RFP Reference No. BEPC/PCB Lab/2025-26/3999, Dated 27/08/2025

Request for Proposal (RFP)
For
Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis in Government Secondary/Senior Secondary Schools of Bihar

(Through https://eproc2.bihar.gov.in)

Bihar Education Project Council,
IInd & IIIrd Floor, Shiksha Bhawan,
Bihar Rashtrabhasha Parishad Campus,
Saidpur, Patna - 800 004 (Bihar)

समग्र शिक्षा
Samagra Shiksha

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DISCLAIMER

While this Request for Proposal document ("RFP") has been prepared in good faith, neither Bihar Education Project Council (BEPC), GoB nor its employees or advisors make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of Information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP, even if any loss or damage is caused by any act or omission on their part.

1. This document is not transferable, and this RFP does not purport to contain all the information that each Bidder may require and accordingly is not intended to form the basis of any investment decision or any other decision to participate in the bidding process for the selection of the Successful Bidder for this Project. Each Bidder should conduct their own investigations and analysis and check the accuracy, reliability, and completeness of the information in this document and obtain independent advice from appropriate sources

2. Though adequate care has been taken while preparing this Bid Document, the Bidder shall satisfy themselves that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

3. BEPC, GoB may modify, amend, reject or supplement this RFP document in accordance with norms and procedures and as per the requirement of the project. BEPC, GoB reserves the right to waive any irregularity in the proposal (RFP) and the BEPC, GoB makes it clear that the RFP is not an offer/ Agreement.

4. Neither the BEPC, GoB nor its employees shall be liable to any Bidder or any other person under any law including the law of Agreement, tort, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage which may arise, or be incurred, or suffered, in connection with this RFP document, or any matter that may be deemed to form part of this RFP document, or the award of the Agreement, or any other information supplied by the BEPC, GoB or their employees or consultants or otherwise arising in any way from the selection process for the award of the Agreement for the Project.

5. BEPC, GoB is not bound to accept any or all the Proposals. BEPC, GoB reserves the right to reject any or all the Proposals without assigning any reasons. No Bidder shall have any cause for action or claim against the BEPC, GoB or its officers, employees, successors, or assignees for rejection of their bid. The RFP submitted by the bidder will be the property of the BEPC, GoB.

Glossary

Abbreviation/ Terms	Details
Authorized Signatory	The bidder's representative / officer vested (explicitly, implicitly, or through conduct) with the powers to commit the authorizing organization to a binding agreement. Also called signing officer/ authority having the Power of Attorney (PoA) from the competent authority of the respective Bidding firm.
BEPC	Bihar Education Project Council (BEPC),
Bid	A formal offer made in pursuance of an invitation by a procuring entity and includes any tender, proposal or quotation in electronic format
Bid Security/ Earnest Money Deposit (EMD)	A security provided to the procuring entity by a bidder for securing the fulfilment of any obligation in terms of the provisions of the bidding documents.
Bidder	Any person/ firm/ agency/ company/ contractor/ vendor participating in the bidding process with the procurement entity
Bidding Document	Documents issued by the procuring entity, including any amendments thereto, that set out the terms and conditions of the given procurement and includes the invitation to bid
BSEIDC	Bihar State Educational Infrastructure Development Corporation (BSEIDC)
Competent Authority	An authority or officer to whom the relevant administrative or financial powers have been delegated for taking decision in a matter relating to procurement. State Project Director, Bihar Education Project Council (BEPC), Department of Education, GoB shall be the Competent Authority in this bidding document.
Contract	"Contract" means a legally enforceable agreement entered into between the Procuring entity and the selected bidder(s) with mutual obligations.
LD	Liquidated Damages
LoI	Letter of Intent
PAN	Permanent Account Number
PQ	Pre-Qualification
Procurement Process	The process of procurement extending from the issue of invitation to Bid till the award of the procurement contract or cancellation of the procurement process, as the case may be
Purchaser/ Tendering Authority/ Procuring Entity	Person or entity that is a recipient of a goods or service provided by a seller (bidder) under a purchase order or contract of sale, also called buyer. BEPC, GoB in this BID document.
Services	Any subject matter of procurement other than goods or works and includes physical, maintenance, professional, intellectual, consultancy and advisory services or any service classified or declared as such by a procuring entity
Service Level Agreement (SLA)	Service Level Agreement is a negotiated agreement between two parties wherein one is the customer and the other is the service provider. It is a service contract where the level of service is formally defined. In practice, the term SLA is sometimes used to refer to the contracted delivery time (of the service) or performance.
State Government	Government of Bihar (GoB)
GST	Goods and Service Tax
WO/ PO	Work Order/ Purchase Order

Schedule of Bid Process

SL	Information	Details
1	RFP Issuing Authority	State Project Director, Bihar Education Project Council (BEPC)
2	RFP No. and Date of availability	RFP Reference No. BEPC/PCB Lab/2025-26/..3999., Dated 27./08/2025 Available for download from 27/8/2025, 02:00 PM onwards till 16/9/2025, 3:00 PM on https://eproc2.bihar.gov.in
3	Last date for submission of written queries for clarifications	02/9/2025, 02:30 PM Email: etenderbepc@gmail.com
4	Date of pre-bid conference	02/9/2025, 03:00 PM through online mode Google Meet joining info Video call link: https://meet.google.com/tnt-yoee-kzs e-mail: etenderbepc@gmail.com
5	Release of response to clarifications	03/9/2025, 5:00 PM
6	Last date of submission of bid	16/9/2025, 4:00 PM
7	Last date of submission of Hard copy of EMD	16/9/2025, 4:00 PM
8	Last date of submission of Sample (Before bid submission closing date & Time)	16/9/2025, 4:00 PM
9	Opening of Technical Bids	16/9/2025, 4:30 PM
10	Opening of Financial Bids	To be intimated
11	Contact person for queries	Administrative Officer, Bihar Education Project Council (BEPC), Shiksha Bhawan, Bihar Rashtra Bhasha Parishad Campus, Saidpur - 800 004. e-mail: etenderbepc@gmail.com

Note: BEPC reserves the right to amend document for RFP, schedules, and critical dates. It is sole responsibility of bidder to check https://eproc2.bihar.gov.in from time to time for any updated information. No communication in writing or through e-mail or any other mode will be sent by BEPC in this regard. BEPC also reserves the right to cancel the whole tender process at any time during the bid process without assigning any reason thereof.

1. REQUEST FOR PROPOSAL

State Project Director, Bihar Education Project Council (BEPC), Patna invites Request for Proposal (RFP) for Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis in Government Secondary/Senior Secondary Schools of Bihar from eligible agencies. The bids comprising mandatory compliance along with technical bids and price bids shall be submitted on https://eproc2.bihar.gov.in website. The Scope of Services forming part of the assignment has been set out hereunder in this document. The Proposals would be evaluated on the basis of the evaluation criteria set out in this RFP ("Evaluation Criteria") to identify the successful Bidder for the Assignment ("Successful Bidder").

1.1 Structure of the RFP

BEPC, GoB intends to follow a 'two stage' bid process for selection of the successful agency under LCBS (Least Cost Based Selection), as outlined in this RFP.

The Bidders would need to submit Technical and Financial Proposal in the prescribed formats, within the Proposal Due Date as prescribed in this RFP. BEPC, GoB would evaluate all the Submissions in accordance with the evaluation criteria set out in the RFP to select a qualified bidder.

1.2 Obtainability of RFP Document

RFP document can be downloaded from the website https://eproc2.bihar.gov.in.

2. BACKGROUND INFORMATION

The BEPC, Education Department, Bihar is inviting RFP to Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis in Government Secondary/Senior Secondary Schools of Bihar from eligible agencies.

The establishment of **3478 Physics, 3508 Chemistry and 3545 Biology** laboratories in government schools across the districts of Bihar in Two Zones on a turnkey basis is aimed at strengthening science education by integrating theoretical classroom instruction with practical, hands-on experience. The initiative facilitates outcome-based learning by enabling students to perform experiments and apply scientific principles in controlled environments, thereby reinforcing textbook knowledge through experiential engagement. This approach is expected to foster scientific temper and improve conceptual understanding among students. The turnkey model ensures

uniformity in infrastructure, timely execution of works, and coordinated capacity-building of teachers, thereby contributing to the broader goal of enhancing the quality of school education in line with NEP 2020 directives. BEPC aims to equip government.

This initiative facilitates the integration of theoretical concepts with hands-on experimentation by providing standardized laboratory infrastructure and equipment. Students gain direct exposure to scientific methods and principles, enhancing conceptual understanding and encouraging analytical thinking. The turnkey model ensures uniform implementation, timely setup, and streamlined maintenance, while also enabling capacity-building of subject teachers to effectively utilize the laboratories for instructional purposes. Bidder has to deliver and Install the Lab equipment as per Lab readiness. In case, any room is readily available to conduct the lab, the temporary setup to be established by Bidder to Conduct Lab sessions and once the respective lab is ready, bidder should shift the equipment into respective Lab.

Accordingly, BEPC is inviting agencies through this Request for Proposal (RFP) to Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis in Government Secondary/Senior Secondary Schools of Bihar from eligible agencies. The selected agency will be responsible for ensuring timely delivery, proper installation and functional readiness of all components as detailed in Annexure-I, which outlines the specifications and tentative quantity of the equipment to be supplied.

3. INSTRUCTIONS TO BIDDERS

3.1 SUBMISSION PROCEDURE

a) The bidders should submit their responses as per the format given in this RFP in the following manner: Technical Proposal and Commercial Proposal.

b) Please Note that prices should not be indicated in the Technical Proposal but should only be indicated in the Commercial Proposal.

c) All the pages of the proposal must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bid.

d) The bids shall be uploaded through https://eproc2.bihar.gov.in as per the instructions available on the website.

3.2 NUMBER OF PROPOSALS

Each Bidder must submit only one (1) Proposal, in response to this RFP. Any Bidder who submits or participates in more than one Proposal shall be disqualified.

3.3 PROPOSAL PREPARATION COST

a) The bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by the BEPC to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.

b) The BEPC will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

c) The bidder shall quote the percentage rate method as specified in the Financial Form; only the same option is allowed to all the bidders. Percentage rate method requires the bidder to quote a percentage excess/less/ at par of the approved budget.

d) All duties, taxes, and other levies payable by the contractor under the contract shall be included in the rates, prices and total Bid Price submitted by the Bidder.

e) If any increase in material cost, the rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions in Conditions of Contract.

f) The rate should include the cost of all seen and unseen expenditure. No claim whatsoever, will be entertained due to non-inclusion of any such event necessary for the completion of the item of work.

3.4 RIGHT TO ACCEPT OR REJECT

I. The BEPC, GoB may reject a proposal at any stage if it is found that the firm recommended for award has indulged in corrupt or fraudulent activities in competing for the contract in question, and may also declare a firm ineligible or blacklist the firm, either indefinitely or for a stated period of time, if at any time it is found that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

II. Notwithstanding anything contained in this RFP, the BEPC, GoB reserves the right to accept or reject any Proposal and to annul the bidding process and reject all proposals at any time, without any liability or any obligation for such acceptance, rejection or annulment, without assigning any reasons.

III. BEPC GoB reserves the right to reject any Proposal if, at any time, a material misrepresentation made by a Bidder at any stage of the bidding process is discovered.

3.5 CLARIFICATIONS

A prospective Bidder requiring any clarification on the RFP must notify the BEPC, GoB in writing to The State Project Director, Bihar Education Project Council, GoB within such date as specified in RFP Time Schedule. At its sole discretion, BEPC, GoB will upload its response to such queries on the website https://eproc2.bihar.gov.in Bidders requiring specific points of clarification may communicate with the BEPC, GoB during the specific period using the following format. The queries can be submitted by email at etenderbepc@gmail.com with name of assignment as the subject, in the following format:

Bidders Request for Clarification				
Name of Organization submitting request		Name and position of person submitting	Details of person and organization	
			Address: Tel: E-mail: Mobile:	
S. No	Bidding Document Reference (Number/Page)	Content of RFP requiring Clarification	Points of Clarification Required	Suggestions (If any)
1				
2				

3.6 AMENDMENTS TO RFP

At any time prior to the Proposal Due Date, as indicated in the RFP Time Schedule, BEPC, GoB may, for any reason, whether at its own initiative or in response to clarifications requested by a bidder, amend the RFP by the issuance of Addenda. Such Addenda would be posted on the website https://eproc2.bihar.gov.in In order to afford Bidders reasonable time to take the Addendum into account, or for any other reason, BEPC, GoB may, at its discretion, extend the Proposal Due Date.

3.7 LANGUAGE AND CURRENCY

The Proposal and all related correspondence and documents must be written in English language. Supporting documents and printed literature furnished by the Bidder with the Proposal may be in any other language if they are accompanied by an appropriate translation in English language. Supporting materials that are not translated into English shall not be considered. For the purpose of interpretation and evaluation of the Proposal, the English language translation shall prevail. The currency for this bid is Indian Rupees. All the quotes should be in Indian Rupees only.

3.8 VALIDITY OF PROPOSAL

i. The Proposal must be valid for a period not less than 90 days from the Proposal Due Date ("Proposal Validity Period"). BEPC, GoB reserves the right to reject any Proposal that does not meet this requirement.

ii. Prior to expiry of the Proposal Validity Period, BEPC, GoB may request the Bidders to extend the period of validity for a specified additional period.

iii. The Successful Bidder shall, where required, extend the validity of the Proposal till the date of execution of the Agreement.

3.9 BID SECURITY

i. Bidders shall submit, along with their Bids, EMD of INR 10,00,00,000/- (Rupees Ten Crore only) in the form of Demand Draft/Bank Guarantee issued by any Scheduled bank. It may be also submitted through RTGS/NEFT in specified bank account of BEPC. (Bank Details: State Project Director - BEPC, A/c No. 245001000002776, IFSC Code - IOBA0002450).

ii. Validity of BG (EMD) will be up to 31.12.2025.

iii. The bid / proposal submitted without EMD, mentioned above, will be summarily rejected.

iv. Bidder are allowed to Participate in all zones; however evaluation will be carried on zonal basis.

v. Micro, small and start up agencies registered for doing similar work as a Manufacturer are exempted from the payment of EMD, as per Government policy, subject to submission of valid registration certificate as a Manufacturer of mentioned products with the bid and

with qualification of required eligibilities.

vi. The Bid Security shall be returned to the unsuccessful Bidders within a period of two (2) weeks from the date of signing of Agreement between the BEPC, Department of Education, GoB and the Successful Bidder.

vii. The bid security of the successful bidder will be returned to the successful bidder on the submission of the Performance Security as specified in the RFP document.

viii. The Bid Security shall be forfeited in the following cases:

a. If the Bidder withdraws its Proposal;

b. If the Bidder withdraws its Proposal during the interval between the Proposal Due Date and expiration of the Proposal Validity Period; and

c. If any information or document furnished by the Bidder turns out to be misleading or untrue in any material respect.

d. If the bidder, after the award of work order, fails to submit the performance security within the stipulated time.

3.10 BIDDER'S RESPONSIBILITY

i. The Bidder is expected to examine carefully the contents of all the documents provided. Failure to comply with the requirements of RFP shall be at the Bidder's own risk.

ii. It shall be deemed that prior to the submission of Proposal, the Bidder has:

- Made a complete and careful examination of terms & conditions/ requirements, and other information set forth in this RFP document.
- Received all such relevant information as it has requested from the BEPC, GoB; and
- Made a complete and careful examination of the various aspects of the Assignment.

iii. BEPC, GoB shall not be liable for any mistake or error or neglect by the Bidder in respect of the above.

iv. Bidder must understand whole RFP in line with Department requirement and providing the undertaking on execution the same unconditionally.

v. All taxes payable to government must be paid by the service provider as per applicable

norms and procedure. BEPC, GoB is nowhere liable and responsible for payment of such taxes. Only GST payment will be made by BEPC, GoB as per applicable rates on the fee quoted by the agency.

3.11 CORRESPONDENCE/ ENQUIRY

All correspondence/enquiries must be submitted to the following in writing by email/ fax/ registered post with **name of assignment** as the subject. The details are:

The State Project Director,
Bihar Education Project Council,
Shiksha Bhawan, Bihar Rashtrabhasha Parishad Campus,
Saidpur - 800 004. e-mail: etenderbepc@gmail.com

3.12 FORMAT AND SIGNING OF PROPOSAL

i. Bidders must provide all the information as per this RFP and in the specified format. BEPC, GoB reserves the right to reject any Proposal that is not in the specified format.

ii. The Proposal must include submissions to be made on the respective Proposal Due Date as set out in RFP Time Schedule.

iii. The person(s) signing the Proposal must initial all the alterations, omissions, additions, or any other amendments made to the Proposal.

3.13 MODIFICATION/SUBSTITUTION/WITHDRAWAL OF PROPOSAL

i. The Bidder may modify, substitute, or withdraw its Proposal after submission, provided that a written notice of the modification, substitution or withdrawal is received by BEPC, GoB **before the Proposal Due Date**. No Proposal shall be modified, substituted, or withdrawn by the Bidder after the Proposal Due Date.

ii. The modification, substitution or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with outer envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL", as appropriate.

iii. Withdrawal of a Proposal during the interval between the Proposal Due Date and expiration of the Proposal Validity Period will result in **forfeiture of the Bid Security** in accordance with this RFP.

3.14 PROPOSAL DUE DATE

i. Proposals must be submitted as per information provided in this RFP.

ii. BEPC, GoB at its sole discretion; accept any Proposal(s) after Proposal Due Date. Any such Proposal/s accepted shall be deemed to have been received by the Proposal Due Date.

3.15 TEST OF RESPONSIVENESS

Initial Bid scrutiny will be held and incomplete details as given below will be treated as non-responsive, if Proposals:

a) Are not submitted in as specified in the RFP document?
b) Are found with suppression of details.
c) With incomplete information, subjective, conditional offers and partial offers submitted.
d) Submitted without the documents requested in the checklist.
e) Have non-compliance of any of the clauses stipulated in the RFP.
f) With lesser validity period.
g) All responsive Bids will be considered for further processing. The BEPC will prepare a list of responsive bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by a committee according to the Evaluation process define in this RFP document. The decision of the Committee will be final in this regard.
h) BEPC, GoB reserves the right to seek clarification or reject any Proposal which in its opinion is non-responsive and no request for modification or withdrawal shall be entertained by Department of Education, GoB in respect of such Proposal.

3.16 CONFIDENTIALITY

Information relating to the examination, clarification, evaluation and recommendation for the Qualified Bidders shall not be disclosed to any person not officially concerned with the process. The BEPC, GoB will treat all information submitted as part of the Proposal in confidence and will ensure that all those who have access to such material to treat it in confidence. BEPC shall not divulge any such information unless ordered to do so by any statutory authority that has the power under law to require its disclosure.

3.17 CLARIFICATIONS

To assist in the process of evaluation of Proposals, BEPC, GoB may, at its sole discretion, ask any Bidder for clarification on its Proposal or substantiation of any of the submission made by the Bidder.

If the Bid of the successful Bidder is seriously unbalanced in relation to the BEPC's estimate of the cost of work to be performed under the contract, the BEPC may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analysis, BEPC may require that the amount of the performance security set forth to be increased at the expense of the successful Bidder to a level sufficient to protect the BEPC against financial loss in the event of default of the successful Bidder under the Contract.

3.18 PROPOSAL EVALUATION

The Qualification Submissions of the Bidders would be checked for responsiveness with the requirements of the RFP and shall be evaluated as per the Criteria set out in this RFP.

3.19 DECLARATION OF SUCCESSFUL BIDDER

Upon acceptance of the Proposal of the tenderer technically qualified with LCBS (Least Cost Based Selection) criteria, BEPC, GoB shall declare the tenderers as the successful bidders for the selection.

3.20 NOTIFICATIONS

BEPC, GoB will notify the Successful Bidder by a Letter of Intent/Award (LoI/LoA) that their Proposal has been accepted.

3.21 BIHAR EDUCATION PROJECT COUNCIL, GOB'S RIGHT TO ACCEPT OR REJECT PROPOSAL

i. BEPC, GoB reserves the right to accept or reject any or all the Proposals without assigning any reason and to take any measure as it may deem fit, including annulment of the bidding process, without liability or any obligation for such acceptance, rejection or annulment.

ii. BEPC, GoB reserves the right to invite revised Proposals from Bidders with or without amendment of the RFP at any stage, without liability or any obligation for such invitation

and without assigning any reason.

iii. BEPC, GoB reserves the right to reject any Proposal if at any time:

a. A material misrepresentation made at any stage in the bidding process is uncovered; or

b. The Bidder does not respond promptly and thoroughly to requests for supplemental information required for the evaluation of the Proposal.

c. This would lead to the disqualification of the Bidder. If such disqualification / rejection occurs after the Proposals have been opened and the Successful Bidder gets disqualified/ rejected, then BEPC, GoB reserves the right to take any such measure as may be deemed fit in the sole discretion of BEPC, GoB, including annulment of the bidding process.

3.22 PERFORMANCE BANK GUARANTEE (PBG)

a. The successful bidder must furnish an unconditional and irrevocable bank guarantee / demand draft, in a format acceptable to BEPC, GoB valid for the 1 year or contract term, of a value equivalent to 5% of the contract value within 07 days of award of Letter of Intent (LOI).

b. Failure to submit the PBG within the time stipulated in the LOI may lead to cancellation/ withdrawal of LOI and, in such case, BEPC, GoB reserves the right to take any such measure as may be deemed fit by Department of Education, GoB, including annulment of the bidding process.

c. PBG valid for throughout Contract Period of 24 month (12-month execution period + 12 month DLP period) from Date of issue of LOI.

4. CRITERIA FOR EVALUATION

The evaluation would consist of following:

- **Technical evaluation:** The Bidder shall be examined prima facie to substantiate the compliance with the Bidder's eligibility criteria as set out for this project in terms of organizational, financial and technical experience etc. The bid will be rejected in case it does not meet the Eligibility criteria.

- Proposal may be rejected at any stage of the evaluation if it is found that the company has provided misleading information or has been blacklisted by a central or any state government or

has indulged in any malpractice/ unethical practice and has not honored contractual obligation elsewhere;

➢ After the technical evaluation is completed and approved, BEPC shall inform the Bidders who have submitted proposals, the detailed compliance of their Technical Proposals, and shall notify those Bidders whose Proposals did not meet the minimum technical criterion or were considered non-responsive to the RFP, that their Financial Proposals will be returned unopened after completing the evaluation process. BEPC shall simultaneously notify in writing to the Bidders that have complied with the Technical Criterion specified in the RFP the date, time and location for opening the Financial Proposals.

➢ Please note that no conditional bid will be entertained

4.1 PRE-QUALIFICATION CRITERIA

The following table describes the pre-qualification criteria. A bidder participating in the bidding process shall possess the following minimum pre-qualification/ eligibility criteria. Any bidder failing to meet the stated criteria and non-submission of supporting documents shall be summarily rejected and will not be considered further for Technical Evaluation.

Sl	Conditions	Documents to be submitted
1	The Bidder should be a Company registered under Indian Companies Act 1956/2013 or MSCS act 2002 should be in existence from last 10 years. The Bidder should have the following Registrations: PAN Number GST Registration	a) Certificate of Incorporation/ b) GST certificate c) Copy of PAN
2	The Lead bidder should have an average annual turnover of a minimum of INR 650 crores in the last three financial years. i.e. 2021-22, 2022-23 and 2023-24. Consortium Partner Should have an average annual turnover of a minimum of INR 100 crores in the last three financial years. i.e. 2021-22, 2022-23 and 2023-24.	Audited Financial Statements for the last three financial years.
3	The Lead Bidder should have Profitability for the last Five years and net worth of the bidder should be Positive in the last five financial years i.e. 2019-20, 2020-21, 2021-22, 2022-23 and 2023-24 and should have minimum 50Crs net worth in last audited financial year i.e. 2023-24 (as per the last published audited balance sheet)	Copy of Balance Sheet and CA Certificate with 18-digit UDIN number.

4	The Lead bidder must have successfully undertaken at least the following number of similar assignments to provide the Educational Facilities to Schools/Students as per NEP 2020 Guidelines of value specified herein: - One project not less than the amount of ₹300, 00,00,000/- (Rupees Three Hundred Crores Only) OR Two projects not less than the amount of Rs. ₹200,00,00,000/- (Rupees Two Hundred Crores Only) OR Three projects not less than the amount of Rs. 100,00,00,000/- (Rupees One Hundred Crores Only) Similar assignments defined as: Project in Educational Institutions with the scope for Execution of Educational/ Institutional/ Assembly/ Business/ Mercantile building (as defined in Model Building Bye-Laws, 2016)/Establishment of Physics, Chemistry and Biology laboratories/ ICT Labs/ Digital Smart Classrooms/ Science Labs/ ISM Labs with necessary classroom modifications/ Electrification Projects for Government Department/ Semi-Government department/ Govt. Autonomous bodies/ PSUs in last Five (5) years.	Work Order and Completion Certificate/Payment proof.
5	The Lead bidder must have successfully executed an educational infrastructure project involving the establishment of Physics, Chemistry, and Biology laboratories/ ICT Labs/ Digital Smart Classrooms/ ISM Labs/ Science Labs with civil /electrification/Educational kits by converting minimum 24,000 conventional classrooms or halls into fully functional spaces in State or Central Government Schools within the last five (5) years as of the bid submission date.	Work Order and Completion Certificate/Payment proof.
6	The Lead Bidder must have a valid ISO 9001 certificate.	Copy of Valid certificates in the name of Bidder.
7	The Lead Bidder and Consortium Partner must have never been blacklisted for fraudulent practices by any of its clients, Central Government / State Government / UT Government / Government Undertakings / University / Educational Institutions / Government Bodies / PSUs in India as on bid submission date.	Declaration on Non –Judicial Stamp paper of Rs 1000/-
8	Lead Bidder should Submit the "5" Key Personal Details and Their Experience in Working Government Education Projects for the last Three Years.	Affidavit on Non judicial Bond paper with Details Key Personal Details, Experience in Dealing with Government Projects,

	Escalation matrix to be submitted mentioning Key personal with Responsibilities.	Designation and PF numbers by HR/ Director of the Company
9	Lead Bidder should submit the Proposed Plan, Design Layout to Develop the existing Infrastructure/ Along with Construction on Turn Key basis, Plan of Action, Project Methodology with Necessary Manufacture Authorization Letter from OEM Lab Equipment, Electronics Equipment, Digital Equipment, Self-Explanatory Experiments Lab Content and Consumables on Turn Key Basis.	Relevant Documents on Letter Head and Undertaking on Civil Infrastructure Development, Lab Development, Furniture and Equipment Supply with Usage Manuals
10	Lead Bidder /Consortium partner/ OEM must possess following Compliance Certificates / Test Reports on the date of bid opening (to be uploaded with bid): ISO 14001, 27001, 45001, 50001, SEFA 8M, SEFA 10 Powder Coating test reports from any NABL accredited central government lab to be furnished against the following tests: Salt spray (ASTM B117), Gloss, Bend test, Pencil hardness test, Impact resistance test Cross hatch adhesion test, Dry film thickness test. OEM should have conducted the tests in last 6 months.	OEM Should Submit the sample Test Reports for the Quoted Products
10	Bidders shall quote only those products in the bid which are made in or after year 2025 in the market and has at least 2 years residual market life i.e., the offered product shall not be declared end-of-life by the OEM before this period.	Undertaking On OEM and Bidder Letter head
11	Bidder should Provide the Tender Specific Manufacture Authorization form Lab Equipment including Work benches, Test Equipment and Electronic Items specified in this bid. All OEM documents should be issued on Lead Bidder Name.	Bidder should submit the Manufacture Authorization Form OEM
11	Bidder/OEM must have Dedicated Telephone No. for Service Support	The Number along with key contacts should be Submitted on letter Head
10	Sample Submission: Bidder must submit the samples as per the scope of work.	All the Lab Materials except furniture needs to be submitted before the last date of bid submission

Note: -

- Consortium is allowed with maximum 2 Members. In case of consortium, either of company or both should have relevant experience in executing the civil works in past.
- The Bidder should submit the Samples as per Annexure-1.
- Non-Submission of Lab materials, Authorization Letters, Product Data Sheets Layouts, Authorization Letter as per Pre-Qualification and Annexure-1 will lead to Disqualification

of Bid.

- The bidder shall provide an undertaking under the Pre-Qualification Criteria confirming that all submitted documents are genuine and that no false, fake, or fabricated information has been furnished in any form, statement, or annexure submitted as proof of qualification requirements.
- Submission of any false, fake, or fabricated document shall result in disqualification of the bid, forfeiture of the Earnest Money Deposit (EMD)/PBG, and the bidder being barred from participating in any BEPC tenders for the next three (3) years.
- Non-Submission of any of the above document will lead to disqualification of Bid.

4.2. Technical Evaluation Criteria

Only those bidders who qualify in Pre-Qualification as per above will be considered for Technical Evaluation. During the process of evaluation of the Technical Proposals, the Tender Committee may seek additional information and clarifications from any or all the bidders, if required. This clarification will be sought through email communications/request a personal visit of the authorized representatives of the bidder.

The bidder is expected to provide clarifications or additional information within the stipulated time as indicated in the communication. If the bidder fails to provide the clarification or additional information, the information provided in the technical proposal only will be used for evaluation. Only the bidders, who score a technical score of more than 75 Marks will qualify for the evaluation in the commercial bid. The technical bid will be evaluated on the below mentioned criteria:

Sl. No.	Description	Evaluation Criteria	Criteria wise Marks	Maximum Marks
1	The bidder should have an average annual turnover of a minimum of INR 650 crores in the last three financial years. i.e. 2021-22, 2022-23 and 2023-24.	More Than ₹ 650Cr	10	20
		More Than ₹ 750 Cr.	20	
2	The bidder must have successfully undertaken at least the following number of Similar assignments with Civil related activity to provide the Educational Facilities to Schools/Students as per NEP 2020 Guidelines of value specified herein: - One project not less than the amount of ₹300,00,00,000/- (Rupees Three Hundred Crores Only)	Single project of more than 300 Cr. or Two Projects of More Than 200 Cr. or Three Projects of More Than 100 Cr.	10	25

	OR Two projects not less than the amount of Rs. ₹200,00,00,000/- (Rupees Two Hundred Crores Only) OR Three projects not less than the amount of Rs. 100,00,00,000/- (Rupees One Hundred Crores Only) Similar assignments defined as: Project in educational institutions with the scope for execution of Educational/ Institutional/ Assembly/ Business/ Mercantile building (as defined in Model Building Bye-Laws, 2016)/ Establishment of Physics, Chemistry and Biology laboratories/ ICT Labs/ Digital Smart Classrooms/ Science Labs/ ISM Labs with necessary civil modifications/ Electrification Projects for Government Department/ Semi-Government department/ Govt. Autonomous bodies/ PSUs in last five (5) years.	The cumulative of two projects of more than 300 Cr.	15	
		The cumulative of two projects of more than 350 Cr.	25	
3	The bidder must have successfully executed an educational infrastructure project involving the establishment of Physics, Chemistry, and Biology laboratories/ ICT Labs/ Digital Smart Classrooms/ ISM Labs/ Science Labs with necessary civil /electrification by converting minimum 24,000 conventional classrooms or halls into fully functional spaces. Out of which, at least 12,000 units implemented in a single project through tender awarded to State or Central Government Schools within the last three (5) years.	More than 24000 classrooms	10	20
		More than 27000 classrooms	15	
		More than 30000 classrooms	20	
4	Sample Demonstration (POC) Demo of the samples of all items to be submitted and Agency/ Firm with supporting Documents will be invited for the demonstration also.	Quality of Sample Submission		15
5	Technical Presentation	Bidder must submit 3D rendering diagrams as per the Design provided in the RFP, includes explaining the positioning of laboratory furniture and Lab Space Utilization, Self-Explanatory User Manual to ensure functionality of the labs. Bidder should deliver the technical presentation on the date decided and informed by BEPC to		20

		Bidder. The Presentation should include the content supporting PQ, Relevant Experience, Methodology & Work Plan, Past Performance & References and Innovation / Value Addition	
Total			**100**

Note: -

- Non-Submission of Samples and Rejection of Samples will lead to disqualification of bid.
- To qualify for the technical evaluation stage, the bidder must score a minimum of 75 marks.
- Only those bidders, who qualify in the technical qualification criteria (with minimum 75 marks) and final acceptance of 100% sample items, will qualify for the evaluation of their commercial bids.
- The Bidder, at the Bidder's own responsibility and risk must visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for related Scope of work. The costs of visiting the Site shall be at the Bidder's own expense.

4.3 Financial Bid Evaluation

- The Bidders qualified in Pre-Qualification and Technical Qualification are considered for this stage.
- The Financial bids of qualified bidders will be opened on the prescribed date.
- The bid price will include all taxes and levies and shall be in Indian Rupees.
- Any conditional bid would be rejected.
- Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".
- Financial Bid Evaluation will be Zonal wise.
- Bidders will quote item wise rates (all items) in BOQ, if there is no price quoted for any item/items/material or service, the bid shall be declared as disqualified.
- The Total Bid Price, as computed by the Purchaser shall be used for the purpose of

commercial evaluation of bids.

- Bidder shall adopt the Zonal wise percentage rate method. Zonal wise Based on quoted Percentages, Lowest Cost Based Selection (L1) Method shall be used to select the bidder.
- Bidder should consider all the required material and workmanship, logistics etc. cost as per the scope mentioned in document before quoting Price bid. In case required any clarification, Bidder may Approach BEPC to understand the site conditions, scopes, expected outcomes more in detail.
- Bidder must adhere the Bihar state SOR Rates as a reference price.
- Bidder quoting Abnormal Prices will lead to disqualification of Bid.
- Bidder is not allowed to abnormality prices than estimated cost. BEPC reserves the right to reject if any bidder quoted abnormal lower or higher prices.
- **Abnormal Prices (Excess Quoting Scenario):** If BECP feels, Bids quoted significantly above the estimated cost (e.g., >5%) may be rejected for being unreasonable or non-competitive, unless justified by market rates or scope changes.
- BEPC reserves the right to split the work at L1 rate on L1 & L2 or L1, L2 &L3.

4.4 AWARD OF CONTRACT

a. The Authority will award zonal wise to the Contract against Lowest price quoted in Financial Bid to the Bidder. And whose bid has been determined to be substantially responsive and has been determined as the best bid on the basis of LCS evaluation.

b. BEPC may seek from successful bidder to provide any of the following additional information at the time Contract to BEPC.

(i) Evidence of access to or availability of credit facilities (minimum 5% of estimated cost) certified by the bankers.

(ii) Undertaking that bidder would be able to invest a minimum of cost up to 15% of the contract value of work, during implementation of contract.

(iii) Proposals, if any, for sub-contracting of elements of work, costing more than 10% of the bid amount. (for all contracts over Rs. 5 crore)

c. BEPC will allocate work Zonal wise to the bidders and reserve the right to limit one bidder to one zone only and also to choose separate bidder for each zone by price matching to lowest bid of respective zone.

d. The Authority shall, however, not bind itself to accept the best bid or any bid and reserves the right to accept any bid, wholly or in part.

e. BEPC, GoB shall notify the successful bidder in writing that the proposal has been

accepted.

f. An agreement shall be signed between BEPC, GoB and the selected bidder's laying down the conditions of work, payment etc.

g. Letter of Intent award and its acceptance by the selected bidder shall constitute a legal binding between BEPC, GoB and the selected bidder till such time the contract agreement is signed.

h. The approved rates mentioned in contract agreement are valid for a period of one year initially and extendable for a further period of one more year under mutual consent at the same terms and conditions

i. BEPC reserves the right to issue work orders with mutual consent for more quantities within rates validity period.

j. The clause related to the local purchase preference policy 2024 may be included.

k. The following scope of work shall be allocated to the overall lowest quoted bidder, determined based on LCBS ranking among technically and financially qualified bidders.

S.No	Zone	Districts
1	Zone -I	Darbhanga, Madhubani, Samastipur, Muzaffarpur, Araria, Katihar, Kishanganj, Purnia, Madhepura, Saharsa, Supaul, Gopalganj, Saran, Siwan, East Champaran, Sheohar, Sitamarhi, Vaishali & West Champaran
2	Zone -II	Begusarai,Jamui, Khagaria,Lakhisarai,Munger, Sheikhpura, Nalanda, Nawada, Banka, Bhagalpur, Bhojpur, Buxar, Kaimur (Bhabua), Patna, Rohtas, Arwal, Aurangabad (Bihar), Gaya & Jehanabad

l. Based on this, BEPC shall notify the Successful Bidder in writing that the Proposal has been accepted.

m. BEPC reserves the right to split the work among the L1 & L2 or L1, L2 and L3 bidder

n. Payment for the Lab Equipment will be released after delivery of the product.

o. The EMD of unsuccessful bidder will be returned within 15 days of selection of the Agency whereas EMD of successful bidder will be returned within 15 days after the submission and verification of Performance Bank Guarantee.

p. The clause related to the local purchase preference policy 2024 may be included.

4.5 GENERAL EVALUATION ELABORATION

An evaluation committee, so constituted by the BEPC, will evaluate the bids as per the following pattern:

1. Conditional bids shall be summarily rejected.

2. Evaluation committee will examine the bids to determine whether they are complete, whether any computational errors have been made, and whether the bids are generally in order.

3. Arithmetical errors will be rectified on the following basis: If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the Bidder does not accept the correction of the errors, his bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.

4. The Tenderer is expected to submit all documents along with General Bid for General Evaluation, in case document is not provided or provided but not a valid document, then the same parameter shall not be considered for marking for the specific Bidder. It is the Bidder's responsibility that all documents pertaining to every parameter of "General Evaluation Elaboration" needs to be submitted and tagged/referenced to the evaluation parameter.

5. The Tenderer may conduct clarification meetings with each or any bidder to discuss any matters, technical or otherwise.

f. Further, the scope of the evaluation committee also covers taking of any decision with regard to the RFP, execution/ implementation of the project including management period.

5. SCOPE OF WORK

The Scope of Work regarding lab room construction and furniture of lab room is technically reviewed and sanction-approved by BSEIDC, the same should be executed by the selected agency. The model estimates for lab equipment's is vetted by competent authority. The scope is indicative but is not limited to—the following activities:

The rates shall be including the Supply of Lab Equipment, Consumables, Charts, Models and Devices, Existing Civil Structure Modification, Aesthetics/ Construction from Bare Ground, Water Lines, Fire Exhausters and fire Safety Buket Stand, Electrical works with 4 Tube lights and 4 Fans in each lab etc in designated place as a turn key solution provider of the school or any of the locations as per the requirement within Bihar. BEPC shall made available the details regarding Nodal Officer name and contact number for all locations, where labs to be developed. Zonal wise

selected agency shall establish of 3478 Physics, 3508 Chemistry and 3545 Biology laboratories or proportionate allocated labs as per L1 and L2 split on Turn Key Basis respective distribution of Labs into their Zones. The tentative Total Built-up area of Physics, Chemistry and Biology lab including common space / corridor should be 1000 to 1100 sqft per school. The Work majorly includes Construction, Alteration/ Modifications, Aesthetics, Equipment and Furniture Supply etc.

I. The Total scope of work distributed into two zones and bid will be awarded on zonal wise evaluation basis as presented below.

S.No	Zone	Districts
1	Zone -I	Darbhanga, Madhubani, Samastipur, Muzaffarpur, Araria, Katihar, Kishanganj, Purnia, Madhepura, Saharsa, Supaul, Gopalganj, Saran, Siwan, East Champaran, Sheohar, Sitamarhi, Vaishali & West Champaran
2	Zone -II	Begusarai,Jamui, Khagaria,Lakhisarai,Munger, Sheikhpura, Nalanda, Nawada, Banka, Bhagalpur, Bhojpur, Buxar, Kaimur (Bhabua), Patna, Rohtas, Arwal, Aurangabad (Bihar), Gaya & Jehanabad

II. Timeline for the establishment of Physics, Chemistry and Biology Labs on Turn Key Basis will be 12 Months from the date of the date of Work Permissions available from respective School In charge to start the work.

III. Consolidated price along with item wise price for establish of Physics, Chemistry and Biology Labs on Turn Key Basis shall be quoted as indicated in the BOQ as per technical specifications.

IV. Bidder has to deliver and Install the Lab equipment as per Lab readiness. In case, any room is readily available to conduct the lab, the temporary setup to be established by Bidder to Conduct Lab sessions and once the respective lab is ready, bidder should shift the equipment into respective Lab.

V. Detailed specifications are followed in Annexure 1.

VI. Tentative Lab layout and Expected Outputs are presented in Annexure-II for illustrative Purpose. Bidder should consider the same for reference and should Provide DPR, Project Plan and SOR Rates Costing into account.

VII. Prices shall be firm until the completion of work or supply and no enhancements of rates will be done / is permitted until proper justification is provided such as upgradation in SOR prices at the time of start of Work because of any escalation during the period

of rate validity period. The same is applied for respective quantity comes under this time period.

VIII. Bidder must execute the work in accordance approved Specifications, Drawings and Orders.

IX. Bidder should submit the site wise Progress every Month through dedicated Online Portal with supporting documents and Photographs to BEPC.

X. The Defect liability period will be 2 Years from Date of LOI/Contract Agreement.

XI. BEPC, GoB reserves the right to accept or reject any or part of the offers without assigning any reasons.

XII. The quantity of items can be increased or decreased as per requirements.

XIII. The Establishment of Physics, Chemistry and Biology Labs on Turn Key basis shall be carried out strictly in accordance with the terms & conditions and specifications as stipulated in the tender, in the approved workman like manner and as per standard practice. Materials supplied shall be of high quality.

XIV. In ideal condition, the Foundation/ Basement is up to 1.2 Meter below the Ground unless & Otherwise Defined in the Design approval.

XV. The Bidder should provide at his own cost all machinery, tools, Plants and Standard Materials. However, required water for Project activities will be Provided by respective School.

XVI. During the execution of this project, bidder must comply and Adhere all State and Central Statutory Laws as per applicable such as Wages Act, Work Safety Environment, Leave Policy, PF/ESI, Accommodation, Health Hazard, Road Safety etc.

XVII. During the Project Execution, if any material supplied / supported by GoB/ BEPC/ Respective School after utilization of the same the surplus material should be submitted to BEPC.

XVIII. Bidder upon award of contract shall deploy at least 1 resource persons at client locations i.e. BEPC State level Office. In addition to this the following key resources to be hired/transferred and deployed in this project tenure.

Sl. No.	Personnel*	Qualification	Contract Package Size						
			Rs. 5-30 Lacs	Rs. 30 Lacs to 70 Lacs	Rs. 70 Lacs to 2 Crores	Rs. 2-10 Crores	Rs. 10-30 Crores	Rs. 31-50 Crores	More than 50 Crores
1.	Project Manager	B.E. Civil + 10 Years Exp. (5 years as Manager) or retired E.E.					1 No.	1 No.	1 No.
2.	Site Engineer	B.E. Civil + 07 Years Exp. (3 years in Road Construction) or retired A.E.			1 No.	1 No.	1 No.	2 Nos.	5 Nos.
3.	Plant Engineer	B.E. Mech./ Civil + 05 Years Exp. or Dip. Mech + 07 Years Exp. or Retired J.E.				1 No.	1 No.	1 No.	2 Nos.
4.	Quantity Surveyor	B.E. Civil + 05 Years Exp. or Dip. Civil + 07 Years Exp.						1 No.	2 Nos.
5.	Soil & Material Engineer	B.E. Civil + 07 Years Exp.						1 No.	2 Nos.
6.	Survey Engineer	B.E. Civil + 03 Years Exp. or Dip. Civil + 05 Years Exp.						1 No.	0 Nos.
7.	Site Supervisor	Fresh Graduate in Civil or Diploma Civil + 03 Years Exp. or retired I.T.I Holder.		1 No.	1 No.	1 Nos.	2 Nos.	3 Nos.	5 Nos.
	Total			1	2	3	5	10	17

* The designation and no. of the personnel has to be decided by the mutual discussions as per the requirement.

6. PAYMENT SCHEDULE AND PENALTY:

6.1 For Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis:

6.1.1 Supply, Installation of Lab Equipment:

In case, any room is readily available to conduct the lab, the temporary setup to be established by Bidder to Conduct Lab sessions and once the respective lab is ready, bidder should shift the equipment into respective Lab. In this case,

Payment will be released after the satisfactory receipt of material at School Level. BEPC will provide the details of locations for supply and designated the Nodal person.

If the selected bidder fails to perform services within the stipulated time schedule, the BEPC shall, without prejudice to its other remedies under the contract, deduct from the contract price, as liquated damages, a sum equivalent to 0.5% per week of the undelivered items/value.

However, supply of at-least 20% quantity of materials (even single or more line item) against the purchase order will be completed and submission of bill along with delivery challan, the payment of 90% amount against that bill amount shall be released. Rest 10% amount will be paid after completion of Installation work in the Designated Lab and Verification by a Head Master/ Nodal teacher of School. Whereas the payment for Recuring Cost will be paid quarterly basis.

6.1.2. Establishment of Labs on Turn Key Basis:

Payment will be released on Milestone basis as mentioned below Norms.

1. Stage 1: 40% of the Contract Value shall be released after successful completion of site preparation, excavation, and foundation works confirmation certification by the respective School Head master/ Nodal Officer.

2. Stage2: 30% Contract Value/ Invoice Value whichever is applicable shall be released after completion of walls, columns, beams, and roofing works, upon physical verification the respective School Head master/ Nodal Officer/entry in the Measurement Book from respective site Engineer nominated by BEPC.

3. Stage 3: 10% of the contract value/ Invoice Value whichever is applicable shall be released upon installation of electrical systems, water supply pipelines, wash basins, exhaust fans, and fire safety buckets.

4. Stage 4: 10% of the Contract Value/ Invoice Value whichever is applicable shall be paid upon successful installation of lab benches, equipment's student chairs, teacher platform, storage units, and digital boards.

5. Stage 5: 10% of each payment shall be paid after functional Go-live Declaration of confirmation certification by the respective School Head master/ Nodal Officer.

6. In case of delay, a penalty of 0.5% per week of leftover work, subject to a maximum of 10% of contract value, shall be applicable.

7. Payments shall be made via PFMS-compliant bank transfer upon submission of verified invoice and completion documentation.

8. PBG will be returned/ reduced in the proportion upon completion of Defect liability period of 1 year for each 20% completion of awarded labs, as below:

S. No.	Stages	Completion of DLP period (% w.r.t. awarded labs)	PBG % (w.r.t. awarded contract value)
1	At the start of work	0%	100%
2	Stage -1	20%	80%
3	Stage -2	40%	60%
4	Stage -3	60%	40%
5	Stage -4	80%	20%
6	Stage-5	100%	0%

9. If delay in allocation of Site leading to penalty, the same period will be exempted from the Penalty Calculation.

10. The tentative built-up area for each laboratory is estimated at approximately 333 to 367 square feet. In the event of any increase or decrease in the actual built-up area other than the range given above during execution, the payment shall be adjusted on a pro-rata basis, in proportion to the revised area.

11. **In Accordance with space availability, bidder should choose single floor or two floor structure construction. For the same prior approval should be taken from competent authority.**

12. If any payments are made as mobilization advance, the same shall be adjusted at a maximum of 30% of the submitted invoice value during each invoice cycle. The remaining 70% of the invoice value shall be processed for payment as per standard terms.

Note:

1. Any Payments will be as per GFR Provisions of GoI/GoB.

2. All payment to the Agency will be made in Indian Rupees.

3. GST component shall be paid as applicable and as per actuals.

4. No additional Payment will be paid for Plant, Material, Machinery and Resource to execute the project as per Agreed Timelines.

5. In case any unforeseen situation arises, BEPC and Service Provider is allowed to discuss on revise payment structure/ enabling partial payments with Mutual Agreement for Completion

of Project.

6. For facilitating Electronic Transfer of funds, the selected Agency will be required to indicate the name of the Bank & Branch, account no. (i.e. bank name, IFSC Code and Bank A/c No.) and forward a cheque leaf duly cancelled, to verify the details furnished. These details should also be furnished on the body of every bill submitted for payments by the selected Agency.

7. Dispute Resolution

a) The bids and any contract resulting there from shall be governed by and construed according to the Indian Laws.

b) All settlement of disputes or differences whatsoever, arising between the parties out of or in connection to the construction, meaning and operation or effect of this Offer or in the discharge of any obligation arising under this Offer (whether during the course of execution of the order or after completion and whether before or after termination, abandonment or breach of the Agreement) shall be resolved amicably between Department and the vendor's representative.

c) In case of failure to resolve the disputes and differences amicably within 30 days of the receipt of notice by the other party, then the same shall be resolved as follows:

I. Conciliation: - All disputes or differences whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be first settled by way of conciliation and failing which, by way of arbitration in accordance with the Rules of Arbitration of the Indian Council of Arbitration and the award made in pursuance thereof shall be binding on the parties.

II. The dispute shall be first referred to the Development Commissioner for conciliation who shall conduct conciliation proceedings which will be held at Patna, Bihar.

III. Arbitration: - In case the conciliation proceedings fail, the dispute shall be referred to the arbitration as per the Arbitration Act.

IV. All legal disputes will come under the sole jurisdiction of Patna, Bihar. The venue of the arbitration shall be Patna.

d) The Arbitral award shall be final and binding on both the parties.

e) Work under the contract shall be continued by the vendor during the arbitration proceedings unless otherwise directed in writing by Department unless the matter is such that the work cannot possibly be continued until the decision of the arbitrator is obtained. Save as those which are otherwise explicitly provided in the contract, no payment due, or payable by Department, to the vendor shall be withheld on account of the ongoing arbitration.

8. Termination & Blacklisting

I. The Department may terminate this Agreement and Blacklist/Debar the vendor, in case of occurrence of any of the events specified below. In the event of such an occurrence, the First Party may give not less than 15 days written notice of termination to Second Party.

a) If the vendor is in material breach of its obligations pursuant to this Agreement and has not remedied the same within 15 days.

b) If the vendor becomes insolvent or goes into compulsory liquidation

c) If the vendor, in the judgement of Department, has engaged in corrupt or fraudulent practices in competing for or in executing the contract

d) If the vendor submits to Department a false statement which has material effect on the rights, obligations, or interests of the Department.

e) If the vendor places itself in position of conflict of interest or fails to disclose promptly any conflict of interest to the Department.

f) If the vendor fails to provide Quality services as envisaged under this Agreement.

g) Serious discrepancy and delay in delivery of services or the performance levels agreed upon, which might have an impact on the functioning of the Department.

h) Failure of the vendor mobilize manpower, follow local laws, clumsy execution of work, and total disregard to public safety and its own employees.

i) Failure to abide by any lawful directions of the Department.

II. **Penalties:** - The Department may impose a suitable penalty of the vendor of the failure of such activities as mentioned above. Such penalties shall be deducted from the pending bills/bank guarantee of the vendor. However, the Department shall issue a notice given 15 days of time to the vendor before imposing such penalty

III. **Termination Payments:** - These payments shall mean the amount of payment by either party to the other party upon termination. Upon termination of the contract, Department may encash and appropriate the performance security/bank guarantee etc. The Department may clear outstanding dues of the sub-vendors of the second party out of such encashment

and/or from the pending bills of the second party. After clearing such liabilities, any valid dues of the second party may be paid thereafter

IV. **Blacklisting without termination:** - The Department may blacklist the vendor without terminating the contract for any of the failures or acts of commissions or omissions under this Agreement.

V. **Foreclosure with Mutual consent: -**

a) Without prejudices to any provisions of this agreement, Department and the vendor may foreclose this agreement by mutual consent in circumstances which does not constitute either party's default without any liability or consequential future liability for either party.

b) Should a Party intend to foreclose this Agreement by mutual consent, the intending Party shall issue a notice to the other Party and upon issuance of such notice, the other Party may within 15 days from receipt of such notice either agree to such foreclosure or raise objection(s) to the same by intimating either of the two possible positions to the intending Party in writing.

c) In either case of the other Party agreeing to the proposed foreclosure or otherwise, the Parties may negotiate the proposed foreclosure and sign a Supplementary Agreement for foreclosure to the main Contract Agreement within 30 (thirty) days of the date agreeing by both Parties. Foreclosure shall not come into effect unless and otherwise Supplementary Agreement is signed.

d) Any attempt or endeavor for foreclosure by mutual agreement shall be without prejudice to the rights and obligations of the Parties herein and the factum of such an attempt or exercise shall not stop either of the Parties form discharging their contractual obligations under this Agreement.

e) For the avoidance of doubt, it is clarified that such foreclosure will be without prejudice to the Vendor and shall not affect the Vendor in any way if it wishes to bid in future projects of the Department.

VI. **Transition and Exit Plan:**

The vendor shall ensure that the transition is smooth in case the contract is terminated or foreclosed with mutual consent. In addition to the cancellation of contract, Department reserves the right to charge appropriate penalties and liquidated damages from the selected Agency. Further:-

a) All risks during transition stage shall be properly documented to ensure smooth transition without any service disruption.

b) The transition plan along with the period shall be mutually agreed between vendor and Department when the situation occurs. Vendor shall be released from the project once successful transition is done meeting the parameters defined for the successful transition.

Note:- Blacklisting/Debarment of the vendor shall be natural consequence of the termination. The Blacklisting/Debarment shall be for such a period as may be specified by the Department. Provided that before placing the vendor in the blacklist, with or without the termination of the contract, the Department shall issue a notice given 15 days of time to the vendor.

Annexure-1
Technical Specifications

Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis

1. Quantity:

Sl.	Type of Lab	Total No. of Units
1.	Physics	3478
2.	Chemistry	3508
3.	Biology	3545

2. Bill of Materials for Lab:

2.1 Physics Lab:

Sl. No.	Equipment/ Tool	Specification	QTY
1	Cone Run Uphill	The set should include a wooden cone of Dia 3 inches, V shape wooden stand with dimensions 5x18 inch. The "Cone Runs Uphill" apparatus demonstrates the concept of the centre of mass. The conical shape of the double cone causes it to sink toward the wider end of the V-shaped rails, creating the illusion that it rolls uphill, even though its centre of mass is moving downward.	2
2	Wave Dynamic Model	The kit should include high-quality materials such as a wooden base, plastic balls with steel hooks, and string lengths for varied wave properties. Must have safety features and be easy to set up for repeated use.	1
3	Reflection Physics Kit	This apparatus designed to demonstrate the reflection of light in a plane mirror. The setup should include a plane mirror mounted on a stable base, an adjustable light source, and a protractor or angle measuring device. The mirror's surface is precisely aligned to ensure accurate reflections. The light source allows for controlled incidence angles, and the protractor measures the angle of incidence and reflection.	1
4	Play with colour shadow	It should contain three laser lights, wires, and a power supply board, measuring 6 x 6 x 3 inches. This apparatus demonstrates how objects can cast shadows with varying colours based on the light they block.	1
5	Newton Cradle	Newton's Cradle Apparatus should consist of a wooden base measuring 6 x 6 x 1 inches, and a horizontal metal stand from which small balls with a diameter of 18 mm are suspended by strings, resembling a pendulum setup.	1

6	Fleming Left Hand Rule	This apparatus should feature a transformer-like setup with a vertical rod 6.5x5x7 inch and inbuilt power supply for easy use. Fleming's Left-Hand Rule tells the direction of the force exerted on a current-carrying conductor in a magnetic field. By using the rule, you can determine how the force acts on the conductor: your forefinger indicates the direction of the magnetic field, your middle finger shows the direction of the current, and your thumb points in the direction of the force or motion experienced by the conductor	1
7	Fleming Right Hand Rule	This apparatus should feature a transformer-like setup with a vertical rod 6.5x5x7 and inbuilt power supply for easy use. Fleming's right-hand rule describes the direction of force on a current-carrying conductor in a magnetic field: Point your thumb in the direction of the current, your index finger in the direction of the magnetic field, and your middle finger will show the direction of the resulting force.	1
8	Hydro Dynamics	Hydrodynamics works by using the energy of moving or falling water to turn a turbine, which then drives a generator to produce electricity. This tool should consist of a wooden/plastic base (8.5 x 6.5 inches), two wooden/plastic poles, a 250 mL plastic beaker, a metallic turbine, a pipe, and a voltage output monitoring device.	2
9	Newton's 2nd Law	This tool should consist of a metallic rod with a spring wound around it attached to the plastic base (9 x 3 inches) and a plastic slider to push the spring. Newton's Second Law Apparatus is designed to demonstrate newton second law of motion which states that how the motion of an object is affected by forces.	1
10	Induced Current	The apparatus features a plastic base should be of 4 x 3 x 1 inches with a coil of insulated copper wire wound on a cylinder with terminals, two LED bulbs, and magnets indicating the north and south poles. This apparatus demonstrates the concept of induced current in a conductor due to a changing magnetic field. Induced current occurs when a conductor is exposed to a varying magnetic field, as described by Faraday's Law of Induction	1
11	Demagnetizing and Magnetizing Coil	The Demagnetizing and Magnetizing Coil apparatus should feature a solenoid wound with insulated copper wire and should mounted on a base (11.5 x 6 x 0.5 inches). It includes a switch and a metallic rod. Magnetizing coils generate a magnetic field through an electric current, aligning the magnetic domains within ferromagnetic materials to magnetize them. These coils are essential in devices such as transformers, electric motors, and magnetic recording equipment. Conversely, demagnetizing coils use alternating current (AC) to reduce or eliminate the magnetism of materials.	1

12	Electric Bell	The Electromagnet and Magnetic Effects Apparatus should consist of a wooden base measuring 12 x 5 cm, which supports a standing wooden block measuring 20 x 12 cm. This block holds a coil of wire and a magnet, forming an electric circuit to demonstrate electromagnetism and the magnetic effects of current. When current flows through the coil, it generates a magnetic field, turning the coil into an electromagnet. The setup allows for experimentation with magnetic field strength, the interaction between electric currents and magnets, and the visualization of concepts such as electromagnetic induction and the relationship between current and magnetic fields.	1
13	Visual Illusion	This apparatus should feature a metallic base (5 x 5 x 13 inches) supporting two metallic rods, each connected by three rotating discs. These discs can be turned using a wooden handle. A second wooden handle is provided for manoeuvring the entire apparatus. The top of the apparatus includes a card holder. It also comes with laminated square cards that display visual illusions.	1
14	Electric Motor	The electric motor converts electrical energy into mechanical energy through electromagnetic principles. It should consist of a copper wire, a metallic case, a plastic base (4.5 x 4.5 x 4 inches) and a fan.	1
15	Ampere Law	It should include heavy brass/steel wire, one large compass, and three small compasses. To demonstrate Ampere's Rule, arrange the compasses around the wire, connect the wire to a power supply, and turn it on. The electric current will cause the compass needles to change direction.	1
16	Battery eliminator	It should be of size: 7.5 x 5 x 6 inches	1
17	Ohm's law apparatus	For demonstration of Ohm's law. This completely self-contained apparatus has all the necessary components for performing experiments. It should have 4mm socket terminals provided for connecting the resistance. On varying the flow of current using the knobs provided the corresponding voltage reading can be had from the voltmeter. Circuit diagram should be printed on top of the enclosure operates on 220V AC. Plastic moulded box dimension – 240X165X37mm.	1
18	PN Junction Apparatus	Instrument should comprise of two DC Regulated Power Supplies 0-2VDC & 0-100 VDC, two dual range meters for voltage & current measurement, PN Junction Diodes mounted behind the panel, connections of Supplies, Meters & Diodes brought out at 4 mm Sockets. Plastic moulded box dimension -: 240X165X37mm	1

19	Newton's coloured disc	It should be mounted on stand with driving wheel, belt and handle export quality, The Newton color disk, also known as Newton's disk or Newton's color wheel, is an optical demonstration tool that illustrates the concept of color mixing and the nature of white light	1
20	Parallelogram apparatus	Parallelogram Law Apparatus consisting of a baseboard, pulleys on clamps, and hangers with slotted weights. Constructed with durable, rust-resistant materials suitable for repeated educational use.	1
21	Resonance Apparatus	All metal should be fitted on heavy cast iron base with two levelling screws. Pipe Dia 1". Resonance apparatus is used to study various phenomena such as the resonance of strings and air columns, the resonance in mechanical systems, and the behaviour of oscillating systems under different conditions	1
22	Spring Constant	The apparatus should consist of a spiral spring about 25mm in diameter and 10cm long. The upper end of the spring is suspended from chuck nut and lower and is provided with small pointer which moves over a vertical wooden meter scale. The lower end is also provided with hook for carrying weights. All this setup is provided on a heavy metal base and with weights.	2
23	Resistance box 500 ohm	Accurately calibrated Resistance Coils should be enclosed in a teak wood polished case with Heavy Bakelite top and rectangular brass blocks. 22X10X11 cm, A typical resistance box, should include the 500-ohm version, consists of a set of resistors that can be connected in series or parallel, allowing the user to select the desired resistance by adjusting switches or dials. These resistors are often precision-built to ensure that the resistance values are accurate and stable over time. The resistance values are usually marked on the box, and the user can choose specific values by flipping switches that connect various resistors together in the circuit.	2
24	Rheostat 12"	Slide wire rheostats are in a variety of resistance & different current carrying capacities 31 x 10 x 6 cm, rheostat is a type of variable resistor should be designed to adjust the resistance in an electrical circuit, allowing users to control the flow of current. It is commonly used in both educational and experimental settings for demonstrating and studying the relationship between voltage, current, and resistance in electrical circuits.	2

25	Vernier Callipers	Typically ranges from 0 mm to 150 mm (6 inches), though larger callipers can measure up to 300 mm, 600 mm, or more. Should be durable and resistant to rust and wear. Lightweight but less durable (for lower precision applications), Vernier callipers are precision measuring instruments used to measure the length, width, depth, and internal and external dimensions of an object with high accuracy.	2
26	Screw Gauge	Brass Body should be with steel screw of 0.5 mm pitch, thimble with ratchet stop, range 0 to 25 mm, reading to 0.01 mm, in plastic pouch, a screw gauge is a highly accurate and reliable tool used for measuring small dimensions such as the diameter or thickness of objects. With its finely threaded screw and precise scales, it provides measurements with great accuracy, often to the nearest hundredth of a millimetre.	2
27	Spheres set of 6	Laboratory Grade should have set of six metal spheres or pendulum bobs. List of Metals should include: one piece each of brass, aluminium, copper, zinc, iron, and lead.	2
28	Prism	Glass prism, A prism is a transparent optical object, should be typically made of glass, with flat, polished surfaces that are angled to each other. The most common type of prism is the triangular prism, which has two triangular bases and three rectangular sides	2
29	Half meter scales	Should be made in good quality wood, 1/2 meter, graduated in centimetres and millimetres, one edge reading 0 to 50	5
30	Meter scales	A meter scale should have 100 divisions, with each division being 10 centimetres. Each centimetre is further divided into 10-millimetre units. A meter scale can measure the length and distance of different items up to 1 millimetre material wooden.	5
31	Galvanometer	For D. C. measurements, Scale 35-0-35. For D.C. use only, with a permanent magnet, spring-controlled movement, jewelled bearings, hard polished pivots, and knife edge pointer. Each meter should be mounted on a plastic/acrylic stand with color-coded terminals	2
32	Voltmeter	The word 'voltmeter' is an abbreviation for the word 'voltmeter meter' Volt, A voltmeter is an essential instrument used to measure the electrical potential difference, or voltage, between two points in an electrical circuit	2
33	Ammeter	An ammeter is an instrument for measuring the current flowing through a live circuit. The word 'ammeter' is an abbreviation for the word 'ampere meter' 5 amp,	2

34	Plug keys 1 Way	One way copper plug key switch should include two, 4mm terminals, and one removable plug (with plastic guard). Fitted on a sturdy base. Useful in classroom physics experiments and provides an interesting way to complete a circuit in electrical demonstrations. Base measures 3" x 2".	2
35	Plug keys 2 way	Two-way copper plug key switch should include two, 4mm terminals, and one removable plug (with plastic guard). Fitted on a sturdy base. Useful in classroom physics experiments and provides an interesting way to complete a circuit in electrical demonstrations. Base measures 4" x2".	2
36	Concave lens	20FL, A concave lens, also known as a diverging lens, is a type of optical lens that should be thinner at the centre than at the edges. It is characterized by its ability to diverge light rays that pass through it, causing them to spread apart.	5
37	Convex lens	20FL, A convex lens, also known as a converging lens, is an optical lens that should be thicker at the centre than at the edges. It is designed to converge (bring together) light rays that pass through it. Convex lenses are typically made of transparent materials like glass or plastic and are widely used in optical instruments such as eyeglasses, microscopes, cameras, and telescopes.	5
38	Concave mirror	Concave mirrors reflect light inward to one focal light. Therefore, they are mostly used to focus light. A concave mirror should show different image types depending on the distance between the mirror and the object, A concave mirror is a curved mirror that has an inward-curved reflecting surface, resembling the shape of a spoon.	5
39	Convex mirror	Convex mirrors always form virtual, erect, and diminished images, regardless of the object's position. They are commonly used in applications requiring a wide field of view, such as rear-view mirrors and security mirrors, A convex mirror should be a type of curved mirror whose reflecting surface is outwardly curved, resembling the shape of the exterior of a sphere.	5
40	Plane mirror	A plane mirror is a mirror should be flat (planar) reflective surface, smooth mirror with a reflective surface that forms images by the reflection of light. The surface of a plane mirror should typically made of glass or another transparent material that has been coated with a highly reflective material, such as silver or aluminium, to create a clear, sharp reflection.	5
41	Glass slab	A transparent glass slab with a ray of light falling on it makes a normal shift in optics. The surface of the glass, as well as all materials, is not perfectly flat and smooth;100 x 60 x18mm, a glass slab is a fundamental tool in optics and physics, providing a simple yet effective way to explore the behaviour of light as it passes through different media.	2

42	Magnet kit	A magnet kit should be collection of various types of magnets and related tools designed to help demonstrate and explore the principles of magnetism in physics. These kits are commonly used in educational settings, such as schools or science labs, to help students understand magnetic fields, forces, and the behaviour of magnetic materials.	1
43	Commutators	A commutator should be a rotary electrical switch in certain types of electric motors and electrical generators that periodically reverses the current direction between the rotor and the external circuit. It consists of a cylinder composed of multiple metal contact segments on the rotating armature of the machine.	1
44	Drawing board	12"x18" wooden, the drawing board in a physics lab should be typically made of smooth, durable materials like wood, drawing board is often part of the setup when creating technical diagrams or schematics for experiments in mechanics, optics, electromagnetism, and other branches of physics.	1
45	Slotted weight	100 g	2
46	V - stand (lens holder)	A V-stand (lens holder) should be a wooden stand designed to securely hold lenses for optical experiments. It has an overall size of 50x65x110 mm, making it stable and durable. The stand is ideal for supporting convex or concave lenses during refraction and focal length studies. Its wooden construction ensures minimal interference with optical observations.	2
47	Plano convex lens	A Plano convex lens should be a transparent glass lens with one flat and one convex surface. It is primarily used to focus or converge light beams in optical instruments. The lens is made of high-quality glass, ensuring clarity and minimal aberration. It plays a crucial role in experiments related to focal length and image formation.	1
48	Semi-circular glass slab	A semi-circular glass slab should be a transparent optical component made of high-quality glass. It is used in experiments involving refraction, total internal reflection, and light deviation. The curved surface allows controlled bending of light rays, making it essential for studying critical angles. Its glass construction ensures durability and accuracy in optical studies.	2
49	Lens holder	A lens holder should be a plastic stand designed to securely hold optical lenses in position. It has an overall size of 120x35x75 mm, making it compact and easy to use. The holder provides a stable base for lenses used in refraction and reflection experiments. Its plastic material is lightweight yet sturdy for regular lab use.	4

50	Periscope	A periscope is an optical instrument should be made of plastic with a diameter of 30 mm and a length of 265 mm. It allows users to observe objects beyond their direct line of sight using mirrors or prisms. It is commonly used in physics experiments to demonstrate light reflection and image formation. The plastic body makes it lightweight and easy to handle.	1
51	Kaleidoscope	A kaleidoscope is an optical device should be made of plastic with a 42 mm diameter and 210 mm length. It contains multiple mirrors that create symmetrical patterns when viewed through one end. It is used in physics experiments to study multiple reflections and symmetrical image formations. Its durable plastic construction ensures long-term usability.	2
52	Clamps	A universal clamp a laboratory tool should be made with a metal rod of 9 mm diameter. It is used to hold various lab equipment, such as test tubes, burettes, or thermometers, during experiments. The clamp provides a secure grip, preventing accidental movement or spillage. Its durable metal construction ensures longevity in laboratory settings.	5
53	Electric Generator Model	An electric generator model is a dynamo model should be fixed on a plastic base measuring 220 x 140 x150 mm. It demonstrates the conversion of mechanical energy into electrical energy through electromagnetic induction. The model should include coils, magnets, and a rotating handle for manual operation. It is widely used in physics experiments to study electricity generation.	1
54	Magnetic compass big	A magnetic compass (big) is a navigation and measurement tool should be with a 70 mm diameter. It contains a magnetic needle that aligns with Earth's magnetic field, indicating direction. It is used in experiments related to magnetism and Earth's geomagnetic field. The large size enhances readability for precise measurements.	2
55	Copper wire 24 gauge	A copper wire (24 gauge) is a conductive wire should wound on a plastic reel. It is commonly used in electrical circuits, resistance experiments and electromagnetism demonstrations. The thin gauge allows flexibility while maintaining conductivity. The plastic reel helps in easy storage and handling.	10m
56	Iron fillings powder	An iron fillings powder should come in a 250 g pack, used primarily for visualizing magnetic field lines. It is sprinkled around magnets to observe the pattern of magnetic force. The fine particles react instantly to magnetic fields, making it a useful tool in magnetism studies. The sealed pack ensures safe storage and easy application.	1

57	Series combination of resistors (set)	A series combination of resistors set should be a circuit with LEDs fixed on a plastic base measuring 185 x 120 mm. It should demonstrate how resistors connected in series share voltage and affect current flow. The built-in battery holder and connection leads allow easy setup. It is essential for understanding Ohm's Law and electrical resistance concepts.	1
58	Parallel combination of resistors (set)	A parallel combination of resistors set should be a circuit with LEDs mounted on a plastic base of 185 x 120 mm. It illustrates how resistors in parallel provide alternative current paths, reducing overall resistance. The setup includes a battery holder and connecting leads for easy experimentation. It is crucial for studying current distribution and circuit behaviour.	1
59	Multimeters	A digital multimeter is an electronic measuring tool used for physics and home laboratory applications. It should have a compact size, measuring 5 inches tall, 2.75 inches wide, and 1 inch long. The device includes testing leads for measuring voltage, current, and resistance. It is a versatile tool for diagnosing electrical components.	1
60	Copper plate (electroplating)	A copper plate (electroplating set) consists of a plastic container with an outer diameter of 105 mm, an inner diameter of 100 mm, and a depth of 70 mm. It comes with copper and aluminium electrodes for electrolysis experiments. The setup demonstrates the process of water decomposition into oxygen and hydrogen gas using electric current. A plastic cap holds the electrodes in place, ensuring accuracy.	1
61	Calorimeter	A wooden calorimeter is a heat measurement device with a 95 mm square block. It is used in experiments related to heat transfer, specific heat capacity, and thermal equilibrium. The insulated wooden construction minimizes external heat loss. It is an essential tool in thermodynamics studies.	2
62	Clinical thermometer	A clinical thermometer is a device used to measure the temperature of the human body.	2
63	Celsius thermometer	A Celsius thermometer, also known as a laboratory thermometer, is used to measure temperatures in scientific experiments and general environments.	1
64	Helical Spring (Slinky)	A helical spring (Slinky) is a flexible coil with a 2-inch diameter that can expand up to 10 meters. It is used in physics experiments to demonstrate wave motion, oscillations, and elasticity. The spring provides a visual representation of transverse and longitudinal waves. Its durable metal construction ensures long-lasting performance.	2
65	Tuning Fork (Box)	Tuning fork (box) is a metal instrument used to produce a fixed sound frequency when struck. It is commonly used in physics experiments related to sound waves, resonance, and vibrations. The tuning fork should come in a protective box for safe storage. Its accurately calibrated prongs ensure consistent frequency output.	1

66	Gold leaf electroscope	Electroscope with Metal Frame	1
67	AC DC Dynamo	An AC-DC dynamo is an electrical generator model should be fixed on a plastic base of 220x140x150 mm. It illustrates the principles of alternating and direct current generation. The model includes a hand crank for manual operation. It is widely used in physics laboratories for electromagnetism demonstrations.	1
68	Inclined plane	A wooden inclined plane is a physics apparatus should be of 4-inch base, used to study motion, friction, and mechanical advantage. It demonstrates the effects of inclined surfaces on rolling or sliding objects. The smooth wooden surface reduces unwanted resistance. It is essential in mechanics experiments.	2
69	Battery holders	A battery holder is a compact device designed to hold two battery cells securely. It ensures proper electrical connections in circuit experiments. The holder prevents accidental disconnections during testing. Its durable plastic construction makes it a reliable lab tool.	2
70	Overflow jar	An overflow jar is a plastic container should be of diameter 50 mm and a height of 120 mm. It is used in fluid mechanics experiments to measure displaced liquid volume. The container allows accurate water displacement studies. The plastic material makes it lightweight and durable.	10
71	Electric switches	An electric switch is an open model designed to help students understand how a switch operates. It should be mounted on a plastic base of size 75x50mm. The switch demonstrates the basic principle of opening and closing an electrical circuit. It is widely used in physics experiments related to electricity and circuits.	250g
72	Spring balance	A tubular spring balance should be of 1-inch diameter and 6-inch length. It is used to measure force or weight in Newtons or grams. The balance consists of a calibrated spring inside a transparent casing. It is commonly used in physics experiments to study force, mass, and Hooke's law.	1
73	Optical Fibre Model	An S-type acrylic optical Fiber model designed with a laser light system. It helps demonstrate how optical Fibers transmit light through total internal reflection. The model should be of 8 inches in length and is widely used in physics and telecommunications studies.	1
74	Electronic weighing machine	A digital weight machine used for precise measurement of mass. It is commonly used in physics and chemistry experiments requiring accurate weight calculations. The machine features an easy-to-read digital display and a stable weighing platform.	1

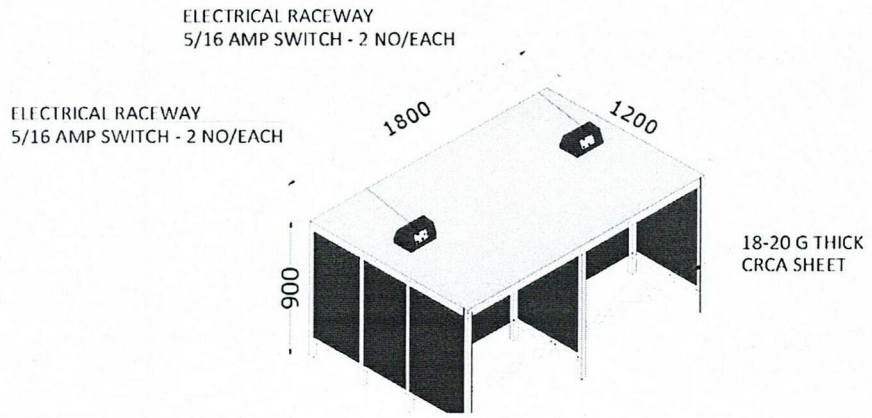
75	Spirit lamp	A round spirit lamp should be of 3-inch diameter used as a heat source in laboratories. It is fuelled by alcohol and produces a steady flame for heating chemical solutions and conducting experiments. The lamp comes with a metal lid to extinguish the flame safely.	1
76	Lactometer	A lactometer is a hydrometer designed to measure the purity and density of milk. It should consist of a cylindrical glass tube with a weighted bottom to ensure proper floating. The scale on the lactometer indicates the specific gravity of milk. It is widely used in dairy industries and laboratories for milk quality analysis.	1
77	Pascals law apparatus	A hydraulic press model demonstrating Pascal's law, which states that pressure applied to a confined fluid is transmitted equally in all directions. It should consist of two different-sized plastic syringes fixed on a base of size 6"x4". This apparatus is used in fluid mechanics experiments.	4
78	Cells 1.5 v	A cell (1.5V) is a small, portable energy source used in basic electrical circuits. It should provide a steady voltage output of 1.5 volts, suitable for powering small devices and experimental setups. The cell has two terminals, positive and negative, for easy circuit connections. It is commonly used in school physics experiments.	4
79	Cells 9V	A cell (9V) is a rectangular battery that supplies a stable voltage of 9 volts for circuit applications. It is used in electrical experiments, multimeters, and small electronic devices. The battery features snap connectors for secure and easy attachment. It provides a long-lasting power source for various scientific applications.	6
80	Rechargeable Cells	A rechargeable cell is a reusable energy source that can be charged multiple times. It is available in different voltage ratings, commonly 1.2V or 9V, depending on the application. Rechargeable cells are environmentally friendly as they reduce battery waste. They are used in physics experiments and electronic projects requiring a sustainable power source.	1
81	Human eye model	A human eye model should be mounted on a plastic base of size 6"x6". It represents the internal structures of the human eye, including the lens, retina, and optic nerve. This model is used in biology studies to explain vision and eye anatomy.	1
82	Lattice crystal structure of NaCl	Demonstrating the crystal structure of sodium chloride (NaCl). This model should come with transparent casing and helps students understand the arrangement of ions in a cubic lattice.	2

83	Rectangular glass plates	A rectangular glass plate is a transparent optical component used in reflection and refraction experiments. Should be made of high-quality glass with smooth, polished edges. The plate helps demonstrate the principles of light transmission and angle measurement. It is an essential tool in optics studies.	2
84	Cylinders (for vernier callipers)	A cylindrical metal rod should be of 12mm diameter and 35mm length. It is used with Vernier callipers to demonstrate precision measurement techniques. This helps in physics experiments related to length and diameter measurement.	1
85	Weighing box (physical balance)	A physical weight box containing different weights ranging from 10g to 100g. It is used for calibration and accurate mass measurement in physics and chemistry experiments. The weights are made of durable metal for precision.	4
86	Split cork	A split cork should be of size 7 No, used for holding glass tubes, thermometers, or other cylindrical objects in place. It provides a secure grip and prevents breakage during experiments. Commonly used in physics and chemistry labs.	1
87	Cotton thread	A cotton thread is a fine, flexible fibre used in pendulum experiments and force demonstrations. It is lightweight and does not significantly affect the motion of objects. The thread is used in various physics experiments, including tension and rotational motion studies. It is an essential lab supply for mechanical experiments.	2
88	Stop watches	A stopwatch is a digital or analog timing device used for measuring time intervals accurately. It has a start, stop, and reset function for precise time recording. The stopwatch is essential in experiments involving motion, speed, and reaction time. Its portable design makes it convenient for use in physics laboratories.	5
89	Quill tubes	A quill tube is a small glass tube should be measuring about 5 inches in length. It is used in physics and chemistry experiments for gas collection and fluid transfer. The tube's thin structure allows easy observation of liquid movement. Its transparent material ensures clear visibility during experiments.	1
90	Strong Thread (nylon)	A nylon thread reel used in force and motion experiments. It is stronger than cotton thread and provides durability for repeated use. Commonly used in physics demonstrations.	4
91	Thin mirror strip (Concurrent forces)	Should be of 1"X 4" in size.	1
92	Specific gravity bottle (50ML)	A small glass bottle with a fixed volume of 50ml, used to determine the specific gravity of liquids. It features a stopper with a capillary hole for accurate measurement. Commonly used in chemistry labs for density calculations.	2

93	Capillary Tubes (surface tension)	Thin glass tubes used to study surface tension and capillary action of liquids. These tubes help demonstrate how liquids rise in narrow spaces due to cohesive and adhesive forces.	1
94	Spirit level	A plastic spirit level used to determine horizontal alignment. It should contain a liquid-filled tube with an air bubble that indicates whether a surface is level. It is widely used in physics experiments related to equilibrium.	4
95	Cork to hold capillary tube	A small cork designed to hold capillary tubes securely in place during experiments. It prevents breakage and ensures stability while measuring liquid behaviour.	1
96	Drawing pins (boxes)	A box of metal drawing pins used to fix paper, charts, or sheets to surfaces for experiments and presentations. These are commonly used in physics and general lab work	2
97	Rubber Hammers	A rubber hammer should be of 10-inch length used in experiments requiring controlled force application. It is used in physics for impact and resonance studies. The rubber head prevents damage to delicate surfaces.	1
98	Connecting Wires	A set of connecting wires should be with banana plugs on both ends Used for creating electrical circuits and making secure connections in experiment	1
99	High Resistance	A high resistance component is an electrical resistor with a large resistance value, housed in a plastic box should be of 90x90 mm. It is used in electrical circuits to limit current flow and study Ohm's Law. The resistor provides a stable resistance for experimental accuracy. It is a fundamental component in electronics and circuit analysis.	1
100	Meter Bridge Set	A meter bridge set is a wooden apparatus should be of 4 inches by 1 meter, used in electrical experiments to determine resistance using the Wheatstone bridge principle. It includes a metal wire, scale markings, and connecting terminals. The setup is essential for studying resistance variation and circuit balancing. Its sturdy wooden frame ensures durability.	2
101	Transistor Set	A transistor set is a circuit board mounted with NPN and PNP transistors, fixed on a plastic base of 6x4 inches. It is used to study transistor characteristics, amplification, and switching properties. The setup helps in understanding semiconductor behaviour. It is an essential tool in electronics and circuit analysis.	1
103	Right-Hand and Left-Hand Rules	45cm x 60cm, should hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
104	Electromagnetic Spectrum	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1

105	Friction: Types and Examples	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
106	Circular Motion	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
107	Calendar of scientist	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
108	Dispersion of Light (Prism)	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
109	Human Eye and Defects of Vision	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
110	Vector and Scalar Quantities	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
111	Magnetic Field Lines Around Bar Magnet Bar Magnet	45cm x 60cm, should be hanging chart with metal sticks at top and bottom, 300 GSM Laminated Paper, Multicolour printing.	1
112	Almirah	Steel almirah 6 by 3 ft	2
113	Storage Box	Plastic Storage Box	As per Equipment

2.2 Test Benches for Physics Lab:



Sl	Description	Qty
1	Modular Island Workbench without base cabinets with 2 electrical raceways consisting of 16/6 Amp electrical switches and sockets with granite top. Table top:16 +/- 2 mm thick well-polished Granite with Proper Edge polished. Platform should be acid-resistant, alkali-resistant. Material of Construction: Made of Pipe Frame structure cross section 30*30 * 1.2 mm for pipe frame with CRCA material. Interior & Exterior Finish with 60-70 microns powder - coated finish. Tentative Table Dimension - 1800*1200*900mm	2 Units

2	360 Degree Revolving & Lift for Up-Down Movement Stool without Back: Made in Powder coated MS, Seat with High-Density Foam Sponge Materials, Round Ring for Leg Rest.	15 Units

2.3 Chemistry Lab:

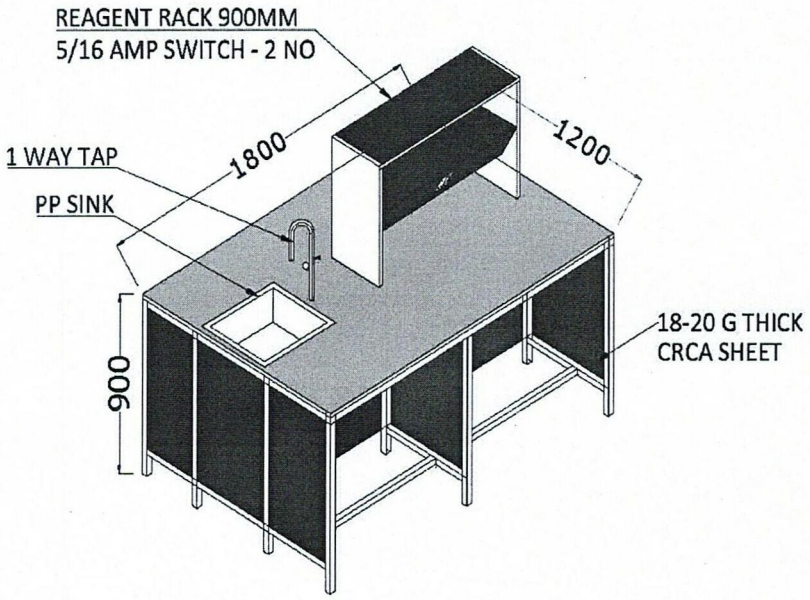
S.NO	Name of Item	Description	Qty
1	Micro Test Tube	Borosilicate glass, diameter 10 x 45 mm height with rim	2
2	Test Tube Holder	Length 200 mm, to hold the test tubes upto 10 mm dia.	2
3	Test Tube Stand	Perspex sheet size, 100mm x 27mm x 12 mm height with four blind holes to hold micro test tubes dia10mm.	2
4	Dropper with Rubber Bulb	Rubber bulb with 100 mm x dia 6 mm. Glass tube, overall dropper size 125 mm. As per sample	2
5	Glass Rod and Stirring	Glass rod Dia 4 mm x 100 mm in length	2
6	Spatula	Overall size 104mm spoon size 9 x 7 mm. Stainless steel	2
7	Beaker (10 mL)	Borosilicate 10 mL with rim. dia 25mm x 34mm height.	2
8	Funnel	Borosilicate top dia.40 mm.	2
9	Dry Cell Holder	Cell holder for 4 'D' type cells. Box outer size 135 mm x 75 mm x 35 mm. height with cover.	2
10	Torch Bulb with Holder	Screw type bulb holder with 3 V bulb. As per sample	2
11	Beaker (50 mL)	Borosilicate glass, capacity 50 mL with 10mL graduation.	2
12	Measuring Cylinder (10 mL)	Height density polyethylene (HDPE) capacity 10 mL As per sample	2
13	W- Tube	Borosilicate glass, 2 mm thick x 8 mm dia having length of arm 7075 mm with wide mouth in one arm. As per sample	2
14	Tripod	As per standard Specifications	2
15	Spirit Lamp	As per standard Specifications	2
16	Laboratory Stand	MS rod Dia 10 mm x 375 mm long with base attach with G-clamp and Boss Head. As per sample	2
17	Litmus Paper	Red and Blue colors.	2
18	Watch Glass	Soda glass, Dia 50 mm x 2 mm thick.	2
19	China Dish	Bowl, outer diameter 70 mm / 75mm.	2
20	Magnet	Size 75 mm x 12 mm x 08 mm, red colour N and S pole mentioned Alnico.	2
21	Thermometer (Laboratory)	Glass, alcohol filled, -10° C to 110° C, graduation 1° C with card board/plastic cover and cotton at both ends.	2
22	pH Paper	pH 1-11, paper box containing, 10 booklets	2
23	Metals (Zn, Cu, Fe,	Strips, dimension 80 mm x 5 mm, x1mm. As per sample	2
24	Emery Paper and Sand paper	A4 size sheet of each	2
25	Iron Nails	Length 50 mm As per sample	2
26	Fe- Filings and Zn dust	Packed in plastic container .	2
27	Filter paper	Ordinary. Circular of dia 100 mm	2
28	Micro Test Tube Brush	Plastic, Soft Hair, 120mm in length.	2
29	Dispensing Bottle	Low density poly ethylene, capacity 15mL dia 30mm. with screw cap and nozzle. As per sample	2
30	Vials	Low density poly ethylene, 55mm. height x dia 15 mm. As per sample	2
31	Double mouthed flask	Borosilicate. Thickness 1.5 mm with one mouth dia 26 mm x 25 mm height (with rim) and outer dia of nozzle 06mm to 08	2

		mm x 28 mm length. Bulb outer dia 50 mm with overall length 110 mm. As per sample	
32	Measuring Cylinder	Plastic, transparent with built in base, 100 mL graduation (min 1 mL), marking with 10 to 100mL.	2
33	Pipette 25ml (borosilicate)	Material: Borosilicate glass, Graduation: 0.1 ml	2
34	Measuring cylinder 200ml	Material: Glass/Plastic, Graduation: 1 ml/0.5 ml	20
35	Reagent bottle 500ml	Material: Glass, Narrow neck, Stopper	20
36	Chromatography paper	Material: High-quality cellulose paper	2
37	Chromatography chamber	Material: Glass/Plastic, Capacity: 500 ml–1 L	10
38	Motar & pestle	Material: Ceramic/Glass, Size: 50–200 ml	4
39	Bunson burner/ sprite lamp	Material: Metal (Brass), Fuel: Gas	10
40	Sprite	Material: Glass/Metal, Fuel: Alcohol	1LTR
41	Test tube (borosilicate)	Material: Borosilicate glass, Capacity: 10–100 ml	200
42	Tounge	Material: Stainless Steel	20
43	Chemical balance (electronic)	Type: Electronic, Capacity: 2 kg, L.C. 0.1gm (100mg).	2
44	Conical flask 250ml	Material: Borosilicate glass, Volume: 250 ml	2
45	Ignition tube	Material: Borosilicate glass	2
46	Ph chart	Type: Paper or digital	2
47	Burrete 100ml (borosilicate) with glass stopper	Material: Borosilicate glass, Capacity: 100 ml	10
48	Thermostate	Type: Analog/Digital	4
49	Storage	Steel Almaraiah	1
50	Dropper	Material: Glass/Plastic, Capacity: 1–3 ml	20
51	Dil- Hydrochloric acid	Concentration: 0.1 M–6 M	500ML
52	Conc- Hydrochloric acid	Concentration: ~12 M	500ML
53	Dil- Sulphuric acid	Concentration: 0.1 M–6 M	500ML
54	Conc- Sulphuric acid	Concentration: ~18 M	500ML
55	Dil- Nitric acid	Concentration: 0.1 M–6 M	500ML
56	Conc- Nitric acid	Concentration: ~14 M	500ML
57	Acetic acid	Concentration: 99–100%	500ML
58	Oxalic acid	Solid or aqueous solutions	500 G
59	Sodium hydroxide	Concentration: 0.1 M–6 M	500 G
60	Ammonium Hydroxide	Concentration: 0.1 M–6 M	500ML
61	Potassium hydroxide	Concentration: 0.1 M–6 M	500 G
62	Ammonium acetate	Solid or aqueous solution	500 G
63	Ammonium chloride	Solid or aqueous solution	500 G
64	Ammonium carbonate	Solid	500 G

65	Ammonium molybdate	Solid	25G
66	Ammonium oxalate	Solid	500G
67	Ammonium sulphate	Solid	500G
68	Barium chloride	Solid or aqueous solution	500G
69	Bromine water	Concentration: ~0.2 M	500ML
70	Chlorine water	Concentration: Saturated solution	500ML
71	Copper sulphate	Solid or aqueous solution	250GM
72	Dimethyl glyoxime	Solid	50GM
73	Disodium hydrogen phosphate	Solid	500GM
74	Ferric chloride	Solid or aqueous solution	500GM
75	Iodine solution	Concentration: ~0.1 M	125ML
76	Lead acetate	Solid or aqueous solution	250GM
77	Lime water	Saturated solution of calcium hydroxide	500ML
78	Litmus solution (blue)	pH indicator	125ML
79	Litmus solution(red)	pH indicator	125ML
80	Methyl orange	Concentration: 0.1%	500ML
81	Potassium chromate	Solid or aqueous solution	250ML
82	Potassium dichromate	Solid or aqueous solution	500ML
83	Potassium ferrocyanide	Solid or aqueous solution	250GM
84	Potassium iodide	Solid or aqueous solution	100ML
85	Potassium permanganate	Solid or aqueous solution	250GM
86	Potassium thiocyanate	Solid or aqueous solution	125ML
87	Phenolphthalein	Concentration: 1%	125ML
88	Silver nitrate	Solid or aqueous solution	125ML
89	Starch solution	Concentration: ~1%	125ML
90	Sodium carbonate	Solid or aqueous solution	500GM
91	Sodium bicarbonate	Solid or aqueous solution	500GM
92	Sodium nitropruside	Solid or aqueous solution	50GM
93	Zinc dust	Fine powder	100GM
94	Copper turning	Solid	100GM
95	Ferrous sulphate	Solid or aqueous solution	500GM
96	Nesselar's reagent	Prepared solution	100ML
97	Potassium nitrate	Solid	500GM
98	Calcium carbide	Solid	100GM
99	Alcohal	Concentration: 70–100%	250ML
100	Ferric chloride	Solid or aqueous solution	500GM
101	Sodium hydrogen carbonate	Solid or aqueous solution	500GM
102	Sodium nitrate	Solid	120GM
103	β- Naphthol	Solid	50GM
104	Ferrous sulphate	Solid or aqueous solution	500GM

105	Potassium permanganate	Solid or aqueous solution	250GM
106	Bromine water	Concentration: ~0.2 M	500GM
107	Ceric ammonium nitrate	Solid or aqueous solution	50GM
108	2,4-DNP reagent	Prepared solution	50GM
109	Fehling's solution A	Prepared solution	500ML
111	Fehling's solution B	Prepared solution	250ML
112	Schiff's reagent	Prepared solution	125ML
113	Silver nitrate	Solid or aqueous solution	75ML
114	dil-Hcl	Concentration: 0.1 M–6 M	500ML
115	Sodium hydroxide	Concentration: 0.1 M–6 M	500ML
116	Acetone	Liquid, Concentration: Pure	500ML
117	Tollen's reagent	Prepared solution	75ML
118	Molisch's reagent	Prepared solution	125ML
119	Iodine solution	Concentration: ~0.1 M	250ML
120	Glucose	Solid or aqueous solution	250ML
121	ά- Naphthol	Solid	50GM
123	Benedict's solution	Prepared solution	500ML
124	Starch solution	Concentration: ~1%	125ML

2.4. Test Benches Models for Chemistry Lab



Sl	Description	Qty
1	Modular Island Workbench without base cabinets with 1 sink with tap, 1 double tier reagent rack consisting of 16/6 Amp electrical switches and sockets with granite top. Table top:16 +/- 2 mm thick well-polished Granite with Edge polished, acid-resistant, alkali- resistant, 1 PP sink & 1 way swan neck CPVC Brass faucet. Material of construction: Made of pipe frame structure cross section 30*30 * 1.2 mm for pipe frame with CRCA material. Interior & Exterior Finish with 60-70 microns powder - coated finish. Table Dimension - 1800*1200*900mm Reagent rack - 900*300*600mm	2 Units

2	360 Degree Revolving & Lift for Up-Down Movement Stool without back: Made in Powder coated MS, Seat with High-Density Foam Sponge Materials, Round Ring for Leg Rest	15 Units

2.5. Biology Lab:

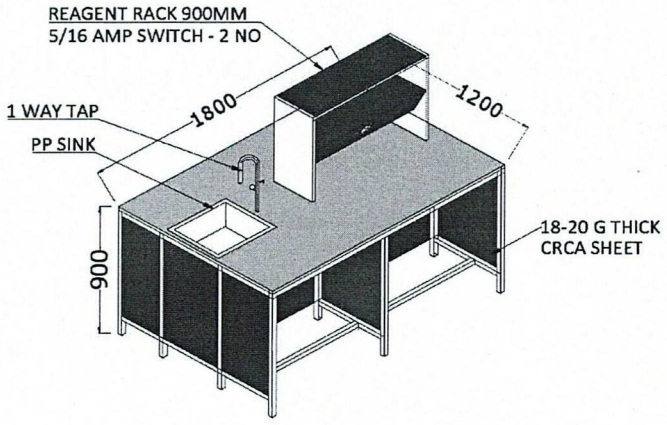
SI.No	Equipment	Description	Qty
1	Kit Box	12 mm. thick wooden ply outer box size 350mm. x 320 mm x 250mm.depth with door. Inside the box three pocket one side and one for microscope. locking system and handle in the top. painted in teak colors. **As per sample**	**2**
2	Compound Microscope	ISI marked microscope: metal body, overall height approx. 320 mm, base 125 mm x 200 mm. Achromatic good quality lenses. Two Objectives: 10x & 40x. Two Eyepieces: 10x & 15x having coarse & fine adjustment knobs & fixed condenser.	1
3	Glass micro slides	Standard glass item 75mm. x 25mm x 1mm. thick.	2
4	Pasteur Pipette (Dropper)	Low Density Poly Ethylene (LDPE), capacity 03 mL.	2
5	Washing Brush	Soft hairs. Micro test tube brush.	2
6	Razor Blade	Stainless steel. standard size	2
7	Micro Test Tubes	Borosilicate glass, diameter 10 x 45 mm. height with rim,	2
8	Test tube holder	Length 200 mm, to hold the test tubes upto 10 mm dia.	2
9	Beaker 50 mL.	Borosilicate glass, capacity 50 with 10mL graduation.	2
10	Beaker 10 mL.	Borosilicate glass, capacity 10 mL, dia 25mm x 34 mm height	2
11	Magnifying Lens	Aluminum made two folding type first fold attached with convex lens. Folding size 32mm. x 22mm	2
12	Watch glass	Soda glass, diameter 50 mm.	2
13	Needles	Standard, length 110 mm, with plastic handle.	2
14	Forceps	Stainless steel, length 100 mm.	2
15	Blotting paper	Standard quality. In square shape 100 x 100mm.	2
16	Test tube rack	Perspex sheet size 100 mm X 27 mm X 12 mm. 04 holes to hold Micro Test Tubes.	2
17	Wash Bottle	LDPE, capacity 125 mL.	2
18	Surgical Scissor	125 mm, one prong blunt and other pointed, standard.	2
19	Glass rod	Solid glass rod dia 5mm. x 170mm.	2
20	Filter paper	Ordinary. Circular of dia 100 mm	2
21	Measuring Cylinder (10 mL)	High Density Poly Ethylene (HDPE), capacity 10 mL.	2
22	Cotton	Mini cotton role 50g.	2
23	Muslin cloth	Fine cotton cloth 150x150mm. Piece.	2
24	Painting brush	01 number size with Fine heir	2
25	Spring balance	A.B.S, open type, capacity 250 g graduation in steps of 10 g on one side on front face and Newton's on the other side on front face.	2
26	Measuring Pan with Holder	Plastic pen, dish type dia 80mm. with wire holder.	2
27	Laboratory Stand Assembly	G' clamp, 50 mm jaws, maximum opening 40 mm, with two locking screws and holes. HDPE MS rod dia 10 mm x 300 mm long, Boss	2

28	Steel rod Clamp Boss Head	head and laboratory clamp.	2
29	Assembly Boiling tube with cork fitted glass tube	Borosilicate boiling glass tube dia 25mm. x 150mm.length with rim. And assembled cork with bore dia 5mm.x 140mm.length glass tube fitted in the cork bore.	2
30	Tripod		2
31	SPIRIT LAMP		2
32	Test tube 20mL	Borosilicate boiling glass tube dia 25mm. x 150mm.length with rim.	2
33	W- Tube	Borosilicate glass, 2 mm thick x 8 mm dia having length of arm 75 mm with wide mouth in one arm.	2
34	Thread	Small real cotton thread	2
35	Petridis	Borosilicate dia 90mm. x 16mm. depth.	2
36	Cover glasses	Microscopic cover glass 18mm.	2
37	Thermometer (F0)	Specification: Small, durable glass or digital thermometer Size: 15–20 cm length Typical Use: Suitable for experiments involving temperature measurements.	4
38	pH Paper (Acid & Base Both) (2 to 11)	Specification: Standard pH paper strips for measuring acidity and basicity. Size: Each strip is typically 7x7 cm Typical Use: Used in acid-base titrations, testing liquids, or soil testing.	4
39	Sieve Set	Specification: Set of sieves with varying mesh sizes (typically 10 cm to 20 cm in diameter). Size: Diameters of 10 cm, 15 cm, and 20 cm for common laboratory use. Typical Use: For separating mixtures, such as in soil studies or when working with powders.	2
40	Reagent Stand	Specification: Sturdy, adjustable stand for holding glassware and chemical reagents. Size: Approximately 30 cm in height Typical Use: Holds test tubes, flasks, and other laboratory apparatus during experiments.	2
41	Light Binocular Microscope	Specification: Binocular microscope with adjustable magnification of 40x to 400x. Size: Compact body with an arm length of 25–30 cm. Typical Use: For biological studies such as cell examination, studying tissue samples, and microorganisms.	2
42	T.S. Blastula Mammalian	Specification: Transverse section of a mammalian blastula (a developing embryo). Size: Mounted on a standard glass microscope slide (7.5 x 2.5 cm). Typical Use: For studying early embryonic development in mammals.	4
43	Leech	Specification: Preserved leech specimen for dissection or anatomy study. Size: Typically around 5–10 cm in length, preserved in formalin. Typical Use: Used for studying the anatomy of invertebrates, including body structure and	4

44	Prawn	Specification: Preserved prawn specimen, typically dissected for anatomical study. Size: Length around 8–12 cm, preserved and mounted on a slide. Typical Use: Used for studying arthropod anatomy, including its exoskeleton and organ systems.	4
45	Octopus	Specification: Preserved octopus specimen, typically dissected for studying morphology. Size: Average size is 10–15 cm, preserved in formalin or alcohol. Typical Use: Used for morphological studies, including the study of its limbs, nervous system, and overall body structure.	4
46	Frog	Specification: Preserved frog specimen, used for dissection and studying internal organs. Size: Typically 8–12 cm in length, preserved in formalin. Typical Use: Used for dissection to study organ systems such as the circulatory, digestive, and respiratory systems.	4
47	T.S. Testes of Grasshoppers	Specification: Transverse section of testes from a grasshopper. Size: Mounted on a standard glass slide (7.5 x 2.5 cm). Typical Use: For studying reproductive organs and comparing them with other organisms.	4
48	T.S. Testes of Mice	Specification: Transverse section of testes from a mouse. Size: Mounted on a standard glass slide. Typical Use: Used to compare mammalian reproductive structures.	4
49	T.S. Ovary of Grasshoppers	Specification: Transverse section of ovary from a grasshopper. Size: Mounted on a standard glass slide. Typical Use: For studying female reproductive anatomy of invertebrates.	4
50	T.S. Ovary of Mice	Specification: Transverse section of ovary from a mouse. Size: Mounted on a standard glass slide. Typical Use: Used to study the ovary structure of mammals.	4
51	T.S. Blastula Mammalian	Specification: Transverse section of a mammalian blastula. Size: Mounted on a standard glass slide. Typical Use: For studying embryonic development in mammals.	4
52	Different Stages of Mitosis & Meiosis Slide	Specification: Slide showing various stages of mitosis and meiosis. Size: Mounted on a standard glass slide. Typical Use: Used for studying cell division processes in biology classes.	4
53	Blood Corpuscles	Specification: Prepared slide showing different types of blood corpuscles (red and white blood cells, platelets). Size: Mounted on a standard glass slide. Typical Use: For studying the structure and types of blood cells under a microscope	4
54	Skeleton	Human skeletal system should be made of plastic of 2 ft height	2
55	Symbiotic association	Root of nodules of leguminus plant	2
56	Flash card models	Homologus and analogus organ	2
57	Brain	Human brain 3D model should be fixed on a stable base of	2

		240 x 240mm.	
58	Heart	The model should have a plastic base measuring 4 x 4 inches, with a metallic rod that supports a detailed structure of the heart. It should illustrate the heart's internal anatomy, including its four chambers: the right atrium, right ventricle, left atrium, and left ventricle. The model also demonstrates how blood flows through these chambers and valves.	2
59	Excretory system	Excretory system should be on a base of size 30 x 12 inch	2
60	Blood circulation system	Human Nervous system should be fixed on wooden base with key card pasted on base of dimensions 36 x 12 inch	2
61	Plants & animal kingdom	Should Provide the Information	2
62	Eye model	A human eye model should be mounted on a plastic base of size 6"x 6" and should represent the internal structures of the human eye, including the lens, retina, and optic nerve.	2
63	Ear model	This model should have three different parts: the outer ear, the middle ear, and the inner ear mounted on a plastic base measuring 9.5 x 5.5. Height of the model should be at least 5.5 inches. The human ear model should demonstrate the anatomy of the ear and how it detects sound waves and converts them into electrical signals for the brain.	2
64	Mendelian chart	As per Room Size	2
65	Almirah	Steel almirah 6 by 3 ft	2

2.6. Test Benches Models for Biology Lab



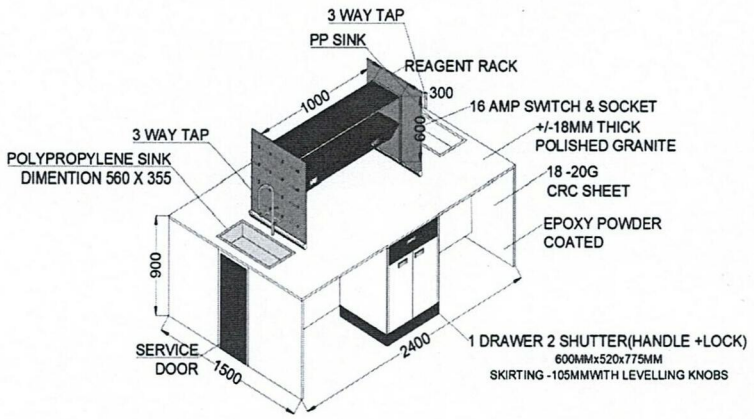
Sl	Description	Qty
1	Modular Island Workbench without base cabinets with 1 sink & tap, 1 double tier reagent rack consisting of 16/6 Amp electrical switches and sockets with granite top. Table top:16 +/- 2 mm thick well-polished Granite with Edge polished, acid-resistant, alkali- resistant, 1 PP sink & 1 way swan neck CPVC	2 Units

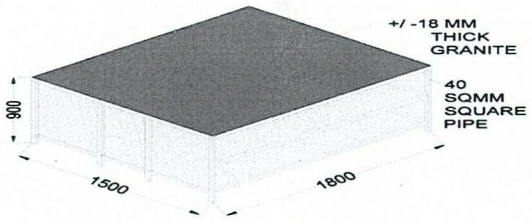
	Brass faucet. Material of construction: Made of pipe frame structure cross section 30*30 * 1.2 mm for pipe frame with CRCA material. Interior & Exterior Finish with 60-70 microns powder - coated finish. Table Dimension 1800*1200*900mm Reagent rack - 900*300*600mm	
2	Laboratory Stool without back: Made in Powder coated MS , Seat material : High-Density Foam Sponge Materials, Round Ring for Leg Rest, 360 Degree Revolving & Lift for Up-Down Movement.	15 Units

3. Test Benches for Composite Labs:

In cases where space constraints exist or student enrollment is limited, a Composite Lab Model may be adopted in lieu of developing individual full-scale labs. This approach allows optimal utilization of available resources while ensuring essential practical training. Implementation of the Composite Lab Model shall be subject to prior approval from the BEPC.

3.1. Test Bench for Composite Lab





ISLAND TABLE

DEMO TABLE

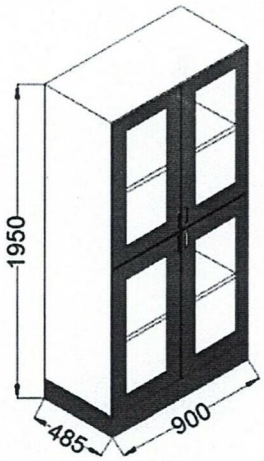
Sl	Description	Qty
1	Modular island Workbench with 2 base cabinet (1 Drawer & 2 Shutter 2 nos) , with 2 sink & tap, and 1 Double tier Reagent Rack & electrical switches and sockets with granite top Table top: 18 +/- 2 mm thick well-polished Jet Black Granite with edge polished, acid-resistant, alkali- resistant with 2 PP sink and 3 way swan neck CPVC/ Brass tap Material of Construction for Work Bench: 18-20G thick CRCA Sheet. Interior & Exterior will be provided with powder-coated finish. Under Bench Cupboards will be provided with Top Drawer and Bottom two Shutter with one Horizontal Partition. All necessary hardware fitting like Heavy Duty Drawer Channels for smooth rolling to be provided. (Hardware Make : Ebco / Hettich / Godrej) Table Dimension-2400mm W*1500 mm D*900 mm H Reagent Rack Dimension-1000 mm W *300 mm D*620 mm H Storage Dimension-600 mm W* 520 mm D	1 Unit
2	Modular island Workbench with 2 base cabinet (1 Drawer & 2 Shutter 2 nos) , with 2 sink & tap, and 1 Double tier Reagent Rack & electrical switches and sockets with granite top. (MCB Socket Make : Havells/Anchor / North-West / Norysis) 2nos of pegboard , 1 nos of eye wash. Table top: 18 +/- 2 mm thick well-polished Jet Black Granite with polished edge, acid-resistant, alkali- resistant with 2 PP sink and 3 way swan neck CPVC/ Brass tap Material of Construction for Work Bench: 18-20G thick CRC Sheet. Interior & Exterior will be provided with powder-coated finish. Under Bench Cupboards will be provided with Top Drawer and Bottom two Shutter with one Horizontal Partition. All necessary hardware fitting like Heavy Duty Drawer Channels for smooth rolling to be provided. (Hardware Make : Ebco / Hettich / Godrej) Table Dimension-2400mm W*1500 mm D*900 mm H Reagent Rack Dimension-1000 mm W *300 mm D*620 mm H Storage Dimension-600 mm W* 520 mm D	1
3	Demonstration Table with 1 base cabinet,(1 drawer & 2 shutters 1 no) with granite top . Table top:18 +/- 2 mm thick well-polished Jet Black Granite with polished edge, acid-resistant, alkali-resistant Material of Construction for Work Bench: 18G thick CRCA Sheet. Interior & Exterior will be provided with powder- coated finish. Under Bench Cupboards will be provided with Top Drawer and Bottom two Shutter with one Horizontal Partition. All necessary hardware fitting like Heavy Duty Drawer Channels for smooth rolling to be provided Table Dimension-1500mm W*750 mm D*900 mm H Storage Dimension-600 mm W* 520 mm D	1
4	Glass Shutter Over Head cabinet : Made of epoxy powder coated 18 gauge CRCA sheet, Dimension-600 mm W x 400 mm D x 600 mm H	2
5	Glass Shutter Full Height cabinet : Made of epoxy powder coated 18 gauge CRCA sheet, Dimension-900 mm W x 485 mm D x 1950 mm H	2
6	Modular Island Workbench with open rack with granite top. (MCB Socket Make : Havells/Anchor / North-West / Norysis) Table top:18 +/- 2 mm thick well-polished Jet Black Granite with polished edge, acid-resistant, alkali- resistant Material of construction : Made of pipe frame structure cross section 40 Sq mm with CRCA material. Interior & Exterior Finish with 50-70 microns powder - coated finish. Table Dimension - 1800*1500*900mm	2
7	Laboratory Stool without back: Made in Powder coated MS , Seat material : High-Density Foam Sponge Materials, Round Ring for Leg Rest, 360 Degree Revolving & Lift for Up-Down Movement.	15

5. Tentative Space allocation for composite Lab should be:

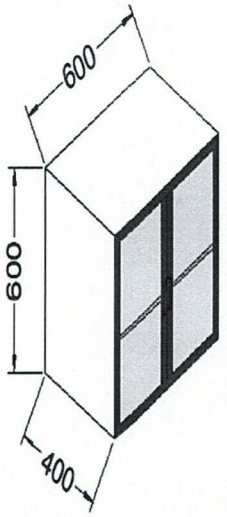
Work Space	Purpose	Area Range (sqft)
Physics Bench	Experiments with circuits, mechanics	160
Chemistry Corner	Reactions, solutions	160
Biology Section	Microscope work, models, specimens	160
Teaching Zone	Podium, digital board	80
Utility Area	Sink, fire safety, storage	30
Seating & Movement	Student chairs + clear passage	60

In addition to above Materials and Work benches Bidder should provide adequate Storage Boxes (Sizes as per Equipment and Almarah) , Almaras, Fire Safety Equipment including Sand Buckets and Extinguishers , Necessary Electrification with GoB SOR approved ISIS standard Makes, Necessary Earthing Protection, Teacher Podium, Water Outlets with Taps and Sinks, Necessary aesthetics such as Paints and Posters etc to make sure Lab Functional.

4. The Almarah Dimensions Should be :



GLASS FULL HEIGHT CABINET



OVER HEAD CABINET

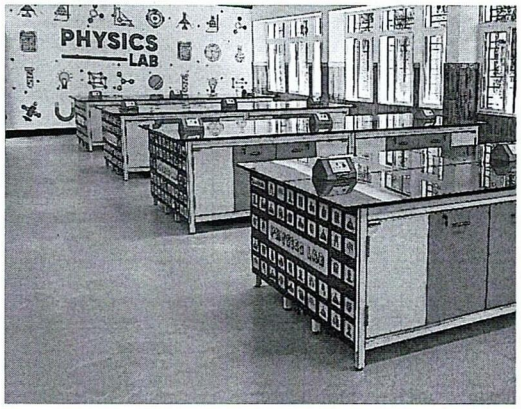
Note: Irespective of any change in the built-up area of individual laboratories, the bidder shall be required to supply all prescribed equipment for each respective lab, strictly in accordance with the approved Bill of Materials (BOM).

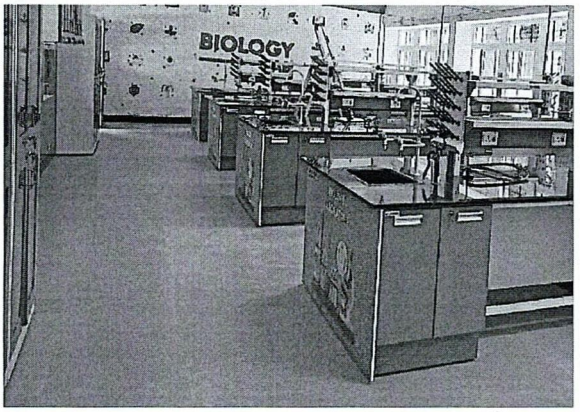
In the event of any variation in equipment quantity—due to design adjustments, spatial constraints, or site conditions—the revised quantity shall be provided only upon prior approval from the Bihar Education Project Council (BEPC) or the designated Nodal Officer.

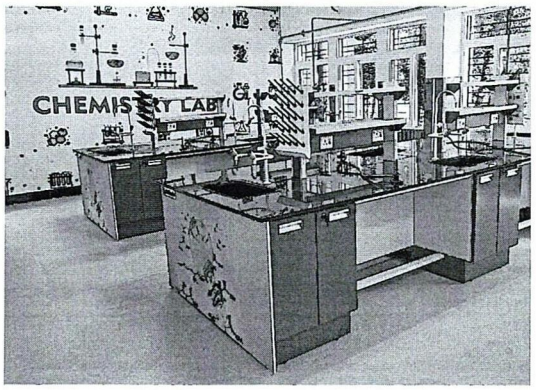
5. Design Layout for the Labs

Attached as Annexure 8.

6. Developed Lab Prototype:







Note:

1. The information presented in Annexure- 8 is intended solely for understanding and illustrative purposes. Based on this, the bidder is required to prepare detailed drawings, layouts, DPR, and plans for civil works, electrical systems, and plumbing to establish fully functional Physics, Chemistry, and Biology laboratories on a turnkey basis. The design may be based on either a Composite Lab Model or Individual Lab Model, depending on site limitations, subject to prior approval from BEPC/ Appointed Nodal Officer.
2. All components and materials shall conform to GoB-approved SOR makes and models, wherever available. In cases of non-availability, the bidder must utilize items from reputed manufacturers with a proven track record of quality. The bidder shall also ensure operation and maintenance, including necessary repairs, throughout the Defect Liability Period.
3. Due to limitation of space or any other constraints, if composite lab is to constructed, the bidder shall supply, install & commission the all equipment as per BOM above with relaxation in furniture mentioned in test benches, storage units, etc only on pro-rata basis of the rate quoted for each lab of built-up area of at least 333.3 sq. ft or higher (considering upper whole number) by ensuring to meet the objectives of the labs.

4. **Bidder should consider the option of constructing same in either ground floor or single floor or double floor structure or composite lab as per space availability. For the same approval should be taken from respective authority before commencing of work. The technical sanctioned drawings and layout are presented in Annexure 8, for the same SOR/Standards laid down by Building Construction Department (BCD) Bihar to be adopted.**

ANNEXURE 2: LETTER OF SUBMISSION

(On the letterhead of the bidder)

To,
The State Project Director,
Bihar Education Project Council,
Shiksha Bhawan,
Bihar Rashtrabhasha Parishad Campus,
Saidpur, Patna - 800 004.
e-mail: etenderbepc@gmail.com

Sir,

Ref: - Request for Proposal (RFP) for the Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar

We have read and understood the Request for Proposal (RFP) in respect of the captioned Assignment provided to us by Department of Education.

We hereby agree and undertake as under:

a. Notwithstanding any qualifications or conditions, whether implied or otherwise, contained in our Proposal we hereby represent and confirm that our Proposal is unqualified and unconditional in all respects.
b. This Proposal is valid till (90 days from the Proposal Due Date). RFP can be download from the website https://eproc2.bihar.gov.in
c. Bidder shall submit, along with their bids, EMD of Rs. XXXXXXXX/- (Rupees XXXXXXXXXXXX only) in the form of Bank Guarantee issued by the Schedule Bank, in favor of the "State Project Director, Bihar Education Project Council.
d. That as on the date of submission of this tender, there is no blacklisting order that bars us from working with any Government Agency / Department on account of deficiency in service.

Name of the Bidder
Date: -

Signature of Authorized Signatory

ANNEXURE – 3: Experience as per RFP Criteria

Sl	Name of Client	Location	Description of work	Value of Contract/ Work in Rs.	Duration (Start date- Completion date)
1					
2					
3					

NOTES:

- Each of the listed works shall be supported with the copy of work order & other documentary evidences as per the eligibility and technical evaluation criteria.
- Non-disclosure of any information in the schedule will result in disqualification of the firm

Signature of the applicant/Authorized
Representative of Agency with Seal/Stamp

ANNEXURE – 4: FORMAT FOR FINANCIAL PROPOSAL

(On the letter head of the bidder)

To,
The State Project Director,
Bihar Education Project Council,
Shiksha Bhawan,
Bihar Rashtrabhasha Parishad Campus,
Saidpur, Patna - 800 004.
e-mail: etenderbepc@gmail.com

Sub: - Ref: - Request for Proposal (RFP) for the Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar

Sir,

We are pleased to quote the price as below. We have reviewed all the terms and conditions of the 'Request for Proposal' and confirm that, we would abide by all the terms and conditions. We hereby declare that there shall be no deviations from the stated terms in the RFP.

We further declare that, any State Government, Central Government or any other Government or Quasi Government Agency has not barred us or blacklisted from participating in any Bid.

Our Financial Quote for the for Request for Proposal (RFP) for the Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar BEPC, GoB Bihar, Patna is INR (in figures) XXXXXXXXXXXX (INR XXXXXXXXXXX in Rupees). This amount includes all charges and taxes but is **exclusive of GST** which shall be payable at prevailing rates.

We abide by the above offer/quote and terms condition of the RFP, if the BEPC, Bihar selects us as the Selected Bidder/Agency. If our offer is accepted and if we fail to perform in the manner as specified in the RFP Document, the amount of Bid Security, as aforesaid, shall stand absolutely forfeited to the BEPC, Bihar without prejudicing the rights of the BEPC, Bihar to proceed further in any manner it deems fit. Until a formal Agreement is prepared and executed between us, this bid, together with your LOI, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any bid that you may receive. We declare that the information stated above and enclosed is complete and absolutely correct and any error or omission therein, accidental or otherwise, as a result of which our bid is found to be nonresponsive, will be sufficient for the BEPC, Bihar to reject our bid and forfeit our bid security in full.

Sincerely,

Name

Name of the Firm/Agency

Designation and Address
Mobile and Email

Date: -

Signature of the applicant/ Authorized Representative of Agency with Seal/Stamp

ANNEXURE – 5: Financial Bid Format

Financial Quote for Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar

Financial Quote for Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar in zone-1

Part-1: Establishment of Labs in Zone -1

S. No	Particulars	Total Quantity of Labs	Estimated cost in Lakhs per Lab (All Inclusive)	*Quoting Criteria: (Excess: + or less:-)	Quote_% (Percentage) in Lakhs Per Lab All inclusive	Total Effective Price
1	2	3	4	5	6	7
1	Establishment of Physics Lab on Turn Key Basis	1728	17.71	Select		
2	Establishment of Chemistry Lab on Turn Key Basis	1734	17.71	Select		
3	Establishment of Biology Lab on Turn Key Basis	1728	17.71	Select		
Total (A)						

Part 2: Supply, Installation of Lab Equipment in Zone-1

S. No	Particulars	Total Quantity of Labs	Estimated cost in Lakhs per Lab (All Inclusive)	*Quoting Criteria (excess: + or less:-)	Quote_% (Percentage) in Lakhs Per Lab All inclusive	Total Effective Price
1	2	3	4	5	6	7
1	Supply, Installation of Equipment of Physics Lab	1728	1	Select		
2	Supply, Installation of Equipment of Chemistry Lab	1734	1	Select		
3	Supply, Installation of Equipment of Biology Lab	1728	1	Select		
Total (B)						
Grand Total (A+B)						

Financial Quote for Establishment of Physics, Chemistry and Biology Labs on Turn Key Basis across Government Schools in Bihar in Zone-2

Part-1: Establishment of Labs in Zone -2

S. No	Particulars	Total Quantity of Labs	Estimated cost in Lakhs per Lab (All Inclusive)	*Quoting Criteria: (Excess: + or less:-)	Quote_% (Percentage) in Lakhs Per Lab All inclusive	Total Effective Price
1	2	3	4	5	6	7
1	**Establishment of Physics Lab on Turn Key Basis**	1750	17.71	Select		
2	**Establishment of Chemistry Lab on Turn Key Basis**	1774	17.71	Select		
3	**Establishment of Biology Lab on Turn Key Basis**	1806	17.71	Select		
Total (A)						

Part 2: Supply, Installation of Lab Equipment in Zone-2

S. No	Particulars	Total Quantity of Labs	Estimated cost in Lakhs per Lab (All Inclusive)	*Quoting Criteria (excess: + or less:-)	Quote_% (Percentage) in Lakhs Per Lab All inclusive	Total Effective Price
1	2	3	4	5	6	7
1	Supply, Installation of Equipment of Physics Lab	1750	1	Select		
2	Supply, Installation of Equipment of Chemistry Lab	1774	1	Select		
3	Supply, Installation of Equipment of Biology Lab	1806	1	Select		
Total (B)						
Grand Total (A+B)						

***In Bidder Quoting Criteria: Bidder has to select Excess or Less in e-procurement**

Note:

-GST shall be payable at the prevailing rates.

-The bidder needs to quote for Part-1 and Part-2 of all the items, failing which bid is liable to be rejected.

-Zone wise LCBS ranking will be declared based on amount quoted on Grand Total (A+B) .

- As the project is to be executed on a Turnkey Basis, the bidder shall ensure that all costs associated with the complete scope of work are duly considered to ensure seamless operational readiness upon completion.

-The tentative built-up area of each lab (unit) is considered as 333.3 to 366.67 sqft. In case, the built-up area of each lab increased/ decreased, amount will be paid on pro-rata basis accordingly.

-Bidder can quote for all zones.

ANNEXURE 6: FORMAT FOR EMD

Whereas ..... (Hereinafter called "the Bidder") has submitted its bid dated ..... for Bihar Education Project Council RFP **Reference No. ..... dated ..... for ..... (Project Name)**.

KNOW ALL MEN by these presents that WE ..... OF ..... Having our registered office at ..... (Hereinafter called "the Bank") are bound unto The STATE PROJECT DIRECTOR-BEPC (hereinafter called "the Purchaser") in the sum of INR ..... /- (..... Only) for which payment will and truly to be made of the said Purchaser, the Bank binds itself, its successors and assigns by these present.

THE CONDITIONS of the obligation are:

1. If the Bidder withdraws his bid during the period of bid validity specified by the Bidder on the Bid form or

2. If the Bidder, having been notified of the acceptance of his bid by the Purchaser during the period of bid validity

(a) Fails or refuses to execute the Contract, if required; or

(b) Fails or refuses to furnish the Performance Security, in accordance with the instructions to Bidders.

We under*ta*ke to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the purchaser having to substantiate its demand, provided that in its demand, the purchaser will note that the amount claimed by it is due to it owning to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to ..... and any demand in respect thereof should reach the Bank not later than the specified date/dates.

witness
Address of witness

Signature of the Bank
Authority. Name
Signed in Capacity of Name & Signature of
Full address of Branch
Tel No. of Branch
Fax No. of Branch

ANNEXURE 7: FORMAT FOR PBG

To,
The State Project Director,
Bihar Education Project Council,
Shiksha Bhawan,
Bihar Rashtrabhasha Parishad Campus,
Saidpur, Patna - 800 004.
e-mail: etenderbepc@gmail.com

Whereas Bid ..... (hereinafter called "the Bidder") has submitted its Bid dated ..... (date of submission of Bid) for " ..... (Name of Project) in consonance with the RFP Reference No. BEPC/..... Dated ..... (e-Tender No. .....)) issued by the BEPC, Patna, (hereinafter called "the Bid"].

Whereas as per RFP Clause 3.22 of the Bid, the bidder is required to furnish a Bank Guarantee as Performance Security from a scheduled bank (Bank Guarantee).

In consideration of the fact that the Bidder is our valued customer and the fact that he has submitted the Bid, we, (name and address of the bank), (hereinafter called "the Guarantor Bank) has agreed to bind ourselves, our successors, and assigns to irrevocably issue this Bank Guarantee and guarantee as under

NOW THIS GUARANTEE WITNESSED:-

1. If the Bidder

having been notified of the acceptance of its Bid by the State Project Director, Bihar Education Project Council (BEPC), Patna

(a) during the period of Bid Proposal validity:

(b) fails to perform as per the contract obligations

The Guarantor Bank shall immediately on demand pay the State Project Director, Bihar Education Project Council (BEPC), Patna, without any demur and without the State Project Director, Bihar Education Project Council (BEPC), Patna having to substantiate such demand a sum of Rs. ..... (-------) only (Guaranteed Amount).

2 The Guarantor Bank will make the payment of the Guaranteed Amount forthwith on the demand made by the State Project Director, Bihar Education Project Council (BEPC), Patna notwithstanding any objection or dispute that may exist or arise between the State Project Director, Bihar Education Project Council (BEPC), Patna, and the Bidder or any other person.

3 The demand of the State Project Director, Bihar Education Project Council (BEPC), Patna on the Guarantor Bank for the payment of the Guaranteed Amount, shall be deemed as the final proof of fulfilment of the conditions stipulated in (1) above,

4. This Guarantee shall be irrevocable and shall not be discharged except by payment of the above amount by us to the State Project Director, Bihar Education Project Council (BEPC), Patna and our liability under this Guarantee shall be restricted to the Guaranteed Amount being Rs. .....( ) only.

5. If it is necessary to extend this Guarantee on account of any reason whatsoever. we undertake to extend

the period of this Guarantee on the request of the Bidder under intimation to the State Project Director, Bihar Education Project Council (BEPC), Patna.

6. To give full effect to the Guarantee contained herein, the State Project Director, Bihar Education Project Council (BEPC), Patna shall be entitled to act as if the Guarantor Bank is the principal debtor in respect of claims against the Bidder and the Guarantor Bank hereby expressly waives all its rights of surety-ship and other rights, if any, which are in any way inconsistent with any of the provisions of this Guarantee.

7. Any notice by way of demand or otherwise may be sent by special courier, telex, fax, registered post or other electronic media to our address as afore-said and if sent by post, shall be deemed to have been given to us after expiry of 48 hours when the same has been posted.

8. Our liability under this Guarantee will continue to exist until a demand is made by the State Project Director, Bihar Education Project Council (BEPC), Patna in writing up to dated ....., and any demand in respect thereof should reach the Bank not later than the above date.

Dated ..... this ..... day .....

Yours faithfully,

For and on behalf of the ..... Guarantor Bank,

(Signature)

Designation

(Address and Common Seal of the bank)

Note: To be executed at the time of Signing of Contract by the Selected Vendor

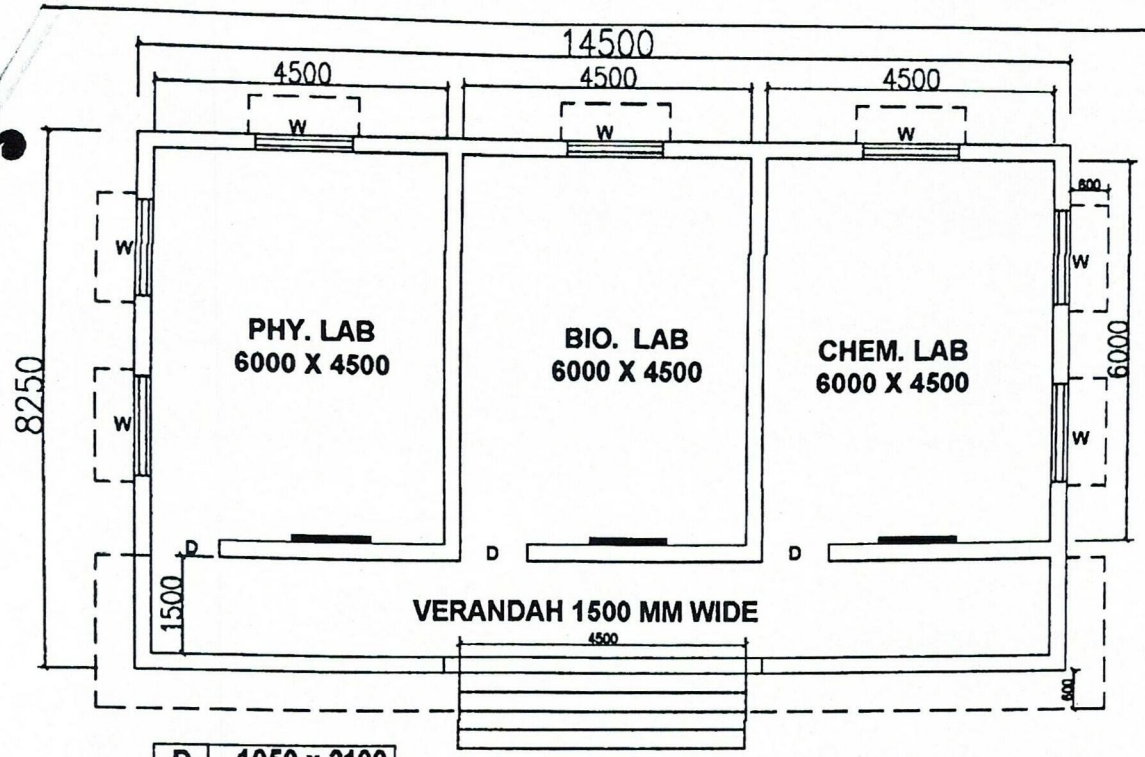
The establishment of Physics, Chemistry and Biology laboratories in government schools across the districts of Bihar

Technical Specification (Civil Work)

1. **Case -01 (If all 03 Lab (15'0" X 20'0") constructed on Ground Floor/First Floor along with 1500 mm (5'0") wide Verandah)**

• Constructed Area	=	119.63 Sqm Or 1287 Sqft (Plan Attached)
• Type of Structure	=	Load Bearing Structure
• Size of Lab	=	4500 x 6000 mm (15'0" X 20'0")
• Width of Verandah	=	1500 mm (5'0") wide
• Foundation & Plinth	=	As per Drawing (Drawing Summitted by Agency)
• Super- structure	=	As per Drawing (Drawing Summitted by Agency)
• Plinth Height	=	Min 900 mm (3'0") or as per site condition.
• Ceiling Height	=	3000 mm (10'0")
• Walls	=	All walls 250 mm (10") thick
• Door	=	1050 x 2100 mm (3'6" x 7'0") (As per Arch. Drawing)
• Door Type	=	35 x 35 x 5 mm thick MS angle Chowkhat with 30 mm thick Non decorative Flush door shutter along with 300 mm Aluminium Sliding door bolt, 250 mm & 150 mm Aluminium Tower bolt, Aluminium door stopper and 125 mm Aluminium Handle.
• Windows	=	1500 x 1500 mm (5'0" x 5'0") (As per Arch. Drawing)
• Windows Type	=	2 Track Power coated Aluminium glazed windows with MS Grill.
• Painting	=	Interior wall finished with 2 mm putty & oil bound Distemper, Exterior Walls finished with 2 mm putty & Smooth Acrylic Exterior paint with a coat of Primer. Door, Windows & Grill Painting with Synthetic Enamel paint with coat of Primer.
• Plaster Work	=	Inner, Outer & Ceiling (All constructed Area)
• Flooring	=	Kota Stone Flooring in Lab, Staircase and Verandah.
• Electrification	=	All point Wiring (Modular) + Power Plug + Fan & Light Fixture (Drawing Summitted by Agency)
• Water Supply	=	Water Supply on Lab Table (Drawing Summitted by Agency)
• Furniture	=	Details Attached.

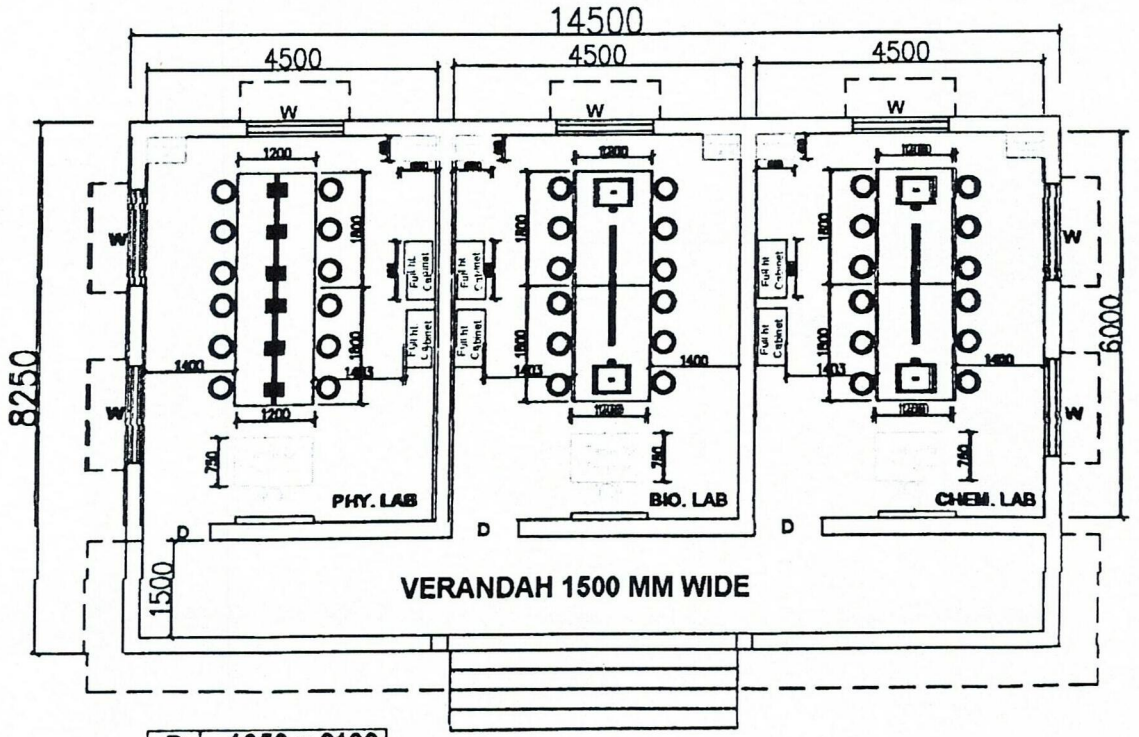
Note :- **All Working Drawing for Civil, Electrification, water supply & Structural Drawing summitted by Agency is being approved by BEPC. After approval of All Working Drawing for Civil, Electrification, water supply & Structural Drawing, the work will commence by Agency.**



D	1050 x 2100
W	1500 x 1500

Case -01 (If all 03 Lab constructed on Ground Floor / First Floor along with 1500 wide Verandah)

Area = 119.63 Sqm Or 1287 Sqft



D	1050 x 2100
W	1500 x 1500

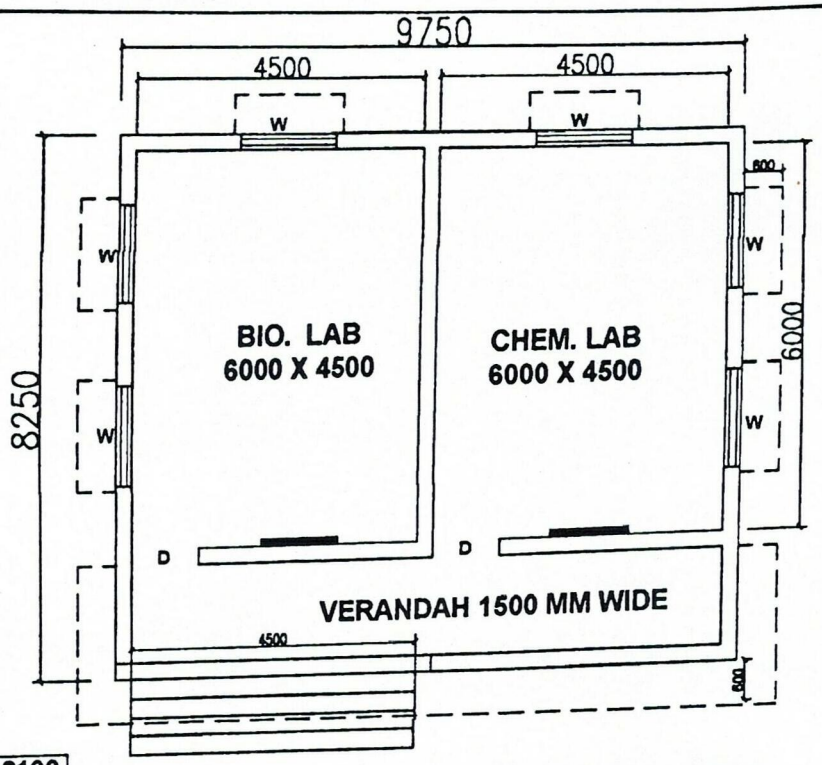
Case -01 (If all 03 Lab constructed on Ground Floor / First Floor along with 1500 wide Verandah)

FURNITURE LAYOUT

2. **Case -02 (If 02 Lab (Chem & Bio) (15'0" X 20'0") constructed on Ground Floor/First Floor along with 1500 mm (5'0") wide Verandah)**

• Constructed Area	=	80.44 Sqm Or 866 Sqft (Plan Attached)
• Type of Structure	=	Load Bearing Structure
• Size of Lab	=	4500 x 6000 mm (15'0" X 20'0")
• Width of Verandah	=	1500 mm (5'0") wide
• Foundation & Plinth	=	As per Drawing (Drawing Summitted by Agency)
• Super- structure	=	As per Drawing (Drawing Summitted by Agency)
• Plinth Height	=	Min 900 mm (3'0") or as per site condition.
• Ceiling Height	=	3000 mm (10'0")
• Walls	=	All walls 250 mm (10") thick
• Door	=	1050 x 2100 mm (3'6" x 7'0") (As per Arch. Drawing)
• Door Type	=	35 x 35 x 5 mm thick MS angle Chowkhat with 30 mm thick Non decorative Flush door shutter along with 300 mm Aluminium Sliding door bolt, 250 mm & 150 mm Aluminium Tower bolt, Aluminium door stopper and 125 mm Aluminium Handle.
• Windows	=	1500 x 1500 mm (5'0" x 5'0") (As per Arch. Drawing)
• Windows Type	=	2 Track Power coated Aluminium glazed windows with MS Grill.
• Painting	=	Interior wall finished with 2 mm putty & oil bound Distemper, Exterior Walls finished with 2 mm putty & Smooth Acrylic Exterior paint with a coat of Primer. Door, Windows & Grill Painting with Synthetic Enamel paint with coat of Primer.
• Plaster Work	=	Inner, Outer & Ceiling (All constructed Area)
• Flooring	=	Kota Stone Flooring in Lab, Staircase and Verandah.
• Electrification	=	All point Wiring (Modular) + Power Plug + Fan & Light Fixture (Drawing Summitted by Agency)
• Water Supply	=	Water Supply on Lab Table (Drawing Summitted by Agency)
• Furniture	=	Details Attached.

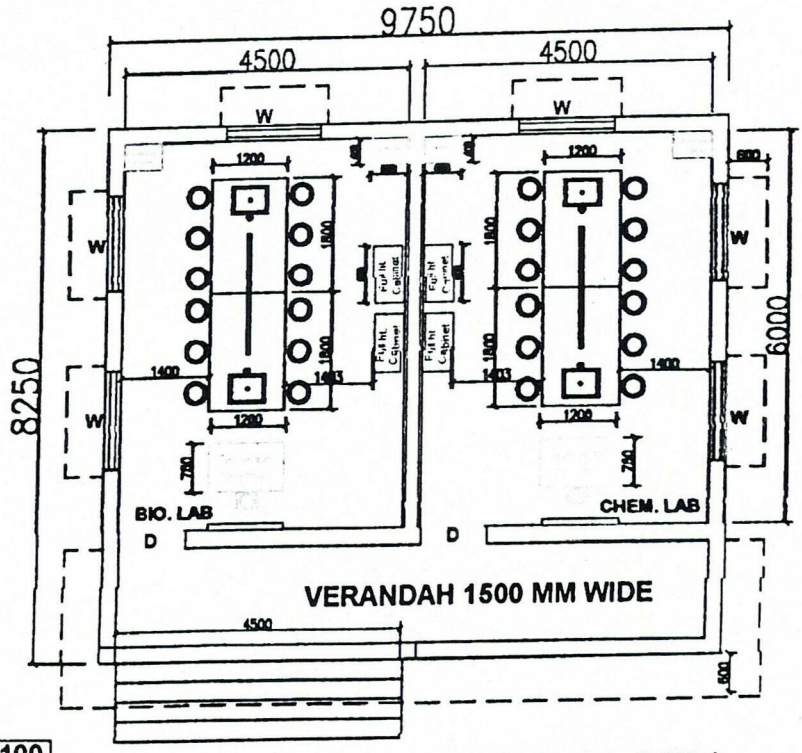
Note :- **All Working Drawing for Civil, Electrification, water supply & Structural Drawing summitted by Agency is being approved by BEPC. After approval of All Working Drawing for Civil, Electrification, water supply & Structural Drawing, the work will commence by Agency.**



D	1050 x 2100
W	1500 x 1500

Case -02 (If 02 Lab (Chem. & Bio) constructed on Ground Floor / First Floor along with 1500 wide Verandah)

Area = 80.44 Sqm Or 866 Sqft



D	1050 x 2100
W	1500 x 1500

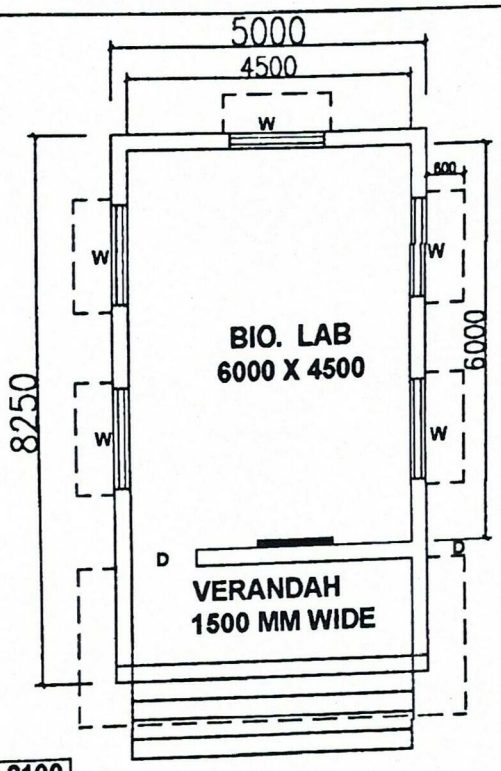
Case -02 (If 02 Lab (Chem. & Bio) constructed on Ground Floor / First Floor along with 1500 wide Verandah)

FURNITURE LAYOUT

3. **Case -03 (If 01 Lab (Bio) (15'0" X 20'0") constructed on Ground Floor/First Floor along with 1500 mm (5'0") wide Verandah)**

• Constructed Area	=	41.25 Sqm Or 444 Sqft (Plan Attached)
• Type of Structure	=	Load Bearing Structure
• Size of Lab	=	4500 x 6000 mm (15'0" X 20'0")
• Width of Verandah	=	1500 mm (5'0") wide
• Foundation & Plinth	=	As per Drawing (Drawing Summitted by Agency)
• Super- structure	=	As per Drawing (Drawing Summitted by Agency)
• Plinth Height	=	Min 900 mm (3'0") or as per site condition.
• Ceiling Height	=	3000 mm (10'0")
• Walls	=	All walls 250 mm (10") thick
• Door	=	1050 x 2100 mm (3'6" x 7'0") (As per Arch. Drawing)
• Door Type	=	35 x 35 x 5 mm thick MS angle Chowkhat with 30 mm thick Non decorative Flush door shutter along with 300 mm Aluminium Sliding door bolt, 250 mm & 150 mm Aluminium Tower bolt, Aluminium door stopper and 125 mm Aluminium Handle.
• Windows	=	1500 x 1500 mm (5'0" x 5'0") (As per Arch. Drawing)
• Windows Type	=	2 Track Power coated Aluminium glazed windows with MS Grill.
• Painting	=	Interior wall finished with 2 mm putty & oil bound Distemper, Exterior Walls finished with 2 mm putty & Smooth Acrylic Exterior paint with a coat of Primer. Door, Windows & Grill Painting with Synthetic Enamel paint with coat of Primer.
• Plaster Work	=	Inner, Outer & Ceiling (All constructed Area)
• Flooring	=	Kota Stone Flooring in Lab, Staircase and Verandah.
• Electrification	=	All point Wiring (Modular) + Power Plug + Fan & Light Fixture (Drawing Summitted by Agency)
• Water Supply	=	Water Supply on Lab Table (Drawing Summitted by Agency)
• Furniture	=	Details Attached.

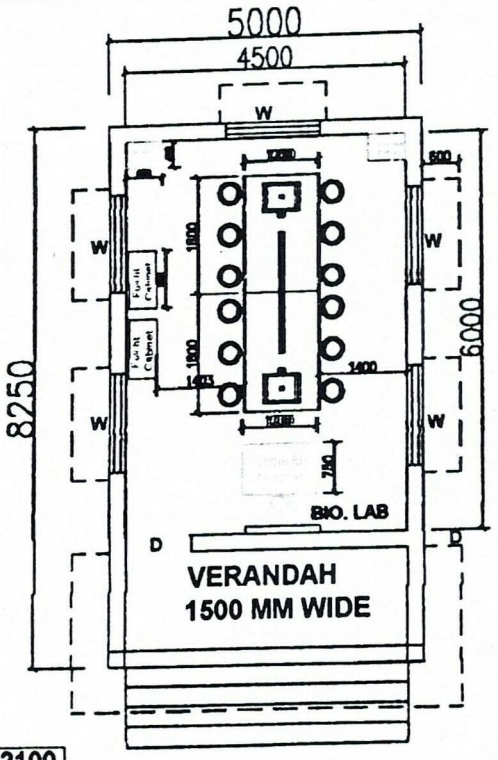
Note :- **All Working Drawing for Civil, Electrification, water supply & Structural Drawing summitted by Agency is being approved by BEPC. After approval of All Working Drawing for Civil, Electrification, water supply & Structural Drawing, the work will commence by Agency.**



D	1050 x 2100
W	1500 x 1500

Case -03 (If 01 Lab (Bio.) constructed on Ground Floor / First Floor along with 1500 wide Verandah)

Area = 41.25 Sqm Or 444 Sqft



D	1050 x 2100
W	1500 x 1500

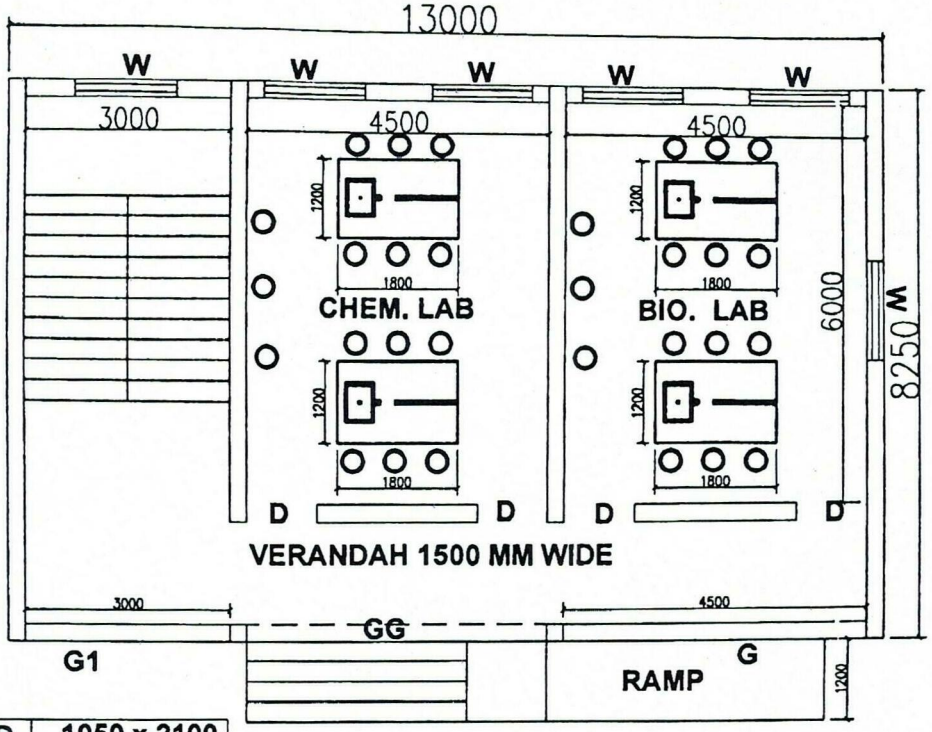
Case -03 (If 01 Lab (Bio.) constructed on Ground Floor / First Floor along with 1500 wide Verandah)

FURNITURE LAYOUT

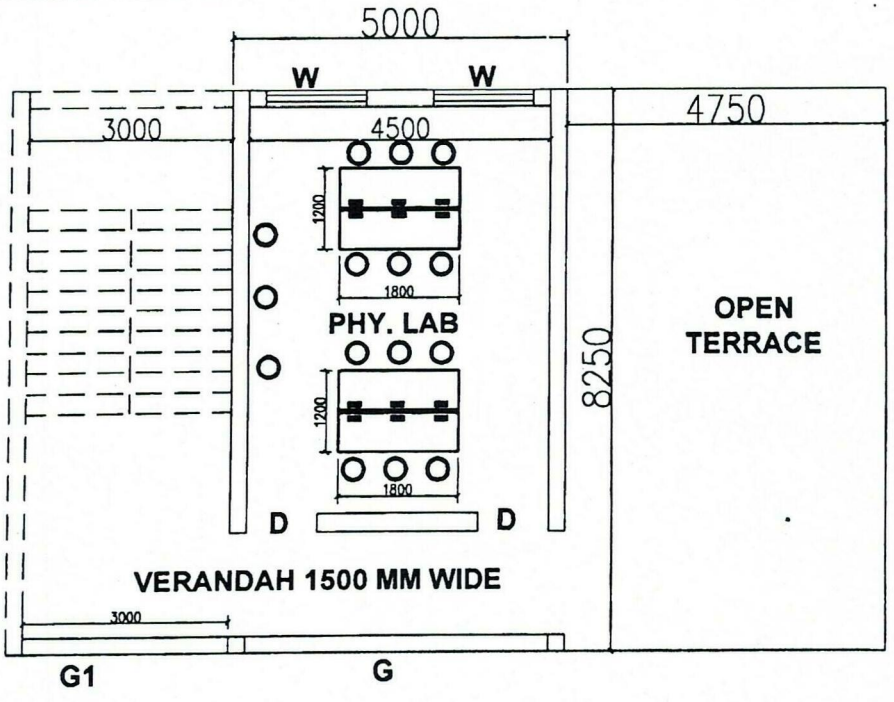
4. **Case -04 (If 02 Lab (15'0" X 20'0") constructed on Ground Floor + 01 Lab (15'0" X 20'0") constructed on First Floor along with 1500 mm (5'0") wide Verandah & 3000 mm (10'0") Staircase)**

• Constructed Area	=	148.50 Sqm Or 1598 Sqft (Plan Attached)
• Type of Structure	=	Load Bearing Structure
• Size of Lab	=	4500 x 6000 mm (15'0" X 20'0")
• Width of Verandah	=	1500 mm (5'0") wide
• Width of Stair case	=	3000 mm (10'0") wide (Railing – Stainless Steel)
• Super- structure	=	As per Vetted Drawing (Drawing Summitted by Agency)
• Ceiling Height	=	3000 mm (10'0")
• Walls	=	All walls 250 mm (10") thick
• Door	=	1050 x 2100 mm (3'6" x 7'0") (As per Arch. Drawing)
• Door Type	=	63 x 125 mm thick WPC Chowkhat + 35 mm thick Non decorative Flush door shutter along with 300 mm SS Sliding door bolt, 250 mm & 150 mm Tower bolt, SS door stopper and 125 mm SS Handle.
• Windows	=	1500 x 1500 mm (5'0" x 5'0") (As per Arch. Drawing)
• Windows Type	=	2 Track Power coated Aluminium glazed windows with MS Grill.
• Painting	=	Interior wall finished with 2 mm putty & oil bound Distemper, Exterior Walls finished with 2 mm putty & Smooth Acrylic Exterior paint with a coat of Primer. Door, Windows & Grill Painting with Synthetic Enamel paint with coat of Primer.
• Plaster Work	=	Inner, Outer & Ceiling (All constructed Area)
• Flooring	=	Kota Stone Flooring in Lab, Staircase and Verandah.
• Parapet	=	300 mm (1'0") High brick work at top and Plaster.
• Waterproofing	=	52 mm Thick Cement concrete flooring.
• Grilling work	=	MS Grilling on Verandah (As per Arch. Drawing)
• Electrification	=	All point Wiring (Modular) + Power Plug + Fan & Light Fixture (Drawing Summitted by Agency)
• Water Supply	=	Water Supply on Lab Table (Drawing Summitted by Agency)
• Furniture	=	Details Attached.
• Ramp & Front Entrance	=	As per Arch. Drawing

Note :- All Working Drawing for Civil, Electrification, water supply & vetted Structural Drawing summitted by Agency is being approved by BEPC. After approval of All Working Drawing for Civil, Electrification, water supply & vetted Structural Drawing, the work will commence by Agency.



D	1050 x 2100
W	1500 x 1500
G	4500 x 1500
G1	3000 x 1500
GG	4500 x 2100



Case -04 (If 02 Lab constructed on Ground Floor + 01 Lab constructed on First Floor along with 1800 mm wide Verandah & 3000 mm Staircase)

FURNITURE LAYOUT