONCRETE:

General: Except where they are varied by the requirements of this specifications due to provision of Indian Standard Specification IS: 456 -1978 for plain and reinforced concrete and IS: 432 Part I and II for mild and medium tensile steel bars and hard drawn steel wire for concrete reinforcement and any other relevant ISS applicable together with the latest amendments shall be held to be incorporated in this specification. It shall be intent of these specifications to ensure that all concrete placed at various locations of the job should be durable, strong enough to carry the design load, it should wear well and practically be impervious to water. It should be free from such defects as shrinkage, cracking and honeycombing.

Proportioning the Mix: In ordinary concrete, excluding controlled concrete proportions of cement to fine and coarse aggregate shall be as specified in the respective items and shall be accurately measured. The proportions are based on assumption that the aggregates are dry. If aggregates are moist, allowance shall be made for bulking in accordance with IS: 2386 (Part II). Allowance shall also be made for surface water present in aggregates when computing water surface present shall be determined by one of the field methods described IS: 2386 (Part III).

Mixing: Normally Concrete of 1:2:4 or richer mix shall be mixed in an approved mechanical mixer. In concreting of smaller quantities hand mixing may be allowed provided 10% extra cement is used as per IS 456. The mixer and the mixing platform shall be suitably protected from wind and rain. Aggregates shall be accurately measured out in boxes and mixed dry along with cement, water shall then be added in measured quantity and mixing
shall be continued until there is a uniform in colour and consistency but in no case shall the mixing be done for less than 2 minutes.

Consistency : Quantity of water for making reinforced concrete shall be sufficient, so as to ensure that concrete shall surround and properly grip all the reinforcement. The best consistency shall be that which will flow sluggishly without flattening out and without separation of coarse aggregates from the mortar. The degree of plasticity shall depend on the nature of work and atmospheric temperature and whether the concrete is vibrated or hand compacted. The slumps shown in Table B obtained by the standard slump test carried out in accordance with the procedure laid down in ISS : 1199- 1959 Shall be adopted for different types of work.

Admixtures : The use of admixture may be allowed only if approved by the Architect and his decision in this regard shall be final.

Transporting : Concrete shall be conveyed from the place of mixing to the place of final deposit as rapidly as practicable by methods, which will prevent segregation or loss of any of the ingredients. If segregation does occur during transport, the concrete shall be re-mixed before being placed. In no case, more than 30 minutes shall clasp between mixing and consolidation in its position.

Placing & Compacting : Concrete shall be placed in layers of suitable thickness or in stripes and compacted before initial setting commences and should not be subsequently disturbed. Method of placing shall be such as to preclude segregation and as far as practicable the placing shall be continuous. Special care shall be taken in accordance with IS: 456 while laying concrete under extreme weather.

Concrete shall be thoroughly compacted during the operation of placing and thoroughly worked around the reinforcement, embedded fixtures and spaded, against corners of the form work and by punning, ridding, mechanically vibrating or by any other approved means. In addition formwork shall be tapped lightly by using wooden mallet at the pouring head. The number and type of vibrator to be used shall be subject to the approval of Architects and in general immersion type vibrators shall be used. External vibrators shall also be used whenever directed.

The intensity and duration of vibration shall be sufficient to cause complete settlement and compaction without any satisfaction of successive layers or separation of ingredient or formation of laitance. Vibrator. Shall be inserted vertically in the concrete at points not more than 45 cm. apart and withdrawn very slowly when air bubbles no longer come on the surface. Excessive vibration or vibration of very wet mixes is harmful and should be avoided. Care shall be taken to utilize the vibrator only to compact the concrete and not to spread it. Sufficient number of reserve vibrators in good working conditions shall be kept on hand at all times, so as to ensure that there is no slackening or interruption in compacting.
Construction joints:

a) Concreting shall be carried out end to end continuously as far as possible and when construction joints are totally unavoidable, it shall be located in a predetermined position approved by the Architect. The joints shall be kept at places where the shear force is minimum and these shall be straight and at right angles to the direction of main reinforcement. When the work has to be resumed on a surface, which has hardened, such surface shall be roughened. It shall be swept clean thoroughly wetted and covered with a 13-mm. thick layer of mortar composed of cement and sand in the concrete mix. This 13-mm. layer of mortar shall be freshly mixed and placed immediately before the placing of concrete.

b) Stop Boards: All vertical construction joints (for columns etc.) shall be formed with proper wooden stop boards at the joints. The stoop boards shall be such that reinforcements, embedment of fixture etc. pass through it. Where directed the joints shall be rebated, joggled, grooved etc. and of approved shape.

c) In the case of horizontal joints (beams & slabs etc) any excess water shall be removed. Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgment of particles or aggregate. The surface shall be thoroughly wetted and free water removed. The surface shall then be coated with neat cement grout. In horizontal joints the first layer of concrete to be placed on this surface shall not exceed 15-cm. thicknesses and shall be well rammed against old work, particular attention being paid to corners.

Expansion joints: Expansion joints shall be provided at no extra cost wherever required as shown on the drawing or as directed by the Architect. The joints shall be filled with approved quality filler or with the material required by the consultant and supplied free of cost to the Contractor.

Curing: Concrete shall be carefully protected during first stage of hardening from harmful effects of excessive heat, drying, winds, rain or running water. It shall be covered with layer of sacking, sand, canvas Hessian or similar absorbent materials and kept constantly wet for ten days from the date of pacing or concrete. Alternatively, the concrete being thoroughly wetted and covered by layer of approved waterproofing material which should be kept in contact with it for ten days.

**FORM WORK:**

The form work shall conform to the shape, lines and dimensions as shown in the plans and be so constructed as to remain sufficiently rigid during the placing and compacting of the concrete and shall be sufficiently watertight to prevent loss of cement slurry from the concrete. Form work of centering shall be constructed of steel or timber and adequately designed to support the full weight of wet concrete ramming and setting of concrete shall be properly seasoned so as to prevent deformation when wetted.
All the columns and beams – sides & bottoms and slab-bottoms shall be made up of 12 mm. thick waterproof plastic coated ply with proper supporting system in 2” X 2” thick wooden members. All the centering materials shall be totally new, beginning from foundation level till last. Broken or torn during the progress of the work shall have to be immediately replaced by new centering material. At any stage, old or damaged centering shall not be accepted.

In case of wooden props minimum 4" dia. Straight and have full height with no joints shall be allowed. Bamboos or wooden battens and where additional staging is necessary extra care shall be taken to use bigger diameter props with bracing at 4 to 5 stages as approved by the consultants. At the time of removing props. Their wedges shall be gently eased and not knocked out.

All rubbish, chipping, shavings and saw dust shall be removed from the interior of the forms before the concrete is placed and form work in contact with the concrete shall be cleaned and thoroughly wetted or treated with non-sticking mineral oil or any other approved material. Care shall be taken that oil or such approved material is kept out of contact with the reinforcement.

All formwork shall be removed without shock or vibration and shall be eased off carefully in order to allow the structure to take up its load gradually. Forms shall not be disturbed until concrete has adequately hardened to take up superimposed load coming on it and in no circumstances shall forms be struck until the concrete reaches a strength of at least twice the stress to which the concrete may be subjected at the time. Striking.

In the normal circumstances (generally where temperatures are above 21 degrees centigrade and where ordinary cement is used forms may be struck after expiry of following periods.

<table>
<thead>
<tr>
<th></th>
<th>Walls, columns and vertical sides of beams.</th>
<th>48 hours from placing of concrete or as may be directed by Architects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>b)</td>
<td>Bottom of slab up to 4.5m</td>
<td>7 days –do- -do-</td>
</tr>
<tr>
<td>c)</td>
<td>Bottom of slab above 4.5 m span and bottom of beam and arch rib up to 6m. Span and bottom of cantilever slabs.</td>
<td>14 days –do – do -</td>
</tr>
<tr>
<td>d)</td>
<td>Bottom of beams and arch rib over 6m.</td>
<td>21 days –do- -do-</td>
</tr>
</tbody>
</table>

Surface that becomes exposed on removal of forms shall be carefully examined and any fins, burns projections etc. that are detected shall be removed. Any honeycombing even of minor nature shall not be finished neatly with cement mortar 1:2 without getting approved from Architect. The Contractor at his own cost shall reconstruct any work showing signs of damage though premature or careless removal of centering or shuttering.
Tests: Tests on concrete shall be carried out in accordance with IS: 456 and any other ISS applicable. The frequency of works test shall be at such intervals as ordered by the Architect and subject to that every 150 cu.m. Concrete placed or part thereof and for a days concrete exceeding 20 cu. M. a batch of 6 cubes shall be made for every sample and 3 of them tested after 7 days and the remaining 3 cubes shall be tested 28 days. The criteria for acceptance of a concrete as conforming to the specified proportion grade of concrete shall be in accordance with IS: 456 and the Contractor shall entirely re-do the rejected work, at his own cost attaining strength 28 days shall alone be considered for acceptance. The Contractor shall arrange to carry out the rests in accordance with the relevant Indian Standard. Specifications in an approved laboratory and the test reports in original submitted to Architect. The entire cost of testing shall be borne by the Contractor.

Steel reinforcement: Reinforcement shall be accurately fabricated, placed and adequately maintained in position as shown on drawings or as directed by the Architects. All finished bars shall be free from cracks. Surface flaws. Laminations, jagged and imperfect edges. Plastic or dense cement mortar blocks shall be used to give requisite cover as shown on the drawing or as directed and all intersections of bet shall be firmly tied with binding wire or 16 to 18 gauge Reinforcement shall be bent in accordance with the procedure stipulated in IS: 2502-1953 and will not be straightened in a manner which will injure the material. All reinforcement shall immediately, before placing in concrete, be thoroughly cleansed of loose mill scale, loose rust oil and grease or other deleterious matter that would destroy or reduce bond. Welding or coupling except in accordance with relevant shall connect reinforcement in reinforced concrete members. ISS and with the previous approval of the Architect. Overlaps and joints shall be strengthened and located at points along the span where neither shear not bending moment is maximum.

Cover: Reinforcement shall have cover as shown on the R.C.C. drawings and where not specified the thickness of cover shall be as follows. Cement mortar blocks in C.M. 1:1 shall be used for making cover blocks or if directed plastic cover blocks shall be used at no extra cost.

a) At each end of reinforcement not less then 25 mm. nor less than twice the diameter of such rod or bar.

b) For a longitudinal reinforcement in a column not less than 40 mm. nor less than the diameter of such rod or bar. In the case of columns of minimum dimension of 200 mm. or under whose reinforcement does not exceed 13 mm dia. The cover of 25 mm. may be used.

c) For longitudinal reinforcement in a beam not less than 25 mm. nor less than the diameter or such rod or bar.

d) For reinforcement in slabs not less than 25 mm for Bottom bars & not less than 15 mm for Top bars.
d) For tensile, compressive, shear or other reinforcement in a slab not less than the diameter or such reinforcement.
e) For any other reinforcement not less than 13 mm nor less than the diameter or such reinforcement.

**BRICK MASONARY:**

Masonry Work:

a) It shall include for work at any depth below ground level and for all heights above ground level and shall provide for necessary scaffolding, centering, shuttering, de-watering etc.
b) It shall include for embedding electrical conduits, boxes, holdfasts for doors, windows and ventilators sanitary and water supply pipes and any other fixtures or inserts.
c) It shall include work of any shape in pillars, curved or tapered walls, drip course, projections and any Architectural moldings cutting and preparing the surface for cladding etc.
d) It shall include raking out joints for receiving finishing items, forming openings making chases, grooves, bonding with concrete, curing etc.
e) It shall include providing R.C.C. stiffeners including nominal reinforcement wherever directed.

General: All bricks work should be carried out as shown on the drawings with setbacks, projections, cuttings tooting, etc. Wherever the proportion of cement mortar has been specifically mentioned cement mortar in the proportion of 1:6 shall be used. Flat bricks arches shall be provided wherever required without any extra cost. Brickwork shall be kept wet while in progress, till mortar has properly set. On holidays or when work is stopped, top of all unfinished masonry shall be kept wet. Shoot the mortar become dry, while or powdery for want of curing work, shall be pulled down and rebuilt at the Contractor’s expense.

Brick work 1st class: Brick shall be thoroughly cleaned, well wetted and soaked for at least twelve hours in fresh water before being used on the work, brick shall be of locally available best quality. English bond shall be used throughout the work, both laterally and transversely. In walling, the course shall be kept perfectly horizontal and i. In plumb with the frogs facing upwards. Vertical joints shall not exceed 10-mm. widths and shall be full of closers. After day’s work all joints shall be raked to 12-mm. depths to provide for proper key to plastering. Mortar used shall be as specified in respective items and every third course of brickwork shall be flushed with mortar grout. Whole of the masonry work shall be brought up at one uniform level throughout the structure, but where breaks are unavoidable; joints shall be made good long steps. All junctions of walls and cross walls shall be carefully bonded in to the main walls. The rate of laying masonry may be up to a height of 60 cm. per day if cement mortar is used and 45 cm. per day if lime mortar is used. Greater heights may be built only if permitted by the Architect. During rains, the work shall be
carefully covered to prevent mortar from being washed away. Should any mortar or cement be washed away the work shall be removed and rebuilt at the Contractor’s expense.

Half-Brick masonry: Shall be set in cement mortar as specified. R.C.C. patti 4” thick shall be provided at intervals of 1.0 meter (3-0) or 2 nos. 6 mm (1/4”) did bars shall be used in every sixth course.

RUBBLE MASONRY:

General: Stone shall be of the kind of blue Basalt and shall be from an approved quarry. Stones shall be well wetted before lying in position. The mortar shall be as specified in the item. Face stone shall not be less in breadth than in height and it shall also tail into the work more than its height. Jambs of doors, windows and opening shall be formed with quoins. In case of battered walls, the courses on battered surface shall be at right angle to the batter. Through stones or headers shall be laid in every course at a distance not exceeding 2 meters apart and shall be staggered. They shall be in one piece for wall up to 0.5 meter width and shall be lap jointed in case of walls having thickness more than half meter. The face area of each header shall not be less than 0.05 sq.m 1:2:4 cement concrete may also be allowed where good length headers are not available. Headers shall be marked with oil paint for ready identification. Height of quoins shall be same as that of the course. Length of quoins shall be 0.50 m and shall be laid header and stretcher alternatively. Faces of quoins shall be fair dressed. No quoins-stone shall be less than 0.03 cu.m. In content. Joints of masonry shall be raked out and unless otherwise stated, shall be raised cement pointed by using cement mortar 1:1 to all exposed surfaces. All masonry work shall be well watered for a period of seven days.

a) Coursed Rubble Masonry – First sort: Height of course shall not be less than 15 cm. and all courses shall be of uniform height. All stones in the course shall be of same height. In no case height of course shall be more than any of the courses below it, bed and sides shall be hammer or chisel dressed back from the face 75 mm. and 35 mm. respectively. Faces of stones shall be hammer- dressed and bushing shall not be more than 35 mm. thickness of joints shall not be more than 10 mm. Stones shall break joints at least half the height of the course work on interior face shall be precisely the same as on exterior face. Quoins shall be at least 0.5 m long lay square on their beds and shall be fair dress to a depth of at least 10 cm.

Uncaused Rubble masonry: Stones shall be hammer – dressed. Nearly fifty percent of stones shall not be less than 0.03 cu.m. in content each, and twenty five percent of stone shall tail back in masonry by 40 cm. or more. Stones shall be so arranged as to break joints as much as possible. Long vertical joints shall be carefully avoided. Thickness of joints shall in no case exceed 12 mm. Pillar offsets shall be properly dressed with hammer or chisel to form proper angle. Stones used for backing shall be of fairly large size.
Random Rubble masonry – First Sort: Stones shall be roughly chisel-dressed. They shall be solidly bedded in mortar. Height of stone shall not be more than width of face or length of tail. Stones shall be of equal size and so arranged as to break joints as much as possible, avoiding long lines of horizontal or vertical joints. Quoins shall be same as described in coursed Rubble masonry lot sort. All stones shall be carefully fitted. Thickness of face joint shall not exceed 25 mm. Edges of stones shall be chisel-dressed for fitting in position properly.

PLASTERING

a) Water and Portland cement shall be as specified for brickwork.

b) Sand shall consist of natural sand, crushed stone sand, crushed gravel sand, from an Approved source or washed river sand. The sand shall be hard, durable, clean and free from adherent contain any appreciable amount of clay balls or pellets. The sand shall not contain any harmful impurities, such as iron pyrites, alkali, salts, coal, mica, shale or similar laminated or other in such form or in such quantities as to affect adversely the hardening the strength, the durability, or applied decoration, or to cause corrosion of any metal in contact with the plaster. The sand shall be properly graded and of medium size with a fineness modulus of 2.0 to 2.2.

c) STORAGE:

Cement and sand shall be stored as specified under brickwork.

d) PREPARATION:

Unless otherwise specified in drawings and/or schedule of items, mortar for plastering shall be mixed in the proportion of 1 part of cement and 5 parts of sand by volume mixed in dry state and then wetted and mixed thoroughly to obtain the required consistency, including machine mixing if desired by the Engineer. The mortar shall be consumed within half an hour of mixing. Any mortar for plaster, which is partially set, shall be rejected and removed from the site. Machine mixed mortar shall be prepared in an approved mixer as approved by Engineer. Mixing for 1.1/2 to minutes is normally sufficient. Plastering on which epoxy based protective coatings is to be applied shall not have any lime in its mortar. This shall have a mix in the proportion of 1 part of cement and 3 parts of sand by volume.

e) APPLICATION

The work under the clause shall conform to clause 9.13 of I.S. 1661- latest edition. All joints in the masonry shall be raked out to a depth of at least 10 mm with a hooked tool made for the purpose while the mortar is still green. Surface on which plastering is to be applied, shall be clean and free from all dust, loose materials grass etc. and be well wetted for a few hours, at least 6 hours, before plastering Brick work shall be brushed down with a steel wire brush to remove all loose dust from the joints and thoroughly washed with water. Chipping and roughening from concrete surfaces, which are to be plastered, shall remove all laitance.
In all plaster work. Mortar shall be applied somewhat more than the required thickness and well pressed into the joint and on the surface and rubbed and leveled with a flat wooden rule to the required thickness of plaster, when more than 15 mm. thick, shall be applied in two coats a base coat followed by the finishing coat. Thickness of the base coat shall be just sufficient to fill up all unevenness in the surface, no single coat, however shall exceed 12 mm. in thickness. The lower coat shall be thicker than the upper coat. The overall thickness of the coats shall not be less than the minimum thickness shown on the drawings. The undercoat shall be allowed to dry and shrink before applying the second coat of plaster. The undercoat shall be scratched or roughened before it is fully handled to form a mechanical key. The method of application shall be thrown on rather than applied by trowel.

To ensure even thickness the true surface, paths of plaster about 150 mm. Square or wooden screed 75 mm. wide and one of the thickness of the plaster shall be fixed vertically about 2000 mm. to 3000 mm. a part to act as gauges. The finished wall surface shall be true to plumb and the Contractor shall without any extra Cost to the department, make up any irregularity in the brick.

Work with plaster. All vertical edges of brick pillars, floor jambs etc. shall be chamfered or rounded off as directed by the Engineer. After the plastering work is completed all debris shall be removed and the area left clean. All corners must be finished to their true angles or forms. Any plastering that is damaged shall be repaired and left in good condition at the completion of the job.

**f) CURING:**

All plastered surfaces after lying, shall be watered for a minimum period of seven days, by an approved method, and shall be protected from excessive heat and sunlight by suitable approved means. Moistenning shall be commenced, as soon as the plaster has hardened sufficiently and not susceptible to damage. Each individual coat of plaster shall be kept damp continuously, for at least two days and when dried thoroughly, before applying the next coat. In any continuous face of wall, finishing treatment of any type shall be carried. Out continuously and day to day break in order to avoid unsightly patches at junctions. Whichever punning is indicated, the interior plaster shall be finished rough. Otherwise the interior plaster shall generally be finished to a smooth surface. The exterior surface shall generally be finished with a wooden float. Wherever any special treatment to the plaster surface is indicated, the work shall be done exactly as shown on the drawings, to the entire satisfaction of the Engineer regarding the texture, colour and finish.

**PEBBLE DASH FINISH**

Mortar of required thickness consisting of one part cement and five parts of sand by volume shall be applied to form a bass coat in the usual manner as described under plastering. While
the mortar is still plastic. Small pebbles or crushed stone of size generally from 10 mm. as 20 mm. as approved by the Engineer shall be lightly tapped into the mortar with a wooden unit float or the flat end of a trowel in order to ensure satisfactory bend between the dashing and the mortar.

ROUGH CAST FINISH

The plaster shall be laid in two coats. The first coat shall consist of one part cement and five parts of clean sharp sand. The thickness of first coat shall be just sufficient to fill up all unevenness in the surface under treatment but shall not exceed 12 mm. the plaster shall be laid by the throwing of mortar on the prepared surface with a trowel in a uniform layer and pressed to form a good bend. The second coat shall not be smoothened. The second coat shall consist of one part of cement, three parts of crushed stone of size 6 to 12 mm. or as approved by the engineer. The thickness of the coat shall be 7 mm. to 8 mm. The cement and aggregates shall be mixed dry in the proportion by volume as specified. Water shall be added to form a plastic mix easily workable. The second coat shall be applied while the first coat is still soft and plastic. The plastic mix shall be thrown on the first coat by means of a plaster’s trowel and left in the rough condition. If it is desired to colour the surface, the colour may be mixed with the second coat, in the proportion required by the Engineer to give the desired things. As the colour fades on drying, a deeper shade than is desired shall be applied. Alternatively coloured cement may be used.

SAND FACED

Plaster shall be applied in two coats consisting of an undercoat of cement mortar (1 :5 :12 mm. thick) and a finishing coat with cement mortar (1:3) 7 to 8 mm. thick. The sand used in the finishing coat shall pass through 4.75 mm. sieve and be retained on 2.36-mm. sieves. Mix should be formed on the surface of base coat by thoroughly combing it in many horizontal lines about 12 mm. apart and 3 mm. deep when the mortar is still plastic. The surfaces of the finishing coat shall be treated to obtain a uniform fine-grained texture with the help of sponges, felt pads, etc. Care shall be taken to see that the cement used is of the same shade throughout the work.

MEASUREMENT

BRICK WORK The measurement of work shall be the product of the length height and thickness. All thickness of brick wall shall be multiple of half bricks. Deduction for doors, windows and other openings including lintels shall be made to arrive at the net quantity of work, but nothing shall be paid extra for formation such openings. However, no deduction shall be made for areas less than 0.1 Sq.M. over all bearing of lintels, beams, girders and holdfasts blocks but nothing shall be paid extra for embedding these. Similarly no deduction shall be made for chimney, flues left in the walls but nothing extra shall be allowed for rendering the flues opening as specified.
Brickwork as covering to RCC structures and in continuation of the main wall shall be measured in thickness nearest to ½ brick unit. Unless otherwise specified nothing extra shall be admissible for cutting in Brick work to suit RCC structures, walls in any shape other than straight or any cutting necessary for shaping the wall to the structural design.

**HALF BRICK**

B) Half Brickwork shall be measured in square meter inclusive of the reinforcement (if specified and deduction shall be made as for brickwork as stated above).

C) The measurement of work shall be the product of length, height and thickness and deduction shall be

D) **PLASTER.**

All plastering, pointing etc. shall be measured on the area finished in square meter and deductions shall be as follows:

For jambs, soffits, sills, etc. for openings not exceeding 0.5 sq.m. each in area, for ends of joists, beams, posts, girders, steps etc. for not exceeding 0.5 sq. m. each in area and for openings exceeding 0.5 sq. m. and not exceeding 3 sq. m. in each area, deductions and additions shall be made in the following manners:

No deduction shall be made for ends of joints, beams, posts, etc. and openings not exceeding 0.5 sq.m. each and no addition shall be made for reveals, jambs, soffits, sills etc. for these openings nor for finish to plaster around ends of joists, beams, posts etc.

Deductions for openings exceeding 0.5 sq.m. but not exceeding 3 sq. m. each shall be made as follows and no addition shall be made for reveals, jambs, soffits, sills etc. for these openings.

When both faces of wall are plastered/ pointed with same plaster / pointing / deduction shall be made for one face only.

When two faces of wall are plastered / pointed with different types of plasters / pointing or if one face is plastered and the other pointed, deduction shall be made from the plaster or pointing on the side of frame for door, windows etc. on which width of reveals is less than that on the other side but no deduction shall be made on the other side.

For openings varying four frames equal to or protecting beyond the thickness of wall, full deduction for opening shall be made from each plastered pointed face of the wall.

In case of openings of area above 3 sq.m. each, deductions shall be made for opening but jambs, soffits and sills shall be measured.

**NOTE:** -

In calculating areas of openings the extra width of rebated reveals, if any, shall be excluded.
WOODWORK

SCOPE:
The work in general shall consist of supplying and/or installation of all wooden doors, windows, ventilators, louvers hand rail tons, architraves, shelves complete with frames, fittings, fixtures glass panes.

In general wherever applicable and unless otherwise noted the work shall conform to the following Indian Standards (Latest edition) and/or any other relevant Indian Standard Code.
I.S. 883 Code of Practice for design of structural timber in building.
I.S. 1141 Code of Practice for seasoning of timber.
I.S. 303 Plywood for general purposes.
I.S. 848 Synthetic resin adhesives for plywood.
I.S. 1328 Veneered decorative plywood.
I.S.3087 Wood particleboards.
I.S.3097 Veneered particleboards of solid core and tubular core.
I.S. 1003 Part 1 – Door shutters.

Timber used shall be of type as stated in the schedule and of best quality. All timber shall be of natural growth and uniform in texture and shall be well and properly seasoned. It shall be free from large, loose, dead, or cluster of knots, wave3s injurious open shakes, borer holes, rot decay, knots, discoloration, soft or spongy spots, hollow pockets with or centre heart and all other defects and blemishes.

Timber shall conform to I.S. 883.

The seasoning of timber shall be as laid down in I.S. 1141.

GLASS:
All glass shall be superior quality from approved manufacturer like Modi, Indo-Asahi or approved equivalent, having uniform refractive index and free from flaws, specks and bubbles. Sheet glass for glazing and purposes shall conform to I.S. 1761 latest edition. The glass shall be brought to site in the original packing from the manufacturer and cut to size at site. The outer edges shall be straight and free from chips, spills or any the damages. Wherever clear sheet glass is specified, it shall be thick rolled glass with centrally embedded wire mesh or.

Georgian type. Where obscure glass is mentioned it shall have a cast surface on one side. The contractor shall submit samples of glass for prior approval of the engineer.

In general, the putty shall conform to I.S. 420 latest edition. The putty shall be of best quality from approved manufacturer. It shall be brought to site in the manufacturer’s original packing. Quick setting putty shall be used for windows and sashes expect when glare-reducing glass is used where it shall be of non-setting type.
CARPENTRY WORK

All workmanship pertaining to woodwork shall be of best joints or as directed by the Engineer. If after standard and all joinery work shall fit freely and without wedging or filling and of the kind directed by the engineer.

Woodwork in frames shall be wrought and all frames joints shall be put together with white lead and pinned with hard wood pins. All exposed faces of joinery shall be thoroughly planed. Jointing shall be by means of mortise and tenon, dovetailed execution any shrinkage or bad workmanship is found, the contractor shall forthwith replace or re-fit the same at his own cost, all as directed by the engineer. The portion of woodwork when embedded / abutted in masonry/ concrete shall be coated with two coats of bitumen or approved preservative and no extra will be paid for this. The rate for wood work shall include the cost of all sawing, planning, jointing, framing, labour and materials for raising and fixing and all workmanship and fixing and supplying of all strips bolts, nails, spikes, keys, wedges, pins, screws etc. Necessary for the framing as per specification and drawings. Edges of the beams, joints, posts, frames etc. shall be rounded, moulded or chamfered as direct without extra charges.

FRAMES, TRANSOMS, MULLINS:

These shall be cut and planed from first class timber of respective kind of sized as stated in the schedule of quantities or as detailed on the drawings. Doors, windows, ventilators frames, transoms and mullions shall be rebated to receive the shutter.

SHUTTERS:

GENERAL

This shall be as per drawings, glazed and or paneled, battened, flush type or as specified.

PANELLED DOOR SHUTTERS:

Paneled décor shutters shall be manufactured out of well-seasoned teakwood planks cut to width as specified. The planks shall be tongue and groove jointed (with architectural grooves) with one another and with the top and bottom rails as shown in the drawings and as specified in the Schedule of Quantities.

FLUSH DOOR SHUTTERS

Flush door shutters shall be obtained from firms of repute as approved by the Engineer. The Contractors shall be required to bring a full size sample door and done the engineer approve it in writing before bulk supply in made. Shutters shall be made to the sizes specified in the drawing and shall not be trimmed at site. Peepholes shall be provided if required at no extra cost.

BLOCK BOARD CORE FLUSH DOOR SUTTER WITH FIRST CLASS TEAK VENEERING

The shutter shall be as per design of block board construction and specified thickness. These shutters consists of a solid (fully filled) core, laminated or allotted covered with two or three
veneers on each face and lipped on all the edges with first class teakwood battens. The facing veneer shall be of first class teak. A tolerance of one mm will be allowed in the thickness of shutter.

Core:
The solid or laminated core shall be of wood laminate prepared from battens of well-seasoned and treated good quality wood, having straight grains. The battens shall be of uniform size of about (2.5 cm.) width. These shall be properly glued and machine pressed together, with grains of each piece reversed from that of the adjoining one. The longitudinal joints of the battens shall be staggered and no piece shall be less than 0.5 meter in length, alternately, the core shall be solid board with slots extending for about two third depths and at approximately 2.0 cm. Spacing. The slots shall be made alternately on two faces of the board.

Lapping:
Edges of the core shall be lipped with first class teakwood battens of 3.8 cm. Minimum depth, glued and machine pressed along with the core.

Veneers:
The core surface shall then have two or three veneers firmly glued on each face. The first veneer (Called cross band) shall be laid with its grains at right angles to those of the core and the second and third veneer with third veneer with their grains parallel to those of the core. The under veneers shall be of quality, durable and well-seasoned wood. The face veneer shall be of minimum one-millimeter thickness and of well-matched and seasoned first class teak, laid along with grains of the core battens. The veneer shall conform to I.S. 1328-1970. The combined thickness of all the veneers on each facer shall not be less than three millimeters.

Gluing:
Thermosetting synthetic resin conforming to the specifications of glue adhesion given in Indian Standard Specification I.S. 303 for moisture proof plywood grade MPFI shall be used in manufacture.

BLOCKBOARD CORE FLUSH DOOR SHUTTERS

The specification for these shutters shall be the same as for flush door shutters with first class teak veneering except that:

a) The core surface shall have two veneers firmly glued on each face of the core. The combined thickness of veneers on each face shall not be less than 3 mm. The lapping battens and the facing veneer shall be of Elm. Wood or its equivalent commercial woods class I as per I.S. specifications. I.S. 303 in place of first class teak wood. The solid core flush shutters shall conform to I.S. 2202 of Latest edition.

SOLID CORE FLUSH DOOR SHUTTERS

The flush door shutters should have a finished thickness as specified in the schedule. The core shall be solid made out of well-seasoned timber phenol formaldehyde synthetic resin bonded
of the hot press type. The shutter should have internal hard work, weather resistant flush
takwood lapping all -round. The door shutters should be provided with 150 mm wide lock
rail, the centre of which should be at a height of 1 meter from one and of the shutter. The face
veneer shall be with 3 ply commercial villainies or as specified in the schedule.

**WINDOW SHUTTERS**

Window shutters shall be manufactured out of well-seasoned teakwood runners and the joints
rigidly fixed. 4 mm thick (or as specified in the Schedule of quantities / drawing) clear sheet
glass shall be fixed to the shutter frames with teakwood beadings.

**ARCHITRAVE**

Architrave’s shall be cut and planed from best quality seasoned teakwood to sizes as shown in
the drawings and fixed to the door or window frames with wood screws. Screw heads shall be
sunk into frames. The side abutting the frame shall be finished with a coat of wood primer.

**HAND RAIL**

Handrail top shall conform to the sizes and shapes indicated in the drawings.

**TOP TILERS FOR SHELVES**

Tiers shall be made out of plank s as specified in the schedule of quantities of drawings.
Lapping if specified shall be provide with best teakwood battens. Supporting tiers shall be of
teakwood and shall be fixed to walls with crawl plugs and wood screws.

**HOLDFASTS**

These shall be made out of 4x 5 mm mild steel flats of 30 mm long. One end split into two
and turned for anchorage into cement concrete blocks (1:3: 6) (one cement, three coarse sand,
and six hard broken stone of size 19 mm and down gauge) 225 mm long and 150 mm deep
with width conforming to the thickness of the well. The other end shall be bent and screwed
to the frame. The positions of the holdfasts shall be as shown on the drawings with minor
adjustments to suit the brick courses. All holdfasts shall be as shown on the drawings with
minor adjustments to suit the brick courses. All holdfasts with concrete blocks shall be laid
as the masonry work proceeds and not fixed afterwards. Frames when abutting RCC members
shall be fixed to the RCC members with crawl plugs 38 mm long and wooden screws. Screw
heads shall be sunk into frames and plugged similar to the ones fir fixing holdfasts with coach
bolts.

**FITTINGS**

The doors, windows, ventilators etc. shall be provided with fixtures and fittings of M.S.
oxidized iron or brass or aluminum as specified in the Schedule and shall be of approved
make and design. Aluminum, fittings shall be fixed with cadmium plate’s screws. Brass and
Oxidized iron fittings shall be fixed with brass and oxidized iron screws respectively. The
materials fixed shall be equal to the approved samples, which shall be deposited with the
Engineer before bulk supply is made. Fittings will be fixed in a workman like manner and as
directed by the Engineer.

MEASUREMENT AND PAYMENT

DOOR, FRAMES
a) The framework shall be measured in cubic meter.
b) No separate payment shall be made for applying wood preservation on the surface of
woodwork embedded in concrete with masonry/concrete.
c) No separate payment shall be made for providing holdfasts/crawl plugs.
d) The concrete blocks for holdfasts shall neither be measured separately nor any deductions
made in brickwork for these blocks.
e) No separate payment shall be made for fixing at various lifts.
f) Beading if provided in place of rebate to stop shutters shall be measured in cubic meter and
paid at the rates quoted for doorframes.
g) Joints shall be paid as full members except in straight piece.
h) Grouting of frames at wall ends shall not be paid for separately.
i) Scaffolds shall not be paid for separately.
j) In composite door units only two vertical frames up to the bottom of transom shall be
measured under door frames.
k) Painting shall be measured separately.
l) Portions inserted in masonry of floor shall be measured.

DOOR SHUTTERS:
These shall be measured in square meter including the portions covering the rebates of the
frame. Overlap of two shutters shall not be measured. Unless otherwise specified labour
charges for fixing furniture fittings shall not be paid for separately.

WINDOWS AND VENTILATORS:
These shall be measured in square meter including frames, transom. Mullions, architrave,
shutters, fixed panels, louvers, Unless otherwise labour charges specified for fixing furniture
fittings shall not be paid for separately. Glass and glazing and putty shall not be measured
separately. Readings for fixing panels shall not be measured separately.
Grills shall be measured separately.

ARCHITRAVES
Unless otherwise stated shall be measured in cubic meter including a coat of primer on the
surface abutting the frames.

HAND RAIL TOP
This shall be measured in running meter including curved railings, drops and two coats of
varnishing.

GENERAL
All wood works in curved pieces when measured in cubic meter shall be measured as the
smallest piece out of which the work may be cut. No allowance shall be made for wastage and
for dimensions supplied beyond these specified. Rebates, grooves shall not be deducted. In measuring cross sectional dimensions of the frame piece tolerance up to 3 mm shall be allowed.

**FLOORING**

**SCOPE**

This specification shall include furnishing of all labour materials and equipment necessary to complete the different types of flooring skirting and dadoing work as shown on drawings. All works shall be carried out as per relevant Indian Standard Specifications and as directed by Engineer. The rates shall include preparation of base, including chipping extra concrete, roughening of surface and skin removed, cleaning, screening, leveling, etc.

**PREPARATION OF BASE**

The base concrete may be deposited in the whole area at a stretch. Before placing the concrete the sub-base shall be properly wetted and well rammed. The concrete shall then be deposited between the forms where necessary, thoroughly tamped and the surface finished level with the top edges of the forms. The surface of base concrete shall be left rough to provide adequate bend for the topping. Two or three hours after the concrete has been laid in position, the surface shall be brushed with a hard brush to remove any scum or laitance and swept clean so that coarse aggregate is exposed. When the topping is to be laid separately but directly over the structure/ suspended slab the surface of the structural/ suspended slab, 3 to 4 hours after its laying, shall be thoroughly brushed with a coir or steel wire brush to remove any scum or laitance and swept clean to expose the coarse aggregates and leave the surface rough.

A) **IN SITU CEMENT CONCRETE FLOORING**

Before the operation of laying the topping is started the surface of base concrete/ structural slab shall be thoroughly cleaned of all dirt, loose, particle, caked mortar droppings by scrubbing with coir or steel wire brush. Where the concrete is hardened so much that roughening the surface by wire brush is not possible, the entire surface shall be roughened by chipping or backing and the skin removed. The surface shall be thoroughly cleaned and soaked with water, at least for twelve hours and the surplus water shall be removed by mopping immediately before the topping immediately before the topping is laid in position.

a) The cement concrete floor, unless otherwise stated shall have a minimum thick of 25 mm. The proportion of the mix shall be 1 part of cement, 2 parts of sand and 4 parts of stone aggregate of Size 2.5 mm and below by volume.

b) Floor finish shall be divided into suitable panels so as to reduce the risk of cracking. Generally no dimension of a panel shall exceed 2m. Length of a panel shall not exceed 1-2/3 times in breadth.

c) The joints in the floor finish shall extend through the borders and skirting. Construction joints between boys of the floor finish should be placed every any joints in the base concrete.
d) The aggregate and cement shall thoroughly and efficiently by mixed. Mixing shall be done using a mechanical mixer. The concrete shall be as stiff as possible and amount of water added shall be minimum necessary to give just sufficient plasticity for laying and compacting.

For improving the workability of the mix, thorough mixing rather than addition of more water shall be resorted to. The mix shall be used in the work within half-and-hour of the addition of water for its preparation.

e) The screed strips shall be fixed on the base concrete dividing it into suitable panels as per clause b). Before placing the concrete fix for topping, neat cement slurry shall be thoroughly brushed into the prepared surface just ahead of the finish. The topping shall then by lain very thoroughly tamp, struck off level and surface floated with a wooden float. The surface shall be tested with the straight edge and mason’s spirit level to detect any inequalities in surface, which, if any, shall be made good immediately.

f) The finish shall be laid in alternate panels, the intermediate panels being filled in after one or two days depending upon the temperature and atmospheric conditions. The screed strips should be removed the next day after the concrete has been deposited in the panels and the edges of panels shall be examined for any honey combing or undulation which, if found, shall be repaired straight and smooth by cement mortar; if the intermediate panels are not to be filled the next day, the screed strips shall then be cleared and put back against the edge of panels till the concrete in the alternate panels is to be deposited. When the concrete is being deposited in the alternate panels the screed strips shall be removed. When the concrete is being compacted in new panels, care shall be taken to avoid damage to the panels already laid. When the concrete is being deposited in the alternate panels the screed strips shall be removed. If glass or aluminum strips are provided for effective separation of panels, the topping may be laid in all the panels simultaneously.

g) After the concrete has been fully compacted it shall be finished by traveling or flexing. Finishing. Operations short shortly after the compaction of concrete and shall be spread over the period of one to six hours depending upon the temperature and atmospheric conditions. The surface shall be troweled three times at intervals so as to produce a uniform and hard surface. The time interval allowed between successive towelings is very important. Immediately after laying, only just sufficient shall be done to give a level surface. Excessive traveling in the earlier stages shall be avoided. Sometimes after the first toweling, the surface beretowelled to close any process in the surface and scrap off any excess water in concrete laitage (it shall not be toweled back into the topping). The final toweling shall be one well before the concrete has become too hard but at such a time that considerable pressure is required to make any impression on the surface. Toweling of a rich mix of dry cement and fine aggregate on the surface shall not be permitted.
h) When the topping is to be laid in two layers to obtain very smooth and dense finish, first layer, over the base concrete, shall be laid as described in a), b), c) & d). But the mix proportion of this under layer shall be one cement, three fine aggregate and six coarse stone aggregate of size 12.5 mm and below by volume for a thickness of 25 mm. The surface of this under layer shall be left rough after tamping it and leveling it with screed board. The top wearing coat shall be 15 mm thick of concrete 1: 2 (One cement and two stone aggregate of size 4.75 mm and below) by volume, of consistency stiffer than that of under layer shall then be laid immediately and thoroughly tamped and finished in accordance with clauses (f), (g) & (h)

i) Immediately after the flooring surface is finished, it shall be protected from rapid drying by erecting barriers against wind or draught and strong sunlight. As soon as the surface has hardened sufficiently to prevent damage to.

ii) It shall be kept continuously moist for at least 15 days by means of wet gunny bags or 50mm thick damp sand spread over the surface or pooling water on the surface.

B) FLOORING WITH CEMENT CONCRETE FLOORING TILES

i) The term tile in cement concrete flooring tiles shall apply to the following:
   a) Plain cement tiles.
   b) Plain coloured tiles.
   c) Terrace tiles. D) Vitrified Tiles e) Ceramic Tiles f) Glazed Tiles Etc.

ii) These titles shall conform to I.S. 1237 – Latest edition and of dimensions as shown on drawing or schedule of quantities. The wearing layer of these tiles shall consist of plain or coloured cement for items (a) & (b) terrazzo tiles shall be marble chips, marble powder or the combination in a matrix of ordinary or coloured Portland cement mixed with or without pigments and mechanically ground and filled. During manufacture, the tiles shall be subjected to a pressure of not less than 140 Kgs./ cm². The Size of chips in the wearing layer shall be as specified by the engineer. The proportion of cement to aggregate in the backing of tiles shall be not leaner than 1:3 by weight. Colouring materials whenever used shall not exceed 10% by weight of cement used in the mixed. Samples of each variety of tiles shall be supplied to the
engineer, free of cost for approval and all subsequent supply shall conform to the respective samples.

iii) The delivery of tiles shall be show arranged as to minimized handling, adequate precautions should be taken to prevent accidental damaged to tiles while unloading. The tiles shall be stored under cover to prevent exposure to dampness, sun, rain, or staining.

iv) The sub-floor shall be finished to a reasonable true plan surface by the thickness of the tiles and the bed below the level of finished floor, properly graded and free from loose earth, dust or dirt and lumps.

v) Before tiling working is started, all points of level for the finished tiles surface shall be marked out. This is particularly necessary in the case of finished stair case landings and wherever slopes in finished floor are desired, points of level and outlets shall be correctly marked and outer opening made before hand.

vi) The bedding cement mortar shall consist of 1 part of port land cement and 6 parts of coarse sand by volume thoroughly mixed in mechanical mixer. The quantity of water added shall be the minimum necessary to give sufficient plasticity and work ability for laying.

vii) Before spreading the bedding, it is essential to ensure that the base is well compacted and the surface is rough to form suitable key. The base shall be cleaned of all scum, laitance or plaster droppings or any other loose foreign matter. It shall be properly wetted without allowing any water pools on the surface. The mortar shall then be evenly spread over the base for two rows of tiles and about 3 to 5 meters in length with thread level fixed at both the ends to act as a guide. The top of mortar shall be kept rough so that cement slurry can be absorbed. The thickness of the bedding shall normally be not less than 10mm and not more than 30 mm in any one place, or as given in the schedule of Quantities. Immediately after, the laying of tiles shall start as follows.

viii) Neat cement slurry of honey lime consistency shall be spread over the mortar bed, over such an area at a time as would accommodate about 20 tiles. The tiles shall be fixed in this grout one after other, each tile being gently tapped with a wooden mallet till it is properly bedded and in level with adjoining tiles. The joints shall be as close as possible and in straight lines. The thickness between the tiles shall not be greater than 1.5 mm wide. After the day work is over or after the tiles have been laid in a room, the surplus cement slurry and the joints shall be cleaned and washed, fairly deep, with a help of a broomstick. The day after the tiles have been laid, the joints shall be filled with cement slurry of the same shade as the colour of matrix of the tiles used.

ix) Tiles, which are fixed in the floor adjoining the wall, shall go about 10 mm under the plaster, skirting or dado. For this, the wall plaster may be left unfinished by about 50 mm above the level of the proposed finished flooring level. Where the full tile cannot be provided, tiles shall be out to size and then fixed in a pattern as approved by the Engineer.
x) After fixing, the flooring should be kept moist and allowed to nature undisturbed for seven
days, Heavy traffic shall not be allowed on the floor for at least 14 days after fixing of tiles.
xi) Whenever big areas of floor to be tiled, the level of the central portion of floor shall be kept
10 mm higher than the level marked at the wall unless specified otherwise.

xii) Grinding shall preferably be done using a machine except for skirting. Grinding and polishing
shall be commenced only after 14 days of laying.

xiii) For grinding terrazzo tile flooring, the first grinding shall be with machine fitted with
carborundum stones of 48 to 60 grit. When the floor is rubbed even and chips show
uniformity it shall be cleaned with water making bare all pin holes. Grouting in the same
shade is then briskly applied so that all pinholes are properly filled in. The grout shall be kept
moist for a week for proper setting. Thereafter the second grinding with carborundumof 120
grit shall commence. The floor is grouted again to fill in fine pinholes. After curing the floor
is left with this protective film till other works are completed. Before the final grinding the
floor is swept clean. Final grinding is then done with carborundumof 220 to 350 grit using
plenty of water and taking care that any foreign matter, particles of sand etc. are prevented,
when surface is rendered smooth, it is washed with water. Afterwards oxalic powder is
vigorously applied with machine fitted with Hessian hobs to bring out sheen. Wash the floor
clean and apply dry linen to suck in moisture. Wax polishing shall then be applied as per IS

xv) When hand grinding and polishing has to be adopted, the various process in the same
sequence as described in shall be carried out.

xvi) In the case of plain cement and coloured tiles the polishing shall be the same as described in
viii) but the initial grinding with carborundum stone of 48 to 60 grit may not be necessary.

xvii) Where the tiles have been supplied and fixed in rough condition (i.e. not ground and filled
by the tile manufacturer), the first grinding shall commence after 14 days of fixing of tiles
with carborundum stones of 36 to 48 grit. The remaining process shall be same as in viii).

xviii) Tile skirting or dadoing wherever required shall be fixed only after laying the tiles on the
floor. If the tiles are to be fixed on walls as dados, the portion of the wall to be so tiled shall
be loft unplasterede. Before fixing tiles on brick / concrete surface the surface shall first be
wetted with clean water. Thereafter in case of dado the wall surface shall be evenly and
uniformly covered with about 10 mm thick backing of C.M. one cement and 4 coarse sand.
In the case of skirting, the tiles shall be directly fixed with cement mortar 1:4 without initial
backing. Before the cushioning mortar has hardened the back of each tile to be fixed shall
be covered with a thin layer of neat cement paste and the tile shall gently be tapped against
the wall with a wooden mallet. The3 fixing shall be done from the bottom of the wall
upwards. Each tile shall be fixed as close as possible to the adjoining and difference in the
thickness of the tiles shall be evened out in the cushioning mortar or cement paste so that all
the tile faces are set in conformity with one another. Skirting and dado may be polished by hand just as for floor work. The proportions for mortar shall be different than specified above when shown in drawings and /or schedule of quantities.

ix) Tile flooring shall be measured in square meters correct to two places of decimal while the individual dimensions shall be measured correct to one centimeter. No deduction shall be made or extra paid for any opening in the floor area up to 0.1 square meters. Nothing extra shall be paid for use of cut tiles or for laying the floor at different levels. Tile flooring laid in floor borders and bands etc., shall be measured in the same item and nothing extra shall be payable on account of these or similar bands formed of half or multiples of half size standard tiles or other uncut tiles. Treads of stairs and steps paved with tiles shall also be measured under terrazzo tile flooring unless otherwise specified.

C) CAST INSITE TERRAZZO FLOOR.

This item of work shall be carried out in accordance with I.S. 2114 – latest edition.

i) Aggregate for terrazzo under layer shall conform to I.S.383- latest edition. The aggregate used for terrazzo topping shall be marble aggregates unless otherwise specified. Marble powder used in terrazzo topping shall pass through I.S. sieve 30.

ii) The combined thickness of under layer and topping shall not be less than 25 mm. The thickness of terrazzo topping shall be not less than 6 to 12 mm depending upon the grades of chips used. The grades of the chips shall be as desired by the Engineer.

iii) The under layer shall be of cement concrete 1:2:4 The maximum size of aggregate used shall not exceed 10 mm.

iv) The mix for terrazzo topping shall consist of cement with or without pigments. Marble powder, marble aggregate and water. The proportion of cement and marble powder shall be 3 parts of cement and 1 part of powder by weight. For every part of cement marble powder mix the proportion of aggregate by volume shall be 1/1-4 to 1/3-4 parts depending upon the size of aggregate.

v) While laying the joints the floor finish shall coincide with any joint in the structural slab.

vi) The floor shall be divided into panels described in cast in situ work.

vii) The mixing shall be done in a trough or tub. Great care shall be taken while mixing; The cement shall be mixed thoroughly in dry state with marble powder. The binder so obtained and the mix of chips shall then be mixed dry together in the proportion described above. The aggregate as far as possible shall be kept in an even layer during mixing. Then water shall be added in small quantity till the materials are worked to a proper consistency. The mixture shall be plastic. The mix shall be used within half an hour of the addition of water.

viii) Before laying the under layer, the base concrete shall be thoroughly cleaned as described in cast in situ flooring work. It shall then be smeared with cement slurry just before spreading
of under layer. Then the under layer shall be spread and leveled with a screening board. This layer may be left slightly rough.

ix) Terrazzo topping shall be brushed on the surface. The terrazzo mix shall be placed on the screed bed and compacted thoroughly by tamping and towelled smooth. The surface shall be rammed to consolidate the terrazzo. Care shall be taken while towelling not to form depressions. The towelling should obtain a leveled and smooth surface. The compaction shall ensure that air bubbles are cleared from the mix.

x) The surface shall be left dry for 12 to 18 hours after which it shall be cured by allowing water to stand in pools over it for a period of not less than four days.

xi) The grinding and processing of terrazzo shall commence after seven days from the time of completion of laying.

xii) The filling grout shall be done using same coloured cement (without marble powder) as in the original mix.

xiii) The first grinding shall be done with carborundum stone of 60-grit size.

xiv) The surface shall ten be washed clean and grouted with neat cement grout of cream like consistency. It shall be the allowed to dry for 24 hours and wet cured for four days as described in x).

xv) The second grinding shall be done with carborundum stone of 80 grit sizes. The surface shall then be prepared against as mentioned in xvi)

xvi) The third grinding shall be done with carborundum stone of 120 to 150 grit sizes. The surface shall be washed clean and allowed to dry for 12 hours and wet cured as described in xiv).

xvii) The fourth grinding shall be done with carborundum stone of 320 to 400 grit sizes. The surface shall again be washed clean and rubbed hard with felt and slightly moistened oxalic acid powder ass the rate of 5 g for one sq.m. of floor area. When all the construction activities are over, the floor shall be washed clean with dilute oxalic acid solution and dried. Floor polishing machine fitted with felt or Hessian bobs shall be run over it till the floor shines.

xviii) If wax polish is desired this shall be applied sparingly with soft linen on the clean and dry floor surface. Then the polishing machine shall run over it. Care shall be taken that the floor is not left slippery.

Skirting and dadoing: The under layer for skirting and dadoing shall be of C.M. 1:3 finished rough. The combined thickness shall be 20 mm. The thickness of terrazzo topping shall be 6 mm. Other details regarding laying, curing, grinding, plashing etc, shall be as described above except that the grinding will have to be done manually.
D) GLAZED TILE FLOOR AND SKIRTING MATERIALS.

i) Glazed / ceramic floor tiles: The tiles shall be of ceramic white or coloured, of dimensions as approved by Engineer. The top surface of the tiles shall be glazed with a mat finish of uniform colour and texture and free from flaws, cracks, chips, craze, specks, or other imperfections. These shall be sound, true to shape with true and straight edges, non-absorbing and non-fading. A fractured section shall appear fine. Grained in texture, dense and homogenous. The edges and the underside of the tiles shall be completely free from glaze so that these may adhere properly to the surface below. The tolerances shall be +/- 1.5 mm for length and breadth and +/- 0.5 mm for thickness. The tenderer shall submit specifications of tiles with the manufacturer’s literature. Before bulk supply, the Contractor shall give a sample of tiles to the Engineer for approval. Bulk supply shall only be adopted if it conforms in all respects to the approved samples kept with the Engineer. Tiles including specials shall conform to I.S.777 latest edition. Cement, sand pigments and water shall be as specified above. Lime shall conform to IS :712- latest edition. Lime putty may be prepared from hydrated like or Quicklime. Hydrated lime shall be mixed with water to from putty and stored with reasonable care to prevent evaporation for at least 24 hours before use. Quick lime shall be slaked with enough water to make a cream, passed through a No.10 sieve and then stored with reasonable care to prevent evaporation for at least 7 days before use.

ii) HANDLING AND STORAGE OF MATERIALS

Glazed Tiles: The delivery of tiles shall be so arranged as to minimize handling. Adequate precaution shall be taken to prevent accidental damage to tiles while unloading and these shall be stored under cover in a manner approved by the Engineer.

iii) LAYING AND MEASUREMENT

a) Preparation of base shall be as specified in “PREPERATION OF BASE ”above. Bedding over which the tiles laid shall be of 12 mm average thickness in cement mortar 1:3 ( 1 cement : 3 course sand). The thickness shall not be less than 10 mm at any place. The bedding shall be laid evenly over the surface, tamped and corrected to desired levels and allowed to harden enough to offer a rigid cushion to tiles and to enable the mason to place wooden planks across and squat on it. Before laying the tiles grey cement slurry of honey like consistency aft 3.3 kg./sq.m. shall be applied over the bedding. At a time are to accommodate about 20 tiles shall be applied with cement slurry. Tiles shall then be washed clean and fixed in the grout one after the other, each tile being gently tapped in its position till it is properly embedded and in level and line with ad joining tiles when grouting the glazed tiles special care shall be taken to prevent secretion. The joints shall be as thin as possible in straight line or as per the pattern. No joints shall be more than 1.5 mm thick.
The surface of the flooring shall be checked with a straight edge about 2 m long so as to obtain a true surface with the required slope where the full tiles cannot be fixed these shall be cut (sawn) to the required size and their edges rubbed smooth to ensure straight and true joints. Tiles fixed in the floor near the wall shall enter plaster, skirting or dado to a minimum depth of 10 mm. After laying tiles, excess cement grout is to be cleaned. The joints shall be cleaned of grey cement grout with wire brush or trowel to a depth of 5 mm and all dust and loose mortar removed. White cement shall then be used for flush pointing joints. The floor shall be cured for 7 days. The surface shall then be washed and cleaned. The surface shall not sound hollow when tapped.

iv) **SKIRTING AND DADO**

i) This shall be done in exactly the same way as specified above ‘Glazed tile floor’. The deeding mortar shall be roughened with wire brushes or by scratching diagonal lines 1.5 mm deep at 7.5 cm centre to centre both ways. The back of tiles shall be buttered with grey cement slurry and edges with white cement slurry and set in bedding mortar. The top of skirting or dado shall be truly horizontal and the joints vertical or as per required pattern. The final surface shall project at least 6 mm beyond the plastering.

v) **MEASUREMENT**

White glazed tiles shall be measured in Square meter correct to two places of decimal. Length and breadth shall be measured correct to 1 cm between the exposed faces of skirting or dado where the junction of flooring with skirting or dado is square. Where coves are used at the junction length and breadth shall be measured between lower edges of the cover. No deduction shall be made or extra paid for any opening in the floor of areas 0.1 sq.m. Nothing extra shall be paid for laying the floor at different levels.

E) **GRANOLITHIC FLOORING**

i) For laying ‘in situ’ granolithic concrete floor topping a high standard of workmanship is essential and skilled floor layers should be employed for the job. The work shall be carried in accordance with Indian Standard Specifications 5491- latest edition.

ii) The Coarse aggregate shall consist of crushed granite rock and shall be of size 12.5 mm and below. The grading of fine aggregate shall be within the limits of one of the two zones given in Indian Standard Specification.

iii) **The grading of fine aggregate shall be within the limits of one of the two zones given in Indian Standard Specification.**

iv) Water used shall be clean, free from oil, acid, and alkali, organic or vegetable matter.

v) The floor finish shall be divided in suitable panels as described in cast in situ concrete floors. The proportion for granolithic concrete floor finish shall be 1; 1:2 (cement: fine aggregate: coarse aggregate) by volume. The thickness shall be 40 mm.

vi) Before the operation of laying the topping is started the surface of base concrete shall be prepared as described in “PREPARATION OF BASE”
vii) Screed strips shall then be fixed over the base as divided. Immediately before depositing the
topping neat cement slurry shall be thoroughly brushed into the prepared surface. Then the
grand topping shall be laid and thoroughly compacted to the finished thickness. Then the
surface shall be tested with the straight edge and mason’s spirit level to detect any
inequalities in the surface, which if any, shall be made good at once. The top surface shall
be finished smooth as described in cast in situ flooring concrete floors above.
viii) Immediately after the flooring surface is finished it shall be protected from sun, rain, wind,
etc. The surface shall be kept continuously moist for at least ten days by means of wet
gunny bags or pooling of water, or 50 mm thick layer of damp sand spread over the surface.
ix) When ironies or equivalent hardener to be added, the floor finish may be laid in two layers.
The wearing layer shall have a thickness of about 12 mm. The ironies or a equivalent shall
be mixed and laid as per the manufacturer’s instructions and specifications. The Contractor
shall specifically mention the particular type of material be proposes to use with its
specification etc. in the tender. The Contractor shall take prior approval of manufacturer
specification from the Engineer before starting the work. Curing shall start on the next day
after finishing and shall be continued for 14 days.
x) The remaining process is same as cast in situ concrete floors.

F) MARBLE / STONE FLOORING

Materials.

Marble slabs shall be of the colour, shade and from source as specified in the item or as
may be directed, and must have the approval of the Architect. The marble, for which slabs
are made, shall be of selected quality, hard, sound, dense and homogenous in texture, free
from cracks, decay, weathering and flaw. The slabs shall be hand or machine cut to the
required dimensions. The exposed surface shall be machine polished to an even and
perfectly smooth plain surface bedding mortar. The edges shall be machine rubbed for the
entire thickness and all angles and edges shall be true, square end free from c hipping.
The thickness of the slabs shall be 20, 25, 30 or 40mm as specified in the item. A
tolerance of 2 mm will be allowed.
In respect of length and breadth tolerance of 5mm will be acceptable.
Prior to starting the work, approval of the samples shall be obtained from the Architect
and such approved samples shall be retained with the Architect for time to time
verification, and laying shall start only after the prepared base over which bedding is to be
placed and marble is to be laid, is approved by the Architect.
Preparatory Works.
The delivery and storage of marbles shall be so arranged as to minimize handling.
Adequate precautions shall be taken to prevent accidental damage to marbles while
unloading.
Clean dry storage space shall be provided at the site for all the materials. The marbles shall be stored in a room under such cover as will prevent exposure to the damp, sun, rain, and accidental injury or staining.

Workmanship
Laying.
The base on which slabs are to be laid shall be with cement sand mortar (1:4) or as detailed in the item of work. The average thickness of the mortar shall be 20mm and the minimum thickness shall be 12 mm. Mortar shall be prepared by adding minimum water to give just sufficient plasticity for laying and satisfactory bedding.
Mortar of the specified mix shall be spread under the area of each slab, roughly to the average thickness. The slabs shall be washed clean before laying and shall then be laid on top of the bed, pressed and tapped with wooden mallet and brought to level with adjoining slabs.
It shall then be lifted and laid aside. The top surfaces of the bed shall then be corrected by adding fresh mortar to hollows. The mortar is allowed to harden a bit and cement slurry of honey like consistency shall be spread over the surface at the rate of 4.4Kg/m².
The edges of the slabs already laid shall be buttered with grey or white cement slurry with or without pigment to match the shade of the marble slabs. The slab to be laid, shall then be lowered gently back in position and tapped with wooden mallet till it is firmly and properly bedded in –level with and close to the adjoining slab with as fine a joint as possible. After each slab has been laid, surplus cement on the slab shall be cleaned off.
The slabs shall be matched as shown in the drawing or as may be directed by the Architect. Slabs fixed on the floor ad joining the wall shall enter not less then 12 mm in the skirting, dado or plaster. The flooring shall be cured for a period of 14 days.
Polishing and Finishing.
Specifications as for terrazzo tiles shall be applicable except that cement slurry with or without pigment shall not be applied on the surface before each polishing.
Rates to include.
The rate shall include the cost of all materials and labour involved in all the operations described above including all cutting and wastages in addition to all other factor mentioned elsewhere in this contract.
Mode of measurement.
The flooring, dado, and skirting work shall be measured net in Sq. Meter as per drawing and authorized variation or as per actual execution whichever is less.
PAINTING

A) SCOPE
The scope shall include furnishing of the materials, labour, scaffolding, tools and appliances to do all painting and/or white/colour washing of both interior and exterior surfaces of plastering, ceiling and all carpentry works. This also include painting structural and miscellaneous steel, sashes, windows, louvers and frames, steel rolling shutters, M.S. grills etc.

B) FINISH
Various types of finishing shall be done as indicated in the ‘Interior Finish Schedule’ and/or as directed by the Engineer. The Colours shall be in accordance with ‘Painting Schedule’ or as selected by the Engineer.

C) MATERIALS
a) GENERAL
i) Paints, primers, varnishes, wood preservatives, distempers, cement paints etc. shall be highest agreed products of well known approved manufacture and shall be delivered to the site in original sealed containers, bearing the brand and name of the manufacturers with labels intact and shall be subject to inspection, analysis and approval. It is desired that materials of one manufacturer only shall be used as far as possible. Colours shall be uniform and non-fading.
ii) Samples of all finish and colours as selected shall be submitted to the Engineer, before bulk purchase is made and any work is started. All finished work shall match corresponding samples kept with the Engineer.
iii) In case of selection of special shades and colour (not available in standard shades) the Contractor shall mix different shades of ready mixed paints as per instructions of the Engineer. All Paint shall be subjected to analysis from random samples taken at site from painter’s buckets, if so desired by the Engineer.

b) STORAGE
The Contractor shall arrange for safe and proper storage of all materials and tools. The storage space shall be adequately protected from damage. Paint shall be kept covered at all times and precautions shall be taken to prevent fire.

D) PREPARATION OF SURFACE
a) CARPENTRY WORK
Protruding timber fibers shall be removed and all holes shall be filled with wood batten. The nail marks shall be covered with putty. The wood shall then be sanded first with G/80 sand paper followed by C/120 or G/150 sand paper. Sanding should be taken up only when it can be followed immediately by painting.
b) STEEL WORK

The Surface shall be thoroughly cleaned, sand papered and/or rubbed with emery cloth if necessary to remove grease, mortar or any other foreign material. In case of rusted surface, it shall be first cleaned with steel wire brushes till the corroded crust is removed. The cleaned surface shall be shiny and free from brush marks, patches, blister and other irregularities. The surface thus finished shall be got approved before painting.

c) PLASTERED SURFACE

Concrete/plaster and cement plastered surfaces shall be thoroughly cleaned of mortar droppings and other sticking. All loose scales and flakes shall be removed by rubbing with Hessian cloth or sand papering. All holes shall be filled and the surface, rubbed smooth to get evenness of the existing surface. Area to be distempered shall be applied with one coat of white chalk solution mixed with required quantity of glue or plaster of paris and shall be sand papered before distempering. The area to be cement painted shall be wetted by sprinkling of water with fire spray. The surface shall be sprayed several times with a few minute’s intervals between each spraying to allow the moisture to seek into the surface.

E) PRIMING

i) The sanded surface shall be dusted and a primer paint, brush coated in thin even layers. For all flush doors and teakwood approved wood primer shall be applied. If some time passes after priming another coat of primer shall be applied before undercoating is done.

ii) STEEL WORK

The cleaned surface shall be dusted and a priming coat of anticorrosive paint shall be applied.

F) STOPPING AND FILLING

This should be done when the primer is just dry. For deep scratches, holes etc. stopping shall be done with putty of plastic wood (I.S.423). Putty (carpentry work) can be white lead with linseed oil base or synthetic metal putty.

For all minor scratches and rough surfaces, like flush door’s faces filling made out of one part of white lead, two parts of whiting (Powered chalk) mixed and kneaded in double boiled linseed oil shall be evenly applied and rubbed down with G/220 or G/240 sand paper after allowing it to dry overnight.

G) APPLICATION

PAINTING

i) Painting shall be done by skilled laborers in workmen like manner. All materials shall be evenly applied so as to be free from sags, runs crawls, or other defects. All coats shall be of proper consistency and shall be well brushed out, so that no brush marks are visible, except varnish and enamels, which shall be uniformly flowed on. The brushes shall be cleaned and in
good condition before application of paint. No work shall be done under condition that is unsuitable for production of good results.

The undercoating should be nearest to the specified colour of the finishing coat, Ready mixed synthetic enamel paint or fill paint may be used for the undercoat. The undercoat shall be uniform and free of all brush marks.

Undercoats should be completely dry before finishing coat is taken up. For synthetic enamels overnight and for oil paints a whole day shall be left between undercoat and finishing coat.

The undercoat shall then be rubbed with G/240 sandpaper and dusted clean. The finishing coat of approved paint shall then be applied. If the surface is not satisfactory an additional finish coat shall be applied at no extra cost. The paints shall be applied with bristle brushes and not horsehair ones.

WOOD PRESERVATIVES

i) As stated above but stout brush shall be used. The preservative should also be applied profusely at the ends and allowed to soak well. The first coat shall be allowed to soak before the successive one is rendered.

POLISHING (FRENCH OR SPIRIT POLISHING)

iii) French polish to be used shall comply with I.S.348. Polish shall be detained by dissolving 1.5 lbs. Of shellac in one gallon of mentholated spirit without applying any source of heat. After the shellac has dissolved .1/4 lab. Of copal (Chandras), ¼ lab. Of lobana (magalibadani) and 0.4 0z.of crystals of desired pigment shall be added e.g. Mahogany, light, chrome, dark sesame or as specified in the schedule. The solution shall be applied with a pad (gaddi) of fine muslin cloth tied as per general practice. The pad shall be dipped into the solution and wrung with the figures and be rubbed hard on the surface. In this way, first coat shall be given. After the previous coat is dried up, the successive coats shall be given in the same fashion till the mirror like surface is obtained. The wood to be polished shall be first applied with filler composed of 1.25 kg. of whiting mixed with one litre of methylated spirit and then sand papered when dry. The finished surface shall have uniform texture and high gloss. Dull polish if specified in the schedule shall be left dull.

DISTEMPERING

iv) If applied by brushes the drawing of the brush should run parallel and care should be taken to ensure the uniform application and when dry, no brush marks should be visible. Application to acoustic materials, such as thermo Cole, soft uniformity and evenness, as many coats as necessary shall be given. It should not come off when rubbed hard or fade off with the passage of time. Before a new application, the preceding course shall be allowed to dry up and sand papered to get smooth finish.
CEMENT PAINTING

v) Cement paint solution shall be applied to the surface with hairbrushes in a number of coats to get uniform finish. After the first coat of paint has hardened it shall be cured with water at least for 24 hours. The surface shall be wetted again before the application of the second coat. At least 24 hours should elapse between the coats; number of coats shall be as specified in the schedule of Quantities. It shall be kept damp at least for seven days.

WHITE WASHING

vi) White washing shall be done from pure shell lime or fat lime, or a mixture of both as instructed by the Engineer confirming to I.S 712 latest edition. Samples of lime shall be submitted to the Engineer for approval and lime as per approved sample shall be brought to site in an in-slaked condition. After slaking it shall be allowed to remain in the tank of water for two days and then stirred up with a pole, until it remains the consistency of thin cream. 2/gm of gum to 1 cft. of lime for preventing the white wash from coming off easily when rubbed and a little quantity of blue shall be added to the lime solution. The lime solution shall be strained through a coarse cloth or sieved through a fine wire gauge before applying. They was shall be applied with brush with alternate coats of horizontals and verticals. When a coat is being given it shall be ensured that the previous one has dried up complete. Two or more coats of wash (as specified in the schedule of Quantities) shall be applied to give uniform finished surface without any patches or cracks and brush marks. It should not come off when rubbed hard with hand. One coat of white wash shall consists of one stroke from top downwards, another from bottom upwards over the first stroke, and another from left to right before the one dries up.

COLOUR WASHING

vii) For colour washing the desired shade shall be obtained by mixing approved quantity of distemper with the lime putty solution and applied as per white washing.

Section F: MODE OF MEASUREMENTS.

The method of measurement for various items in the tender shall be generally in accordance with IS: 1200, subject to the following:

1. **Excavation:***
   a) Footings: Area of Excavation for footing shall be measured equal to the area of the lowest concrete course as shown on the drawing. Depth shall be measured vertically from ground level to bottom of concrete course or dry rubble packing as the case may be.
   b) Plinth beams: Depth of excavation for plinth beam shall be measured from ground level up to bottom of beam and width equal to width of beam. If a leveling course is ordered, it shall be measured up to the bottom of the Leveling Course.
c) Where excavation is made in trenches, measurements for cutting shall be taken by means of tape and staff and the width of concrete of rubble packing as shown on the Drawing shall be considered as width of excavation.

d) Where extra excavation is made for waterproofing of basement walls, measurements for cutting shall be taken as 0.6 mts. In width from the face of the RCC wall as shown on the Drawing and it shall be considered as width of Excavation.

e) Where excavation is made of leveling the site, levels shall be taken before start and after completion of work and total quantity of excavation computed from these levels in manner approved by the Architect.

f) Where soil including soft rock and hard rock are mixed, hard rock after excavation shall be stacked separately. Measurement of the entire excavation shall be taken as indicated above. Excavation of hard rock shall be measured from the stacks of excavated hard rock and reduced by 40 % for bulk age and voids. The quantity so arrived at shall be paid for under hard rock. The difference between the quantity of entire excavation and quantity payable under hard rock shall be paid as soil including soft rock.

2. Earth filling:

Filling shall be measured from cross sections of embankments, levels of which are recorded by means of levels before start of work and after completion of work. When it is not possible to measure filling from cross sections, it may be measured from loose stacks or lorry measurements with previous written permission from the Architect and 25% deduction shall be made from the measured quantity to arrive at the net quantity payable.

3. Cement Concrete (Plain & Reinforced):

Cement concrete in P.C.C. & R.C.C. items shall be measured exclusive of reinforcement and plaster thickness but shall include necessary costs & hire charges of all equipment, curing, and hacking and fair finish. Reinforcement and plaster shall be measured and paid separately. Items like R.C.C. precast Jalli and other items, which are normally manufactured in factories, as well as those items, which have been specifically mentioned in schedule of quantities, shall be measured inclusive of reinforcement.

No deductions will be made for openings up to 0.1. Sq.m. and no extra labour for forming such opening of voids shall be paid.

Columns shall be measured from the top of the footing and shall be measured through, including flare of the column in case of flat slab construction.

Beams shall be measured from face to face of columns/beams and shall include haunches, if any. The depth of the beams (other than raft foundations beams) shall be measured including thickness of the slab. For plinth beams if cast on PCC bed, the layer of PCC bed below beams will not be paid for.
In case of combined footings and raft foundation, the exposed portion of beam rib shall be measured as beam and the remaining portion measured in footing/raft slab.

Slabs (other than if raft foundation) shall be measured in bays (clear of beams) with deductions for column portion.

Chajja: Only projected portion shall be in Cu.m. Staircase comprising of step, soffit slab, mid landing slab shall be measured and paid under this item. Landing slab, side parapet walls, railings, finishing of risers and traders, M.S. reinforcement and plastering etc. shall be paid separately under respective items.

4. **Reinforcement:**

   Shall be measured in lengths of bars as actually placed in position, with authorized overlaps, on standard weight basis, no allowance being made in the weight for rolling margin. Wastage, chairs, spacers and binding wires shall not be measured and paid for. There is no basic rate for the binding wires.
**LIST OF MATERIALS**

**OF APPROVED BRAND / MANUFACTURE**

**CIVIL**

1. **Waterproofing compound** : Cico No.1, Sika, Roffe, Plaster master, or equivalent.
2. **Hardeners** : Ronite, Ferrok, Hardonite or equivalent.
3. **Red oxide** : Shalimar, Blundel, Eomite or equivalent.
4. **Plasticisers** : Plasticon, FOSROC, Lumbard or equivalent.
5. **Cement** : ACC, Lafarge, Ultratech or equivalent.
6. **Steel (Reinforcement & Structural)** : Sail, Tiscon or equivalent
7. **Aluminum** : Indal or equivalent
8. **Paint & Primer** : ICI, Berger, Asian Paints or equivalent.
9. **Ceramic Tiles** : Kajaria, Johnson.
10. **Vitrified Tiles/Glazed Tiles** : Kajaria, Johnson or equivalent.
11. **Steel** : SAIL, TATA, RINL

**Note :**
The materials shall be in order of preference and where equivalent materials are proposed to be used, they should be as approved by the Architects/Consultant/Employer.
SAFETY CODE

1. There shall be maintained First aid appliance including adequate supply of sterilized dressings and cotton wool in a readily accessible place on site.

2. An injured person shall be taken to the public hospital without loss of time in cases where the injury necessitates hospitalization. If a person, employed by the Contractor is found to be suffering from any contagious disease; he/she shall be immediately removed from the site so as to prevent the other working staff from getting infected with the disease.

3. Suitable strong scaffolds with adequate handrails should be provided for workmen for all works that cannot be done from ground.

4. No portable single ladder shall be over 4 meters in length /height. The width between the side rails shall not be less than 30cm (clear) and the distance between two adjacent rungs shall be engaged for holding the ladder.

5. The excavated material shall not be placed within 1.5 meters of edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary shoring, strutting fencing and lighting.

6. Every opening in the floor of a building or in a working platform is provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one meter.

7. No floor/ roof or other part of the structure shall be so overloaded with debris or materials so as to render it unsafe.

8. Workers employed on mixing and handling materials such as asphalt, cement mortar or concrete and lime mortar shall be provided with protective footwear and rubber hand gloves.

9. Those who are engaged in welding works should be provided with welder’s protective eye-shields and gloves.

10. No paint containing lead or lead products shall be used except in the form of paste or ready-to-use paint.

11. Suitable facemasks shall be supplied for use by workers when the paint is applied in the form or spray of surface having lead paint dry rubbed and scrapped.

12. Overalls shall be supplied by the contractor to the painters and adequate facilities shall be provided to enable the working painters to be during the periods of cessation of work.

13. Contractor shall provide safety belts to all the workers, craftsman supervisors and engineers who are engaged in working on any external face or openings above ground floor level similarly helmets shall be provided subject to head injuries.

14. Hoisting machines & tackle used in the works including the attachments, anchorage and supports shall be in perfect condition.
15. The ropes used in hoisting or lowering material or as means of suspension shall be of durable quality and adequate strength and free from defects.

16. Efficient safeguards for any electrical installation, which are already energized during construction, should be provided for workers.

17. When workers are employed in sewers and manholes, which are in use the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get in the manholes so opened shall be cordoned of with suitable railings and provided with warning signals or boards to prevent accident to the public

18. Safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for the compliance of the safety code is named therein by the contractor.

19. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the labour officer, engineers of the deptt. or their representatives.
PLAN

PROJECT:

SCALE = 1:75

DATE = 28.11.2017

ALL DIMENSIONS ARE IN mm.

CROSS SECTION OF PROPOSED FLOORING

700 X 5000 VEILING
700 X 5000 VEILING
700 X 5000 VEILING

PLAN

2200
GLASS DOOR

1200
GLASS FIXED
DOOR

5350

8000

1700

DOOR

1200

4600
FIXED WINDOW

700 X 3000 VEILING

700 X 3000 VEILING

700 X 3000 VEILING
# TENDER FORM:-
Form –A

## GENERAL INFORMATION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Name of Applicant / Company</td>
</tr>
<tr>
<td>2.</td>
<td>Address for correspondence</td>
</tr>
</tbody>
</table>
| 3. | Contact Person:  
Telephone  
Nos. Fax Nos.  
Mobile |
| 4. | Type of Organization:  
a) An individual  
b) A proprietary firm  
c) A firm in partnership  
(Attach copy of Partnership)  
d) A Limited Company  
(Attach copy of Article of Association)  
e) Any other (mention the type) |
| 5. | Place and Year of Incorporation |
| 6. | Name of Proprietor / Director / Partners in the organization and their status along with their qualifications. |
| 7. | PAN & GST Nos. |
| 8. | Registration (Attached Copy) |
| 9. | Documents in support of the turn over for past 3 (three) years up to 31st March 2016. |
| 10. | Any other Information |

[SIGNATURE OF APPLICANT]
**Form—B**

**Details of Office Space and Machineries:**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Criteria</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Office Space (Sqm)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Details of Machineries</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Any others</td>
<td></td>
</tr>
</tbody>
</table>

**[SIGNATURE OF APPLICANT]**

**Details of works completed during the last 3 years**

(Details to be furnished in the following format)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of work</th>
<th>Scope of Services</th>
<th>Value of Construction</th>
<th>Date of start / completion</th>
<th>Name &amp; Address of the client</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**[SIGNATURE OF APPLICANT]**

**Details of on-going works**

(Details to be furnished in the following format)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of work</th>
<th>Scope of Services</th>
<th>Value of Construction</th>
<th>Date of Start / % completion</th>
<th>Name &amp; Address of the client</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

Note:
The following documents are to be enclosed for each of the above work:

i) Copy of Award letter

ii) Other relevant documentary evidence, if any.

**[SIGNATURE OF APPLICANT]**
**Turn over for past three years:**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Financial Year</th>
<th>Turn Over</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2013 - 2014</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2014 - 2015</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2015 - 2016</td>
<td></td>
</tr>
</tbody>
</table>

Note:

In addition to the above the applicant has to submit the following documents:

**Information:**

1. Copy of IT Returns
2. Copy of valid GST Number.
3. Copy of PAN/ TAN card.
4. Copy of registration with other organization.
5. Details of litigations, if any.
6. Other relevant details, if any

Seal and Signature of Applicant
AFFIDAVIT

Affidavit of ………………………..S/o ………………………..R/o………………………….

I, the deponent above named do hereby solemnly affirm and declare under:

1. That I am the Partner / Authorised signatory of M/s………………. having its Office at………………………….

2. That the information / documents/ Experience certificates submitted by M/s. …………………………. along with this ‘Construction & Renovation works for the Library Room at ground floor of the Patent Office at Bouddhik Sampada Bhawan, CP-2, Sector–V, Kolkata–700091” are genuine and true and nothing has been concealed.

3. I shall have no objection in case Patent Office verifies them from issuing authority (ies). I shall also have no objection in providing the original copy of the document(s), in case CGPDTM demand so for verification.

4. I hereby confirm that in case, any document, information and/or certificate submitted by me found to be incorrect/false/fabricated, Patent Office at its discretion may disqualify/reject my application for prequalification out rightly and also debar me M/s…………………….. from participating in any future tenders / PQ.

DEPONENT

I, …………………………….the Partner / Authorised signatory of……………………, do hereby confirm that the contents of the above Affidavit are true to my knowledge and nothing has been concealed there from and that no part of it is false.

Verified at Kolkata this ……….day of…………..2017.

DEPONENT

Checklist for Institution

Form –G

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Particulars</th>
<th>Documents Required</th>
<th>Attached (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Proof of the registration of the organization</td>
<td>Copy of Registration Certificate</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Proof of PAN &amp; GST</td>
<td>Copy of Certificate</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Credentials</td>
<td>Work Order / Completion Certificate (if any)</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>IT Returns for last 3 (three) years (2013-14, 2014 – 15, 2015 – 16 )</td>
<td>Copies to be submitted</td>
<td></td>
</tr>
</tbody>
</table>
GOVERNMENT OF INDIA
MINISTRY OF COMMERCE & INDUSTRY
The Patent Office at Boudhik Sampada Bhawan, CP – 2,
Sector – V, Saltlake, Kolkata - 700091

TENDER DOCUMENT: PART – II (FINANCIAL BID)

FOR
CONSTRUCTION AND RENOVATION WORKS
FOR
THE LIBRARY ROOM AT GROUND FLOOR OF THE PATENT OFFICE
AT
BOUDHIK SAMPADA BHAVAN, CP-2, SECTOR – V,
SALT LAKE CITY, KOLKATA - 700091

Name & Address of Tenderer :
__________________________________________
__________________________________________
__________________________________________
FORM OF BID

Name of Work:-
Construction & Renovation works for the Library Room at ground floor of the Patent Office at Boudhik Sampada Bhawan, CP – 2, Sector – V, Kolkata - 700 091 for the Controller General of Patents, Designs and Trademarks, Ministry of Commerce & Industry Government of India

To,
The Controller General of Patents, Design and Trademarks
Boudhik Sampada Bhawan,
CP – 2, Sector – V, Salt Lake
Kolkata - 700091

Respected Sir,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bill of Quantities (BoQ) etc. for execution of the above named works, we the undersigned offer to construct and install such works and remedy any defect therein in conformity with the aforesaid contract documents quoted by us for different items included in the sheet named “Price Schedule” of Financial Bid (Part-II) (Rate to be quoted) The total amount of Bill of Quantities being the Contract Price comes to Rs…………………………….……………(Rupees…………………………………………..….……………………………….only) inclusive of all taxes.

2. We undertake, if our tender is accepted, to commence the works as stipulated in Clauses of General Conditions of Contract, after the receipt of the notice to commence work and to complete the whole of the works comprised in the Contract within the time stated in Clause.

3. We agree to abide by this Bid and it shall remain binding upon us and may be accepted at any time before the expiration of validity as per sub-cause: [Bid Validity (Bids shall remain valid for a period of 60 (Sixty) days after the date of submission of bids].

4. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.

5. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this…………….day of……………………..…………2017

Signature………………………………..….………………………..…………..in the capacity of………………………………………………………duly authorized to sign bids for and on behalf of………………………………………………………………………………………………………………..(in block letters or typed)

Address:…………………………………………………………………………..

Witness…………………………………………………………………………..

Address:…………………………………………………………………………..

Occupation…………………………………………………………………………..
“Price Schedule” of Financial Bid (Part-II) :-

This BOQ template must not be modified / replaced by the bidder and the same should be submitted after filling the relevant column, else the bidder is liable to be rejected for this tender. Bidder’s are allowed to enter the Bidder's Name and Value only

Bidder’s Name :........................................................................................................................................................................

<table>
<thead>
<tr>
<th>SL. No.</th>
<th>Description of Works</th>
<th>Qty</th>
<th>Unit</th>
<th>Rate (Rs.) inclusive of all taxes, fees, levies, etc.</th>
<th>Amount (Rs.) inclusive of all taxes, fees, levies, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>CIVIL WORKS</strong></td>
<td></td>
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</tr>
<tr>
<td>1.00</td>
<td>Dismantling all types of <strong>Plain Cement Concrete</strong> works, stacking serviceable materials at site and removing rubbish as directed within a lead of 75 m in ground floor.</td>
<td>11,000</td>
<td>Cu.M</td>
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<td></td>
<td>a) Upto 150 mm thick</td>
<td></td>
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<tr>
<td>2.00</td>
<td><strong>Dismantling all types of Masonry</strong> excepting cement concrete plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 75 m. in ground floor.</td>
<td>1,000</td>
<td>Cu.M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td><strong>Dismantling Mosaic Flooring</strong> upto 50 mm. thick by chiseling and removing rubbish as directed within a lead of 75 m. in ground floor.</td>
<td>120,000</td>
<td>Sq.M</td>
<td></td>
<td></td>
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<tr>
<td>4.00</td>
<td><strong>Dismantling R.C. floor, roof, beams</strong> etc. including cutting rods and removing rubbish as directed within a lead of 75 m. including stacking of steel bars.</td>
<td>1,000</td>
<td>Cu.M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.00</td>
<td>Labour for taking out door and window frame including shutter for repair or replacement of different parts of the frame refixing the same including mending goodalldamaes complete. (Concrete and brick work for mending damage will be paid separately)</td>
<td>4,200</td>
<td>Sqm</td>
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<tr>
<td>Item No.</td>
<td>Description</td>
<td>Quantity/Size</td>
<td>Unit</td>
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<tr>
<td>6.00</td>
<td><strong>Removing Old Scales, Blisters</strong> etc. of interior surface of walls by scraping etc. and preparing smooth and even surface with rendering or cement mortar (1:2) (as necessary). (Payment against this item will be made only when this has been done on the specific direction of the Engineer-in-charge).</td>
<td>227.000</td>
<td>Sq.M</td>
<td></td>
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<tr>
<td>7.00</td>
<td><strong>Removal of Rubbish, Earth</strong> etc. from the working site and disposal of the same beyond the compound, in conformity with the Municipal / Corporation Rules for such disposal, loading into truck and cleaning the site in all respect as per direction of Engineer in charge</td>
<td>140.000</td>
<td>Cu.M</td>
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<tr>
<td>8.00</td>
<td><strong>Earth Work in Excavation</strong> of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing, spreading or stacking the spoils within a lead of 75 m. as directed. The item includes necessary trimming the sides of trenches, leveling, dressing and ramming the bottom, bailing out water as required complete. Depth of excavation not exceeding 1,500 mm.</td>
<td>118.000</td>
<td>Cu.M</td>
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<tr>
<td>9.00</td>
<td>Filling in foundation or plinth by <strong>Silver Sand</strong> in layers not exceeding 150 mm. as directed and consolidating the same by through saturation with water ramming complete including the cost of supply of sand. (payment to be made on measurement of finished quantity).</td>
<td>83.000</td>
<td>Cu.M</td>
<td></td>
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<tr>
<td>10.00</td>
<td><strong>Single Brick Flat Soling</strong> of picked jhama bricks including ramming and dressing bed to proper level and filling joints with local sand.</td>
<td>111.000</td>
<td>Sq.M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.00</td>
<td>I) Cement concrete with graded stone ballast (40 mm size excluding shuttering) In ground floor [Pakur Variety] 1:3:6 proportion</td>
<td>8.000</td>
<td>Cu.M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.No</td>
<td>Description</td>
<td>Quantity/Unit</td>
<td></td>
<td></td>
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<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------</td>
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<tr>
<td>12.00</td>
<td>Supplying and laying <strong>Polythene Sheet</strong> (150gm / sq.m.) below flooring in foundation.</td>
<td>104.000 Sq.M</td>
<td></td>
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<tr>
<td>13.00</td>
<td><strong>Ordinary Cement Concrete</strong> (mix 1:1.5:3) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement if any, in ground floor as per relevant IS codes. (i) Pakur Variety</td>
<td>Ground fl. 11.000 Cu.M</td>
<td></td>
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<tr>
<td>14.00</td>
<td>Reinforcement for <strong>Reinforced concrete</strong> work in all sorts of structures including distribution bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending correct shape, placing in proper position and binding with 16 gauge black annealed wire at every intersection, complete as per drawing and direction (i) Tor steel</td>
<td>Ground floor 0.500 MT</td>
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<tr>
<td>15.00</td>
<td><strong>Extra rate for using water proofing and plasticising admixture</strong> @ 0.2% by weight of cement (or at manufacturer's specified rate) for concrete of various grades.</td>
<td>9.000 Kg</td>
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<tr>
<td>16.00</td>
<td><strong>Hire and labour charges for Shuttering</strong> with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams and columns, lintels curved or straight including fitting, fixing and striking out after completion of works (upto roof of ground floor) Steel Shuttering or 9 to 12 mm thick approved quality ply board shuttering in any concrete work</td>
<td>Ground Fl. 2.000 Sq.M</td>
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<tr>
<td>17.00</td>
<td><strong>Brick work with 1st class bricks in cement mortar (1:4)</strong> In Foundation &amp; Plinth</td>
<td>12.000 Cu.M</td>
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<td></td>
<td>In superstructure.</td>
<td>1.000</td>
<td>Cu.M</td>
<td></td>
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<tr>
<td>18.00</td>
<td>125 mm. thick brick work with 1st class bricks in cement mortar (1:4) in Ground floor.</td>
<td>10.000</td>
<td>SqM</td>
<td></td>
<td></td>
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</tbody>
</table>
| 19.00 | **Plaster** (to wall, floor, ceiling etc.) with sand, and cement mortar including rounding off or chamfering corners as directed and raking out joints and roughening of concrete surface including throating, nosing and drip course, scaffolding/staging where necessary (Ground Floor) [Excluding cost of chipping over concrete surface] | (ii) **With 1: 6 Cement Mortar**  
15 mm thick | 11.000 | Sq.M |
|   | Rendering the Surface of walls and ceiling with White Cement base WATER PROOF Wall Putty of approved make & brand.(1.5 mm thick) | 140.000 | Sq.M |
| 21.00 | Supplying and laying true to line and level **Vitrified Tiles** of Kajaria/Johnson brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry back side of tiles using cement @ 2.91Kg./sqM laid after application slurry using 1.75 Kg of cement per sqM below mortar only, joints grouted with admixture of white cement (0.2 kg/sqm) and colouring pigment to match with colour of tiles and removal of wax coating of top surface of tiles with warm water and polishing the tiles using soft and dry cloth up to mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-in-Charge. | (A) Deep Colour& White | 120.000 | Sq.M |
22.00 Applying Interior grade **Acrylic Primer** of approved quality and brand on plastered or concrete surface old or new surface to receive Distemper / Acrylic Emulsion Paint including scraping and preparing the surface thoroughly, complete as per manufacturer's specification and as per direction of the Engineer-in-Charge.

<table>
<thead>
<tr>
<th>Two Coats</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water based interior grade Acrylic Primer</td>
<td>241.00 Sq.M</td>
</tr>
</tbody>
</table>

23.00 Applying **Acrylic Emulsion Paint** of approved make and brand on walls and ceiling including sand papering in intermediate coats including putty (to be done under specific instruction). Two coats.

<table>
<thead>
<tr>
<th>Standard Quality</th>
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</tbody>
</table>

24.00 **Pre-Constructional Measures**:

(c) **Anti termite treatment** to the top surface of the consolidated earth within plinth walls with chemical emulsion by admixing chloropyrofosemulsifiable concentrates (1% concentration) with water by weight at the rate of 5 Litres per sq. m. of the surface before sand bed or sub-grade is laid. Holes upto 50 mm. to 75 mm. deep at 150 mm. centre to centre both ways shall be made with 12 mm, diameter mild steel rod on the surface to facilitate saturation of the soil with the chemical emulsion. The work shall be carried out as per specification described in para 6.4 of code IS-6313 (part - II) 1981. (Mode of measurement will be per Sq.m of plan area of plinth treated.)

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<table>
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<tbody>
<tr>
<td></td>
<td>104.000 Sq.M</td>
</tr>
</tbody>
</table>

**TOTAL**

| Rs. |  |

**Rupees in Words:**

Place:

Date: