SHREE RAM DEGREE COLLEGE, RAMPUR, DIST- SUBARNAPUR

ODISHA-767045

Request for Proposal (RfP)

to select supplier for supply of Non-Civil Items to be Procured under Odisha Higher Education Program for Excellence & Equity (OHEPEE)

At

SHREE RAM DEGREE COLLEGE, RAMPUR

RfP No. 29042303/OHEPEE/ 2023-24/01

Date.- 23.06.2024

Issued by;

PRINCIPAL

SHREE RAM DEGREE COLLEGE, RAMPUR,

767045

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SECTION1: SCHEDULE OF RFP

Sl No	Particulars	Details
01	RfP No	29042303/OHEPEE/ 2023-24/01
02	Date of Issue of RfP	23.06.2024
03	Name of the RfP issuer (Principal)	Principal, Shree Ram Degree College, Rampur, 767045
04	Scope of work	Supply of Non – Civil Items under Odisha Higher Education programme for Excellence & Equity (OHEPEE) Grant
05	Method of selection	Least cost selection method
06	Deadline for submission of pre-proposal query	15.07.2024 (4.00 PM)
07	Pre-Proposal meeting (online/offline)	16.07.2024
08	Issue of pre-Proposal clarifications (if any)	16.07.2024
09	Last date for submission of proposals	23.07.2024 (4.00 PM)*
10	Date of opening of Technical Proposals	24.07.2024 (2.00 PM)
11	Date of opening Financial Proposals	24.07.2024
12	Tender Fees (Non-Refundable)	Rs.1,000/-
13	Earnest Money Deposit (EMD): Refundable for unsuccessful Firms	2% of Estimated Cost
14	Performance Security (to be submitted by the L1firm only)	4% of the L1 estimated Value
15	Address/Venue for Submission/ Opening of Suchproposals	Office of the Principal, Shree Ram Degree College, Rampur

* N.B: Minimum 21 days from the date of upload on website or from the date of publication of Tender Notice on Newspapers, whichever is later.

SECTION 2: NOTICE OF INVITATION

OFFICE OF THE PRINCIPAL, SHREE RAM DEGREE COLLEGE, RAMPUR,
DIST-SUBARNAPUR, ODISHA- 767045
Mobile No.-7077519350/9938163373

The Principal of Shree Ram Degree College, Rampur, hereby invites proposals from reputed eligible firms to select suppliers for supply of Books, Experimental Tables, Stools and Equipment for Physics and Chemistry Lab, Computer Desks and Chairs, Desktop Computers, Inverter with Batteries, Air Conditioners, CCTV Camera & Monitor for the newly constructed Academic Building under OHEPEE.

1. Firm will be selected under "least coast selection" method as per criteria mentioned in the RfP document.
2. The proposal must be complete in all respect as specified in the RfP document and must be accompanied with the required financial instruments as specified in the RfP.
3. The EMD and Tender Fees should be submitted in the form of a Demand Draft in favour of Principal, Shree Ram Degree College, Rampur, drawn in any scheduled commercial Bank, without which the proposal will be rejected.
4. Performance Security is to be submitted after issuing of LoI to the L1 Bidder.
5. The proposals will be opened in the presence of the designated/authorized representatives of the interested firms on the scheduled date and time at the specified address as mentioned in the "schedule of RfP". The designated/Authorized representatives of the interested firm may attend the meeting with due authorization letter on behalf of their firms.
6. Interested firms may obtain the RfP document from the official website of the college **www.shreeramcollege.in** and submit their sealed proposal as per the instructions mentioned in the RfP document.
7. The interested firms must accept all technical/commercial terms & conditions mentioned in the RfP document.
8. The Principal, Shree Ram Degree College, Rampur, 767045 reserves the right to extend, accept or reject any or all the proposals without assigning any reasons thereof at any point without prior notice.

OFFICE OF THE PRINCIPAL, SHREE RAM DEGREE COLLEGE,
RAMPUR, DIST-SUBARNAPUR, ODISHA- 767045
Email-id. shreeramcollege.rampur@gmail.com
Website. www.shreeramcollege.in
Mobile No.-7077519350/8260056156/9938163373

RfP No.- 29042303/OHEPEE/2023-24/01

TENDER NOTICE

The Principal of Shree Ram Degree College, Rampur hereby invites proposals from reputed eligible firms to select suppliers for supply of Books, Experimental Tables, Stools and Equipment for Physics and Chemistry Lab, Computer Desks and Chairs, Desktop Computers, Inverter with Batteries, Air Conditioners, CCTV Camera & Monitor at the College premises. The interested firms may visit the College website **www.shreeramcollege.in** for details and download the request for proposal (RfP) documents, or visit the college office for detailed information. They are to submit their sealed proposal to the Principal by Speed/Registered Post as per the terms and conditions mentioned in the RfP documents, latest by 23.07.2024 (04.00 PM). The authority reserves the right to extend, accept or reject any or all the proposals without assigning any reasons thereof.

Sd /-
Principal, Shree Ram Degree College
Subarnapur

SECTION 3: SCOPE OF WORK

01. The Scope of Work must fulfill the requirements of the college like; supply of required number of items within the specific dateline e.g. within 15 days of issued of the "Supply Order".
02. The supplier must deliver & install the required items at College Campus and no further time should be allowed for supply of the required goods without any valid reason and without the approval of the Principal.
03. Once required numbers of items are supplied by the supplier at College Campus, the training and demonstration of the items supplied must be given by the supplier.
04. After installation, training and demonstration of the required items are finished; if any issue arises with the item then the Principal of the College should immediately report in writing to the suppler.
05. After all issues are resolved, the supplier will submit the invoice to the College & the College will initiate the payment process within 15 working days of installation of the required items/goods.

SECTION 4: INSTRUCTIONS TO INTERESTED FIRMS

1. PRE-QUALIFICATION CRITERIA

The participating firms must produce copies of all the required supportive documents/information as part of their proposal, failing which the same proposal shall be summarily rejected.

Sl. No	Basic Requirement	Specific Requirement	Supporting Documents Required
01	Legal Entity	Firm must be a Company as registered under the provisions of the Indian Companies Act. Or A Partnership Firm registered under the Indian PartnershipAct. Or A Limited Liability partnership registered under the Limited Liability Partnership Act. Or A Sole Proprietorship Firms	• Certificate of Incorporation/ Registration • Partnership Dead • GST Registration • PAN
02	Experience	Interested firms altogether musthave supplied goods as mentioned in the RfP at least once to any of the Offices/Colleges/ Universities.	Supply order copies
03	Turnover	During last three Financial years i.e. FY 2019-20, 2020-21, 2021-22 the average annual turnover of the interested firm should notbe less than 10% of the cost estimated by the College	• Audited balance sheet and "Profit & Loss Account" along with all schedules certified by a practicing Chartered Accountant • Acknowledgement of Income Tax returns
04	Tender Fees and EMD (EMD of unsuccessful firms will be returned immediately)	The interested firm should submit Tender Fees and EMD EMD value should be fixed by the College @2%of the total supply order value estimated bythe College	Demand Draft in favour of "Principal of the College".
05	EMD relaxation criteria	Firms registered under MSME are exempted from submitting the EMD	Bid security declaration and MSME/Start Ups proof

06	Performan ceSecurity	4% of the L1 value	Demand Draft from a scheduled commercial bank Or A fixed Deposit Or A Bank Guarantee pledged in the name of "Principal of the College.
07	Blacklist	The firm should not have been banned/blacklisted/ debarred/Suspended by the World Bank/ Central Govt. State Govt./ Central of State PSU Origination / Central or State Govt. Universities of Colleges	Self- Declaration from the Firm as per the prescribed format mentioned at "FORM T4"

2. VALIDITY OF THE PROPOSAL

- The proposal submitted by the interested firms will remain valid for one year.
- The selected firms must supply and install required number of goods as per the approved rate and within 15 days of receipt of the" Supply order" from the College.
- Deviation from this may lead to disengagement of the selected firm and firm secured L2position may be invited to supply the goods as per the terms and conditions of the RfP.

3. PRE-PROPOSAL QUERIES/MEETING

- Firms may submit their queries (if any) for pre-proposal meeting in respect of the RfP, to the Principal, College name only through e-mail at <**shreeramcollege.rampur@gmail.com**> within the stipulated date & time mentioned in the RfP documents**.**
- Clarification to the above will be hosted in the official website of College, after the pre-proposal meeting, as per the schedule mentioned in the RfP document.
- The pre-proposal query meeting may be conducted either in online or physical mode.

4. SUBMISSION OF PROPOSALS

- Interested firms are advised to study carefully all instructions, forms, terms & conditions and other important information mentioned in the RFP document.
- Each page should be signed with official seal of the authorized person.
- The proposal must be complete in all respect, properly indexed and hard bound.
- A sealed Master Envelope bearing the name, address, phone numbers and email id of firm along with the RfP name & number should contain two separate sealed envelopes i.e.
    1) **Technical Proposal**
    2) **Financial proposal**

- **The sealed "Technical Proposal" must contain the required supporting documents as per the sequence mentioned below:**
  - ✓ Tender Fees (Non-Refundable) and EMD through Demand Draft

  a) However, Micro, Small & Medium Enterprises registered with MSME/ NSIC with valid category wise certificate, duly issued by Government of India are exempted for submitting the EMD on the condition that they must have the valid & category wise valid registration certificate on the date of opening of tender.

  b) EMD deposited by the unsuccessful firms will be returned immediately.

  c) EMD deposited by the selected firm will be returned after submission of "Performance Security".

  - ✓ FORM T1: Technical Proposal Submission Form.
  - ✓ FROM T 2: Organization details along with.
    - Copy of Certificate of Incorporation/Registration
    - Copy of PAN
    - Copy of Goods and Services Tax Identification Number (GSTIN)
  - ✓ FROM T3: Experience Details.
  - ✓ FROM T4: Self declaration from the firm confirming not have been banned/blacklisted/debarred/suspended.
  - ✓ FROM T5: Technical Specifications Compliance Sheet.
  - ✓ From T6: Financial Turnover Details along with.
    - Copies of audited balance sheet, profit & loss account and all schedulescertified by the Chartered Accountant.
    - Copies of IT return for the last three Financial Years 2021-22, 2022-23, 2023-24.
    - FORM F1: Financial Proposal Submission Form.
- **The sealed "Financial Proposal" must contain;**
  - The prices and other information having a bearing on the price shall be written both in figures and words in the prescribed form.
  - No alternation/modification/overwriting/ corrections in the format shall be accepted.
- The sealed proposal must be delivered at the specified address as per the "Schedule of RfP" through Speed Post/ Registered Post/ Courier only. The Principal shall not be responsible for postal delay or delay due to any unforeseen situation. Submissionof Proposal through any other mode will not be accepted.

5. OPENING OF PROPOSALS.

- Sealed envelopes containing the proposal will be opened by the Principal in presence of the Firm/their representatives at the location, date and time specified in the RfP document.
- Only one representative with proper authorization letter from the participating firmwill be allowed to attend the tender opening meeting.

6. DISQUALIFICATION /REJECTION OF PROPOSAL

The proposal is liable to be disqualified in the following cases as listed below.

- Proposals not conforming to the eligibility criteria and not submitting the required documents as mentioned in the RfP.
- Submission of forged documents.
- Proposal submitted without Tender Fees (Applicable to all) and EMD (exempted for MSME).
- Proposal not submitted in accordance with the procedure and formats as prescribed in the RfP.
- Proposals received in incomplete form.
- Proposal received after due date and time.
- Proposal which is not accompanied by all the required documents/ information.
- Firm lying to influence the proposal evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process.
- Price quoting in any irrelevant papers, documents, presentation etc. except"Financial Proposal".
- If in case of a firm or any person acting on its behalf indulges in corrupt/fraudulent practices.
- Any other condition/situation which holds the paramount interest of thePRINCIPAL during the overall selection process.
- The Principal reserves the right to cancel any/all of the proposals received at anypoint of time with/without assigning any reason thereof.

7. EVALUATION OF PROPOSALS

A two stage process will be adopted as explained below for evaluation of the proposals.

A. Technical Evaluation

- Technical evaluation of the proposals will be done to determine whether the proposal complies with the prescribed eligibility conditions and the requisite documents/ information/Financial instruments have been properly furnished by the firm.
- Technical compliance as submitted along with the proposal will be done to determine whether the Brand & model, proposed by the interested firm consists of all required minimum specifications as mentioned at "Form T5" the RfP documents.

B. Financial Evaluation

- The financial proposals of the technically qualified firms only shall be opened at this stage in the presence of the technically qualified firm/their authorised representative on the scheduled date and time as mentioned in the RfP document.
- "Least Cost Selection Method" will followed.
- The firm who submits the lowest financial price proposal shall be declared as the "L1" bidder and shall be communicated for further process through the issue of "Supply Order".

8. AWARD OF CONTRACT

- The L 1 bidder will be notified by the Principal in writing by issuing a "letter of Indent" and will be asked to acknowledge the "letter of Indent (LoI)" and to submit the "Performance Security" within 15 days of issuance of the LoI".
- The "Performance Security" is unconditional and irrevocable.
- Performance security amount in mentioned at para 1 of "Section 4" and the Performance Security must remain valid till warranty period of the goods.
- After receiving the acknowledgement of LoI along with the "Performance Security". The Principal will issue the "Supply Order to the selected firm" for their requirement as specified in the RfP document.
- After issue of "LoI" or after receipt of the acknowledged "LoI", if due to any reasons the L1 bidder withdraws its willingness to supply the required goods then the EMD//Performance Security deposited by the same firm will be forfeited by the Principal and firm securing the L2 position in the financial bid will be awarded with contact, after submission of the required Performance Security amount & EMD.

- Once the supply Order is issued by the college, the concerned firm must supply and install the required number of items within 15 days from the date of issue of the supply order. No further time will be allowed without any valid reason and without prior approval of the same from the Principal.

9. GENERAL TERMS & CONDITIONS

- Conflict of interest exists in the event of:
  - Firms who have a business or family relation with the Principal, directly or indirectly
  - Practices prohibited under the anti-corruption policy of the Government of India and Government of Odisha. The interested firms are to be careful so as not to give rise to a situation where will be any conflict of interest with the Principal as this would amount to their disqualification and breach of contract.
- **Disclosure:**
  - Firm has an obligation to disclose any actual of potential conflict of interest. Failure to do so will lead to disqualification of the bidder or termination of its contract.
  - Firm must disclosure if they are or have been the subject of any proceedings (such as blacklisting) or other arrangements relating to bankruptcy, insolvency of the financial standing of the firm, including but not limited to appointment of any officer such as a receiver in relation to the firms personal or business matters or an arrangement with creditors, or of any other similar proceedings.
  - Firm must disclose if they have been convicted of, or are the subject of any proceedings relating to:
    - ✓ A criminal offence or other serious offence punishable under the law of the land, or where they have been found by any regulator of professional body to have committed professional misconduct.
    - ✓ Corruption including the offer or receipt of an inducement of any kind in relation to obtaining any contract.
    - ✓ Failure to fulfill any obligations in any jurisdiction relating to the payment of taxes or social security contributions.

- **Anti-Corruption Measure:**
  - Any effort by firm(s) to influence the Principal in the evaluation and ranking of financial proposals, and recommendation for award of contract, will result in the rejection of the Principal.
  - A recommendation for award of conflict shall be rejected if it is determined that the recommended firm has directly, or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract in question. In such cases, the Principal shall reject the proposal and disqualify it from participating in any related RfP Process.
- **Force Majeure:**
  - "Force Majeure" means an event beyond the control of the selected firm and not involving the selected firms" fault or negligence and not foreseeable.
  - Such events may include wars or revolutions, files, floods, riots, civil commotion, earthquake, epidemics or other natural disasters and restriction imposed by the Government or other bodies, which are beyond the control of the selected firm.
  - If a Force Majeure situation arises, the selected firm shall promptly notify Principal in writing of such condition, the cause and the change that is necessitated due too that prevailing condition. Until and unless otherwise directed by the Principal in writing the selected firm shall continue to perform its obligations as per the RfP terms & conditions as far as possible and shall seek all reasonable alternative means for delivering performance not prevented by the Force Majeure event.
  - The selected firm shall inform the Principal in writing. The beginning and the end of the above causes of delay, within seven days of the occurrence and cessation of the Force Majeure condition. In the event of a delay lasting for more than one month, if arising out of causes of Force majeure, Principal reserves the right to cancel the contract without any obligation to compensate the selected firm in any manner for what so over reason.
  - The Principal and the selected firm shall make every effort to resolve amicably, by direct negotiation, any disagreements or dispute arising between them under or arising from or in connection with the contract.

- **Governing Laws:**
    - Any unjustified and unacceptable delay in delivery shall render the selected firm liable for liquidated damages and thereafter the Principal holds the option for cancellation of the contract for pending activities and completes the same through any other firm(s) who participated in the RfP process by awarding the same contract to L2 bidder in the financial bid.
    - In such case of premature cancellation, the contract the Principal reserves the right to withhold the Performance Security.
    - The rights and obligations of the Principal and the selected firm under this contract will be governed by the prevailing laws of Government of India and Government of Odisha only.
    - All legal disputes are subject to the jurisdiction of the Orissa High court, Cuttack.

SECTION 5: FORM

FORMT T 1: TECHNICAL PROPOSAL SUBMISSION FORM

To

The Principal,
SHREE RAM DEGREE COLLEGE,
RAMPUR, Dist-Subarnapur
Odisha,
Pin No.-767045

Sub: - Submission of technical proposal to select supplier for ……..
…….. at the College.

Ref: - RfP No 29042303/OHEPEE/2023-24/01 & Date: 23.06.2024

Dear Sir,

I, the undersigned offer to participate in the selection process to select supplier for …….. at the College, in accordance with your RfP No 29042303/OHEPEE/2023-24/01

I am hereby submitting Technical Proposal, which includes Tender Fees, EMD, Technical Proposal and Financial Proposal sealed in two separate envelopes. I hereby declare that all the information and statement made in the technical and financial proposals are true and correct. I accept that any misinterpretation contained in it may lead to disqualification of my proposal.

I hereby unconditionally undertake to accept all the terms and Conditions as stipulated in the RfP documents. In case any provision of this RfP are found violated, then your college shall without prejudice to any other right or remedy be at libertyto reject our proposal including forfeiture of the full said EMD absolutely.

Yours faithfully,

Authorized Signatory of the Firm
with date and seal

FORM T 2: ORGANISATION'S DETAILS

Sl No	Particular	Details
1	Name of the Firm	
2	Type of Firm (Proprietary/Partnership) Pvt.Ltd/ Public Ltd/ Sole Proprietorship	
3	Date of Establishment and Experience in business (in number of years)	
4	Registered Office Address & Complete Postal Address	
5	Local Office in Odisha (along with address & contact details)	
6	Telephone & e-mail id of authorized person	
7	G.S.T. Registration No.	
8	PAN No.	
9	Willing to carry out assignments as per the scope of work of the RfP (Yes/No)	
10	Willing to accept all the terms and conditions as specified in the RfP (Yes/No)	

Yours faithfully,

Authorized Signatory of the firm
with date and seal

FORM T 3: EXPERIENCE DETAILS

Sl No	Name of the University/College/ Department/Office to whom materials supplied	Quantity of Materials Supplied	Date of Receipt work Order with reference number	Date of supply of goods/items	Remarks if any

Yours faithfully,

Authorized Signatory of the firm
with date and seal

FORM T 4: SELF DECLARATION FOR NOT BLACK LISTED

To

The Principal
College Name,
College Address,

Sub: - Self-declaration for not black listed.

RfP No -29042303/OHEPEE/2023-24/01 , Date : 23.06.2024

Sir,

I/We …….. hereby confirm that our firm has not been banned/ blacklisted/ debarred/suspended by the World Bank/Central Govt/State Govt/ Central or State PSU Origination / Central of State Govt. Universities or Colleges.

Yours faithfully,

Authorized Signatory of the firm
with date and seal

FORM T 5: MINIMUM REQUIRED SPECIFICATIONS COMPLIANCE SHEET

Interested firm (s) must confirm that the material and specification they are proposing to supply is satisfying the below mentioned minimum required technical specifications

Deviations (if any) from the below mentioned minimum required technical specification, must be clearly indicated by the interested firm(s).

SL No	Goods/ Services to be procured	Detailed Specification	Quantity	Compliance (Yes/No)	Deviations
1.	Lab Equipment for Chemistry & Physics Lab.	As per CBCS Syllabus The details provided in Annexure 1 and 2			
2.	Experimental Tables with Sinks and Shelves for Chemistry Lab	Material: Galvanized Iron with epoxy powder coating, Table Top: Granite Size: L x W x H: 12' x 6' x 3.5'	02 Nos		
3.	Experimental Tables for keeping electronic instruments for Physics and Chemistry Lab	Material: Galvanized Iron with epoxy powder coating with switch boards Table Top: Granite Size : 6' x 4'	02 Nos.		
4. .	Stool For Laboratories	Material: Steel	64 Nos.		
5.	Desktop Computers for Computer Lab	Processor: 12th Generation Intel Core i3 Memory: 8 GB RAM, 512 GB SSD, Wired Keyboard+ Mouse Monitor- 19.5'' Warranty: 3 Years (Onsite) OS: Windows 11 **(Genuine HP/DELL brands most preferable and assembling of parts is strictly prohibited)**	33 Nos.		
6.	Computer Table for Computer Lab	With CPU Compartment , Built-in Keyboard Tray, Privacy Shields and Dividers ,Pre assembled, MDF Board, Size : WxHxD = 92 cm x 76 cm x 46cm	33 Nos.		
7. .	Chairs for Computer Lab	Adjustable Seat Height, wheel, arm rest, swivel, Ergonomic Chair Size : W x H = 59cm x 92.5 cm	33 Nos.		
8.	Inverter with Battery	Inverter: 5.5 KVA, 72 V Battery- 220 AH	Inverter: 1 No. Battery: 6 Nos.		
9.	Air Conditioner for Computer Lab	Capacity: 2 Tons 5 Star Split AC	02 Nos.		
10.	CCTV for Academic Building	Monitor:32 " Camera: 2 MP Hard Disk: 6TB Connector with accessories	Monitor: 1 No. Camera: 20 Nos. Hard Disk-01 CC TV Cable-3 Bundle 2U rack-4 4U rack -1		
11.	Books for Library	Textbooks/Reference Books as per CBCS Syllabus	As Per CBCS Syllabus for the Departments		

			mentioned in Annexure 3		

Yours faithfully,

Authorised Signatory of the firm
with date and seal

FROM T 6: FINANCIAL TURNOVER DETAILS

Financial Turnover of the Organization during Last Three Financial years (certifiedby a Practicing Chartered Accountant)

Sl No	Financial Year	Turnover in INR
01	2021-2022	
02	2022-2023	
03	2023-2024	
Average Annual turnover for the last three years (INR)		

Name of the C.A Firm:

Firm registration No:

Name of the Chartered Accountant:

Membership No:

Signature with seal

Yours faithfully,

Authorised Signatory of the firm
with date and seal

FORM F 1: FINANCIAL PROPOSALS SUBMISSION FORM

To

The Principal
SHREE RAM DEGREE COLLEGE, RAMPUR,
767045Dist: Subarnapur, Odisha

Sub: - Submission of financial proposal to select supplier for "supply of ……..
……..."at the college.

Ref: RfP No29042303/OHEPEE/2023-24/01 & Date: 23.06.2024

Dear Sir,

I, the undersigned, hereby submitting the financial proposal to select supplier for "supply of ……" at the college in accordance of RfP No 29042303/OHEPEE/2023-24/01.

I, hereby declare that all the financial figures mentioned in the financial proposal is true and correct. I also accept that any misrepresentation of financial facts and figures may lead to disqualification of my proposal.

Sl No.	Name of the Items with Specifications	Quantities of Items	Unit Price	Total Price(inclusive of GST and other charges*)	Remarks
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

The other charges (*) may include:

1. All necessary accessories like cables, wires, pipes, etc. which are instrumental for installation.
2. The transportation/material handling coast foe delivering and installing the required numbers of materials at the college premises.

Yours faithfully,

Place and Date

Authorised Signatory of the firm
with date and seal

SECTION 6:

(Standard Supply Order of the College)

To

The (Name of the selected firm)

Address of the selected firm

Sub: Supply and Installation of ……

Sir,

The Following Items may be supplied to our college and installed within 15 days of the issue of this supply order with reference to RfP No 29042303/OHEPEE/2023-24/01. The firms have to bear the transportation and installation charges if any.

Sl No	Name of the Items	Number of Items	Remarks
01			
02			

Yours Sincerely,

Principal
Shree Ram College, Rampur

SECTION 7
(Certificate of willingness to be submitted by all firms)

To

The Principal
Shree Ram Degree College,
Rampur, Dist-SubarnapurOdisha,
767045

Sub:- Submission of willingness certificate for supply & installation of ……
……
……..at your College premises.

Sir,

I am to inform you that my firm…… is hereby to supply & install……
……
……
…… Within 15 days of receipt of work order from the College selected under OHEPEE, if my firmis elected as L1, bidder during selection of tender.

In the event of my firm's failure to supply & install the required items in theselected L1 cost, my EMD/ performance security will be forfeited.

Yours faithfully,

Place and Date

Authorised Signatory of the firm
with date and seal

Section-8 : Model Bank Guarantee Format For Performance Security

ANNEXURE-D
[Rule 213 (ii)]

Model Bank Guarantee Format for Performance Security

To

The Governor of Odisha.

WHEREAS…… (name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no…… Dated …….. to supply …… (Description of goods and services) (Herein after called "the Contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of …… …….. (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before Presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the ….. day of ……., 20……

Our…… branch at ……..* (Name & Address of the ……..* branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our ……..* branch a written claim or demand and received by us at our ……..* branch on or before Dt……..otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

……..

(Signature of the authorized officer of the Bank)

……..

Name and designation of the officer

……..

……..

Seal, name & address of the Bank and address of the Branch

**** Preferably at the headquarters of the authority competent to sanction the expenditure for purchase of goods or at the concerned district headquarters or the State headquarters.***

Section-9
ANNEXURE 1

(Proposal Submission Check List)

Sl No	Description	Submitted (Yes/No)
1	Earnest Money Deposit (EMD)	
2	Copy of Certificate of Incorporation/ Registration	
3	Copy of Goods and Services tax Identification Number	
4	Copy of PAN	
5	CA audited copies of Profit & Loss Account and Balance Sheetalong with all schedules	
6	Copies of IT returns for the last three financial years	
7	Technical proposal Submission Form	
8	Organisation's Details	
9	Experience Details	
10	Self-declaration for not having been blacklist	
11	Technical Specifications compliance sheet	
12	Financial Turnover details	
13	Financial proposal Submission form	
14	Certificate of willingness to be submitted by all firms	

SECTION 10: TECHNICAL SPECIFICATION, QUANTITY AND ESTIMATED COST OF THE REQIRED ITEMS

SL No	Goods/ Services to be procured	Detailed Specification	Quantity	Estimated Cost (inclusive of GST ,installation and transportation charges)
1	Lab Equipment for Chemistry & Physics Lab.	As per CBCS Syllabus The details provided in Annexure I and II		Rs. 4,00,000/-
2	Experimental Tables with Sinks and Shelves for Chemistry Lab	Material: Galvanized Iron with epoxy powder coating, Table Top: Granite Size: L x W x H: 12' x 6' x 3.5'	02 Nos	Rs. 1,90,000/-
3	Experimental Tables for keeping electronic instruments for Physics and Chemistry Lab	Material: Galvanized Iron with epoxy powder coating with switch boards Table Top: Granite Size : 6' x 4'	02 Nos.	Rs. 1,20,000/-
4.	Stool For Laboratories	Material: Steel	64 Nos.	Rs. 2,56,000/-
5	Desktop Computers for Computer Lab	Processor: 12th Generation Intel Core i3 Memory: 8 GB RAM, 512 GB SSD, Wired Keyboard+ Mouse Monitor- 19.5'' Warranty: 3 Years (Onsite) OS : Windows 11 **(Genuine HP/DELL brands most preferable and assembling of parts is strictly prohibited)**	33 Nos.	Rs. 16,50,000/-
6	Computer Table for Computer Lab	With CPU Compartment , Built-in Keyboard Tray, Privacy Shields and Dividers ,Pre assembled, MDF Board, Size : WxHxD = 92 cm x 76 cm x 46cm	33 Nos.	Rs. 2,00,000/-
7.	Chairs for Computer Lab	Adjustable Seat Height, wheel, arm rest, swivel, Ergonomic Chair Size : W x H = 59cm x 92.5 cm	33 Nos.	Rs. 1,10,000/-
8.	Inverter with Battery	Inverter: 5.5 KVA,72 V Battery- 220 AH	Inverter: 1 No. Battery: 6 Nos.	Rs. 1,50,000/-
9.	Air Conditioner for Computer Lab	Capacity: 2 Tons 5 Star Split AC	02 Nos.	Rs. 1,20,000/-
10.	CCTV for Academic Building	Monitor:32 " Camera: 2 MP Hard Disk: 6TB Connector with accessories	Monitor: 1 No. Camera: 20 Nos. Hard Disk-01 CC TV Cable-3 Bundle 2U rack-4 4U rack -1	Rs. 2,40,000/-
11.	Books for Library	Textbooks/Reference Books as per CBCS Syllabus	As Per CBCS Syllabus for the Departments mentioned in Annexure III	Rs. 3,00,000/-

Annexure -I

List of Lab Equipment for the Department of Chemistry:

Sl No	Equipment's	Quantity
1	Hot air Oven	1
2	Boling Point apparatus	1
3	Conductivity bridge	1
4	Stalagmometer	2
5	P^{H} Meter	1
6	Platinum electrode	2
7	Melting point apparatus	1
8	Burette Tarson	8
9	Bunsen burner	16
10	Analogue Professional Stopwatch	1
11	Kipps Apparatus	1
12	Barometer	1
13	Calorimeter	2
14	Reagent bottle 2.5 ltr	8
15	Beaker 100 ml	12
16	Weight machine	1
17	Chemistry model for demonstration	2

Annexure-II

List of Lab Equipment for the Department of Physics:

1. *Experiments Accessories Required:*

SI No	Name of Equipments	Unit
01	Cpilliary Tubes of different diameters for surface tension measurement	05
02	Spring Constant : Spring required only	01
03	Moment of Inertia of Flywheel : String required only	01
04	Refractive Index of Prism :Sodium Vapour Lamp Source required	01
05	Determination of Cauchy's Constant : Mercury Source Lamp	01
06	35 Watt Stabilizer	01
07	Frequency source for oscilloscope	01

2. *Experiments Required:*

SI No	Name of Equipment	Model No.	QNTY.
01	**Series & Parallel Resonance** (With Oscillator and A.F. Volt. & Ammeter): To study the following**:** 01 Series resonance for different values of resistance, capacitances, inductances and plotting of resonance curves**.** 02 Parallel resonance for different values of resistance, capacitances, inductances and plotting of resonance curves**.** 03 Measurement of Q for both series and parallel resonances**.** 04 Measurement of dielectric constant relative permittivity of a liquid**.** **FEATURES:** The board consists of the following built-in parts**:** 01 A.F. Voltmeter range 0 – 5V using 65mm DC rectangular meter. 02 A.F. Ammeter Dual range 0 – 1mA / 5mA using 65mm DC rectangular meter. 03 Sine wave oscillator 3KHz to 30KHz. Using Helical Potentiometer with 38mm calibrated Dial & Amplitude control Potentiometer. 04 Three inductances made on ferrite cores, selectable by a switch**.** 05 Three capacitances with low loss factor, selectable by a switch**.** 06 Three resistance, selectable by a switch**.** 07 Parallel plate condenser. 08 Adequate no**.** of patch cords stack able from rear both ends 4mm spring loaded plug length 50cm. 09 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms**.** 10 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.** 11 Weight: 1.700 Kg**.** (Approx**.**) 12 Dimension: W 340 x H 125 x D 210		1
02	**Desauty Bridge for comparing capacitances**: To study the working of a Desauty Bridge and to compare the capacitance of two capacitors. **Technical Specification:** The board consists of the following built-in parts: 01 ±12V D.C. at 100mA, IC regulated Power Supply internally connected. 02 Sine Wave Oscillator with Audio Amplifier Frequency 1KHz ±3% output 0 - 2V 03 3½ Digit digital null detector as a detection. 04 Two Decade Capacitors, each with single dial in steps of 0.1uF total 1uF, to form the other two arms of the bridge. 05 One Decade dial 100 Ohm total 1K, marked R1 & R2 06 Mains ON/OFF switch, Fuse and Jewel light. 07 The unit is operative on 230VAC ±10% at 50Hz. 08. Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.** 09. Weight: 1.600 Kg**.** (Approx**.**) 10. Dimension: W 340 x H 125 x D 210		1

03	**To verify Thevenin theorem & Norton theorem:** OBJECT: 01 Verification of Ohm's Law. 02 To draw the V-I characteristics for studying the D.C. behaviour of the following: 2.1 Ideal resistance. 2.2 Semiconductor diode. 2.3 Zener diode. 2.4 Thermistor (NTC Type). 03 To verify Kirchoff's current law and voltage law. 3.1 Kirchoff's current law 3.2 Kirchoff's voltage law 04 Verification of the series & parallel laws for resistance. 4.1 Series resistance 4.2 Parallel Resistance 05 Verification of Superposition Theorem. 06 Study of potential divider. 07 Verification of Maximum Power Transfer Theorem. 08 To verify Thevenin's Theorem and to find equivalent voltage source circuit. 09 To verify Norton's Theorem and to find equivalent current source circuit. 10 To verify the Reciprocity Theorem and to measure current in a branch containing voltage source after shifting it to some other branch. 11 To verify the Tellegen's Theorem. 12 To study the design of a multimeters. 12.1 Designing a DC current meter 12.2 Multi range DC current meter 12.3 Designing a DC voltmeter 12.4 Multi range DC voltmeter 12.5 Designing OHM's meter. FEATURES: The board consists of following built-in parts: 01 0-30V D.C. at 100 mA, continuously variable IC Regulated Power Supply. 02 +9V D.C. at 100mA, IC Regulated Power Supply. 03 +5V D.C. at 100mA, IC Regulated Power Supply. 04 D.C. Voltmeter, 65mm rectangular dial with switch selectable ranges of 0.5, 1.5, 25 & 50V. 05 D.C. Ammeter, 65mm rectangular dial with switch selectable ranges of 0.05, 0.5, 5, 50 & 100mA.		1
04	**Characteristics of Series of RC circuit:** Determination of Impedance of R.C. Circuits at Different Frequencies:. **FEATURES:** The board consists of the following built-in parts**:** 01 A**.**F**.** Milliammeter, 65 mm rectangular dial with switch selectable ranges of 0-5 mA and 0-25mA**.** 02 A**.**F**.** Voltmeter, 65 mm rectangular dial with switch selectable ranges of 0-1V and 0-10V**.** 03 Adequate no**.** of other electronic components**.** 04 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/observation of waveforms**.** 05 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.** 06 Weight: 2 Kg**.** (Approx**.**) 07 Dimension: W 340 x H 125 x D 210		1
05	**Newton's ring for measurement of wavelength of sodium light and the refractive index of liquid by using Newton's rings method:**. FEATURES: 01 This is a compact instrument containing all the necessary arrangements required for conducting the Newton's Ring experiment. A standard Microscope unit having 30X magnifications is provided with a rotable cross line, and the eye piece can be focused as per individual's requirement. The whole microscope tube unit can be raised or lowered and clamped at any desired position. The focusing of the microscope. unit is done by rack and pinion arrangement. The longitudial movement of the microscope saddle for the purpose of the rings is done by rotating the drum provided. The 26mm. movement can be read by scale & on the divided drum to 0.001cm. 02 Newton's Ring set consisting of one optical flat glass and one plano convex lens arranged inside a metal case resting over the stage of the instrument can be adjusted for the alignment of the measuring line. A reflector plate adjustable in the required direction is fitted on to the side of the set. The condenser lens is provided in front of the reflector. 03 Sodium light source: Sodium light source complete with sodium lamp 35 watts with vacuum jacket, Transformer & wooden Box having four holes with slide covers, one each on every side at different heights.		1

06	Determination of Mechanical Equivalent of Heat (J) By Electrical Method : The Set up consists of the following: 01 Aboard with following built-in parts: 1.1 D.C. Power Supply, 0-3V D.C. at 2 Amp (on load), continuously variable. 1.2 Digital Voltmeter DC 3½ Digit Having range of 20V. 1.3 Digital Current meter DC 3½ Digit Having range of 0-2A 1.4 Mains ON/OFF switch, Fuse and Jewel light. 1.5 The unit is operative on 230V ±10% at 50 Hz. A.C. Mains. 02 Thermometer 0-110°C 03 Joule's Calorimeter consisting of Copper Calorimeter fitted in teakwood polished case with bakelite top having holes for thermometer & stirrer, two terminals connected to a coil of wire. 04 Weight: 4.3 Kg. (Approx.) 05 Dimension: W 415 x H 165 x D 315. 06 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References. **With Digital Stop Clock** TYPE DSC-602 with START/STOP operation by means of toggle switch & RESET by a push button switch. It has a range of 999.9 seconds with resolution of 0.1 seconds and accuracy of ±0.01% (Quartz controlled). Display is thorough 4 no's of 12.5mm bright Seven Segment Displays and working voltage of the unit is 230V± 10% 50Hz. & a **Digital balance**.		1
07	**Coefficient of thermal conductivity by Lee & Charlton's Disc method:** **FEATURES:** The Complete Experimental Set-up consists of following items: 1 Lee's apparatus: - Lee's disc apparatus consist of a metallic disc resting on a 5 cm deep hollow cylinder (steam chamber) of same diameter. It has inlet and outlet tubes for steam. In addition, it has radial holes to insert thermometers (temperature sensor) 2 A circular disc of poor conductor (Cardboard, glass, plywood) 3 Boiler for generating steam. 4 Digital Multiple Temperature Meter: It shows Temperature in °C. It can measure the temperature of two different objects at a time. T1,T2 4.1 temperature: -50°C to 125°C 4.2 resolution temp.: 0.06°C 4.3 display: 16x2 LCD display 4.4 sensor type: Waterproof. 4.5 Temp.: 02 Nos. 4.6 Accuracy: ± 0.5°C 5 Digital Stop Clock with LCD display with resolution of 0.01 mills seconds. It has Start/Stop and Reset button with lap timer. 5.1 Start / Stop: operation by means of push button. 5.2 'Reset': by a push button. 5.3 Starting time: 00 . 00 . 00 5.4 Max. range: infinity 5.5 Resolution: 0.01 Ms 5.6 Display: 16x2 LCD 5.7 Accuracy: ± 0.001% . 6 Vernier calipers. 7 Screw gauge.		1
08	**Specific heat of liquid measurement by method of cooling**: It consists of two units each having a double walled joint less brass vessel richly nickel-plated Cooling Apparatus highly polished with non-conduction cover through which is suspended. A Copper calorimeter approximately size of 7.5 x 5 Cm. A second covering protects top of the calorimeter from dust & heat losses. The spaces between the double walled vessel are connected by T tubes which enable water at same temperature to be kept circulating through them. **02 THERMOMETER:** 110°C x ½. (2 nos.) **03 DIGITAL STOP CLOCK:** With Start/Stop operation by means of toggle switch & Reset by a push button switch. Type DSC-602 It has a range of 999.9 seconds with resolution of 0.1 seconds and accuracy of ±0.01% (Quartz controlled). Display is thorough 4 no's of 12.5mm bright Seven Segment Displays and working voltage of the unit is 230V± 10% 50Hz. 04 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.** With Digital balance.		1

09	Temperature Coefficient of resistance by Platinum Resistance Thermometer: . OBJECT 01. Determination of r The Resistance per Unit Length of a Carey Foster's Bridge 02. To Find the Melting Point or temperature coefficient of resistance of a Given Substance (Wax), Using Platinum Resistance Thermometer FEATURES 01 The board consists of the following: 1.1 Decade Resistance in ten step 0.1 ohms, Total Resistance 1 ohms. 1.2 Digital Galvanometer 1.3 Wire wound potentiometer mounted with three sockets in place of Rheostat 10E 1W 1.4 Cell Eliminator with switch voltage1V5 substitute Leclanche Cell. 1.5 Two fix resistance 5E/10 W 02 Carey Foster's Bridge-Four gaps, with sliding jockey CFB-182. 03 Platinum Resistance Thermometer: Enclosed in a corning glass tube of approx. 50 cm length and 2 cm diameter. A fine platinum wire is wound on mica frame. Its resistance is approximately 2.8 ohms. The two platinum leads and two compensatory leads are connected to four terminals on a square block TYPE PRT-195. 04 Stand for holding the Platinum Resistance Thermometer 05 Beaker size 500ml 06 Wax 300gm 07 Adequate no. of connecting wires, 50cm and 100 cm long. 08 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.		1
10	BJT in CE/CC/CB mode: (**TRANSISTOR CHARACTERISTICS)** To study the Transistor input and output Characteristics in different modes i.e. Common Base, Common Emitter and Common Collector. The Training Board is an improved version with Germanium NPN & PNP transistors in addition to Silicon NPN & PNP transistors and four meters. **OBJECT: -** To study and plot the Transistor input and output Characteristics in the following configurations: 01 Common Emitter configuration: CE. 02 Common Base configuration: CB. 03 Common Collector configuration: CC. 04 Transfer Characteristics of transistor.TC. **FEATURES:** The board consists of the following built-in parts: 01 Two 0-10V D.C. at 50mA, continuously variable Power Supplies for Base Emitter & Collector Emitter junctions. 02 Two Digital Voltmeter DC 3½ Digit Having Dual range of 2V / 20V. 03 Two Digital Current meter DC 3½ Digit Having Dual range of 200uA / 20mA 04 Two silicon (NPN & PNP) transistors and two Germanium (NPN & PNP) transistors. 05 Adequate no. of other electronic components 06 Mains ON/OFF switch, Fuse and Jewel light. 07 The unit is operative on 230VAC ±10% at 50Hz. 08 Adequate no. of patch cords stackable from rear both ends 4mm spring loaded plug, length 50cm		1

11	RC Coupled transistor amplifier: To study the frequency response of voltage gain: **Following features should be present**: 1. Study of the basic circuit of a RC coupled Amplifier. 2. Frequency response of RC coupled Amplifier. 3. Effect of negative feedback on the gain and frequency response of the amplifier 4. Effect of positive feedback on the gain and frequency response of the amplifier 5. Verification of the condition of oscillation 6. Study of different classes of amplifier **DDS Function Generator:** Sine frequency range: 15MHz Square/Triangle frequency range: 15MHzPulse frequency range: 6MHz Square rise time: 25nS Waveform length: 2048 points Waveform sampling rate: 266 MSamples/s Waveform vertical resolution: 14 bits Display: 2.4 inch TFT color LCD Interface : USB to serial interface Communication speed : 115200bps **True RMS A.C. Millivoltmeter, ACM-102:** Voltage Range : 20mV, 200mV, 2V and 20VFrequency Range : 10Hz to 200KHz Input Impedance : 1MW shunted by 25pf on all ranges. Accuracy: 1% in the range 10Hz-100KHz; 2% in the range 100KHz-200KHz.		1
12	**Study of OP AMP based LC Oscillators:** Study of different LC oscillator circuits using operational amplifiers type-741 Hartley Oscillator, Tuned Output Oscillator, Colpitts Oscillator, Clapps Oscillator, All necessary components should be available on the panel, clearly visible to the student. The top panel should be high insulation The unit should have all built-in power supply. Should be complete with Patch cords and user manual. Extra Accessory require – a dual trace oscilloscope		1
13	**Design a monostable multivibrator using 555 timers.:** Features • Operation as a free running/ astable multivibrator • Operation as a monostable multivibrator • Operation as a preset time delay The set-up consists of 555 IC with facilities for convenient connection at the board, a power supply, built-in facilities for various type of triggers-variable frequency, variable voltage, and manual. The resistors and capacitors required are mounted on the board.		1

14	**Hall Coefficient of a semiconductor sample:** The experiment should consist of: 1) Hall Probe (Ge Crystal-n type and p type) with resistivity 18-19 ohm cm in n-type and 12-14 ohm cm in p-type, Hall voltage 35-60mV/10mA/KG, Contact : Solid Silver, sample size 4x5x0.5mm: Oneeach 2) Hall Probe Stand Multipurpose (metal stand with powder coated aluminium holder. 3) Hall Effect Set-up, with Provision for Hall Voltage Offset Adjustment on panel. With built in 0- 200mV digital Millivoltmeter and 0-20mA Constant Current generator. Complete unit housed inmetal cabinet of 260x200x110mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 4) Electromagnet with 50mm pole dia, Low Carbon steel yoke, with net size of 460x200x50mm. Two coils with 900 turns each. Magnetic field strength variable upto 7.5 KG at 10 mm air gap betweenits pole pieces. Coil resistance 3.4 ohm per coil. 5) Constant Current Power Supply (transistor based) for above electromagnet (0-4A current) continuously variable. Complete unit housed in metal cabinet of 390x280x160mm with effectiveelectromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 6) Digital Gaussmeter with GaAs Transverse Probe. Range: 0-2KG, 0-20KG and 7 segment LED display with accuracy 0.5%. Complete unit housed in metal cabinet of 260x200x110mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. Proper cables for interconnections between different units included with the setup. The setupshould be complete in all respect.		1
15	**Magnetic Hysteresis Loop Tracer:** The experiment consists of the following: 1) Solenoid coil with 3000 turns 2) Nylon based sample holder with inbuilt pickup coil. 3) Set of three samples in form of 1.2mm rod: hard steel, soft iron & nickel 4) Main unit of setup consisting of power supply, measurement unit with 3.5 digit panel meter directly calibrated in Gauss. Provision for displaying J-H Loop, dj/dt loop and d^2j/dt^2loop. 5) Proper cables RG-59U for connection with oscilloscope included with the setup. Using this experiment following properties of a material can be studied.:- (i) Coercivity (ii) Saturation magnetisation (iii) Retentivity (iv) Hysteresis loss (v) The number of phases present Complete in all respect, except a Oscilloscope.		1
16	**Diodes Characteristics & Boltzmann Constant:** The experimental set-up consists of the following: 1. Diodes: Rectifier-4007 (Si), Signal diode-1N34 (Ge), Zener 4.7V, LED and transistor BC-109 2. 3½ digit DPM which can measure diode voltage and current through op-amp circuit. 3. Circuit to display forward/reverse characteristics of the diodes on a double trace CRO. 4. IC regulated internal power supplies Complete unit housed in metal cabinet of 260x200x110mm with effective electromagneticshielding. Cabinet should be powder coated with plastic moulding on edges. The experimental set-up is complete in all respects, except a measuring CRO.		1

17	**Elliptically polarize light using Babinets Compensator**: OBJECT To study Elliptically Polarised Light by means of a Babinet compensator. 01 Calibration of Micrometer screw 02 Measurement of phase difference between components of elliptical vibration produced by l/4 plate, and 03 Determination of positions and ratio of the axes of the ellipse. FEATURES The complete experimental Set-up consists of: 01 Babinet compensator: For producing elliptical polarisation with different major and minor axis. Also, for measuring double refraction in strained optical media. Consists of two round scales one with index and the other with vernier. First scale is for turning the analyser into any azimuth. The second scale (vernier scale) is for measuring the degree of orientation of a wedge box which contains two wedges cut in mutually perpendicular directions of optic axis in quartz. The long wedge is moveable by means of a micrometer drum with the help of which we can read very accurately the movement. The whole instrument is well finished and supplied with suitable cabinet. Micrometer screw reads upto 0.001cm. 02 Sodium Light source with leak transformer and box 03 Mercury Light source with choke and Box.		1
18	**Anderson Bridge for Self-inductance**: FEATURES The board consists of the following built-in parts: 01 Anderson Bridge circuit with arms values. 02 ±12V DC at 100 mA, IC Regulated Power Supply internally connected. 03 Potentiometer for varying one arm. 04 Three different value inductances. 05 Potentiometer with calibrated dial. 06 Five capacitors selected by a band switch. 07 Audio Amplifier with its IC regulated Power Supply. 08 1KHz Sine Wave Oscillator with its IC regulated Power Supply. 09 Speaker. 10 Mains ON/OFF switch, Fuse and Jewel light. 11 The unit is operative on 230VAC ±10% at 50Hz. 12 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms. 13 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References. 14 Weight: 2.700 Kg. (Approx.) 15 Dimension: W 340 x H 125 x D 210 LIST OF ACCESSORIES: 01 Patch cords 4mm length 50cm Red.....03 02 Patch cords 4mm length 50cm black.....03		1
19	**Thermo EMF Of Thermocouple Using Digital DC Microvoltmeter**: OBJECT: 01 Study of a thermocouple and plot a graph between thermo emf and temperature of hot junction. 02 Determine the melting point of Paraffin Wax. FEATURES The Set up consists of the following: 01 Digital D.C. Microvoltmeter is very versatile multipurpose instrument for the measurement of low dc voltage. It has 5-decade ranges from 1mV to 10V with 100% over-ranging. For better accuracy and convenience, readings are directly obtained on 3½ digit LED display. IC amplifier used offers exceptionally low offset voltage and input bias parameters, combined with excellent speed characteristics TYPE DMV-022. 02. A Copper-Constantan Thermocouple. 03 Retort stand with ring. 04 Thermometer 0-360°C 05 Sand bath 06 Beaker 250 ml 07 Funnel 4” 08 Tripod stand 09 Test Tube 1” 10 Glycerine 11 Paraffin Wax. 12. Wooden stand. 13. UHF lead 12" with Crocodile clip. 14 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.		1

20	**Signal Generation Applications of Operational Amplifiers:** Features •Study of different LC oscillator circuits using operational amplifiers type-741 •Wien-Bridge Oscillator • Phase Shift Oscillator • Twin-T Oscillator • Quadrature Oscillator • Squre and Triangular Wave Oscillator • Sawtooth and Pulse Generator • All necessary components are available on the panel. • Built-in power supply • Patch cords and user manual included. • All necessary components should be available on the panel, clearly visible to the student. Thetop panel should be high insulation The unit should have all built-in power supply. Should be complete with Patch cords and user manual. With a dual trace oscilloscope.		1
21	Half adder, Full adder & 4-bit binary adder: OBJECT: To study the operation of 4-bit binary full adder and full subtractor for : 01 Addition of two 4-bit binary numbers. 02 Subtraction of two 4-bit binary numbers.		1
22	Determine specific rotation of sugar solution using Polarimeter FEATURES: The complete Experimental Set-up consists of the following : 01 POLARIMETER : Fitted with imported laurent's half shade system, with stand and 20cm long polarimeter tube of borosil glass, workable on 0 sodium light with 360 rotation. 02 SODIUM LIGHT SOURCE : Sodium light source complete with sodium lamp 35 watts with vacuum jacket, Transformer & Wooden Box having four holes with slide covers, one each on every side at different heights. 03 Weight : 8.5 Kg. (Approx.) 04 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, 05 Report Suggestions and Book References.		1
23	**Refractive index of liquid by total internal reflection using Wollastonsair-film** **REQUIRED ACCESSORIES:** **Apparatus Supply:** • Spectrometer • Wollaston's Air Film Assembly • Slit For Resolving Power • Spirit Level 2'' • Working Manual • Beaker • Glyscrene **Accessories (Light Source):** • Sodium Vapour Lamp Assembly • Sodium Vapour Lamp 35 Watts • Sodium Vapour Lamp Box • Sodium Vapour lamp Transformer 35 Watts		1
24	Determine resistance using Potentiometer: FEATURES: The board consists of the following built-in parts: 01 Two 0-2V D.C. at 10mAcontinuously variable regulated Power Supply. 02 Galvanometer meter rectangular ± 30g 03 Standard cell 1V08 against Daniel cell 04 Decimal resistance box 1 ohm per step total resistance 10 ohm. 05 Adequate no. of other electronic components. 06 Mains ON/OFF switch, Fuse and Jewel light. 07 The unit is operative on 230V AC ±10% at 50Hz. 08 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/observation of waveforms. 09 Weight : 1.500 Kg. (Approx.) 10 Dimension : W 340 x H 125 x D 210		1

25	Mechanical Equivalent of Heat by Callender & Barnes constant flow method. FEATURES: The Set up consists of the following: 01 Callendar and Barne's apparatus with Constant level bath & stand. 02 Battery Eliminator, 2-12V D.C. in steps/variable at 4A, IC regulated, and short circuit protected BE-12/4. 03 D.C. Ammeter, 65mm round dial, mounted on bakelite stand, to read 0-3A TYPE MO-65. 04 D.C. Voltmeter, 65mm round dial, mounted on bakelite stand, to read 0-15V TYPE MO-65. 05 Two thermometers 100°C x 1/10° 06 Beaker, rubber tubing etc. 07 Adequate no. of connecting wires, 100cm long. 08 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References. 09 Weight: 9.6 Kg. (Approx.)		1
26	Tunnel diode characteristics Apparatus: Complete with Power Supply & two analog meters. **SCOPE OF LEARNING:** • To Plot V-I Characteristic & Resistance Characteristic of Tunnel Diode in Forward Bias **TECHNICAL SPECIFICATIONS:** **Power Supplies:** • DC Supply +5V DC, 150mA • Operated on Mains power 230V, 50Hz ±10% **Digital Meters:** • V: Voltmeter • I: Ammeter **Components are mounted on the panels are:** • Tunnel Diode 1N3717 • Potentiometer & Diode • Potentiometer: R1 (Current control) • Series Resistor 470E **SALIENT FEATURES:** • Front panel built with high class insulated Printed Circuit Board sheet with well printed circuits and symbols. • Instruction manual. • Connections are brought out through 4mm Colored Sockets. • Patch Cords 4mm. • The trainer is housed in ABS Plastic cabinet. • Size of the trainer set 12"x8"		1
27	Gaussian Eyepiece to determine the refractive index of glass & liquid by TIR:		1
28	Carey Foster Bridge to determine low resistance. FEATURES 01 The board consists of the following: 1.1 Decade Resistance in ten step 0.1 ohms, Total Resistance 1 ohms. 1.2 Digital Galvanometer 1.3 Wire wound potentiometer mounted with three sockets in place of Rheostat 10E 1W 1.4 Cell Eliminator with switch voltage1V5 substitute Leclanche Cell. 1.5 Unknown resistance wire of two different gauges each of 50cm 02 Carey Foster's Bridge - Four gaps, Sunmica top with sliding jockey TYPE CFB-182. 03 Weight: 3.5 Kg. (Approx.) 04 Adequate no. of connecting wires, 50cm long. 05 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.	ES-225	1

29	Specific heat of solids applying radiation of correction: FEATURES 01 One board consisting of the following built in parts: 1.1 Amplifier with digital display assembly with Power Supply. 1.2 Current source 0-500mAfor heater coil. 1.3 Digital Ammeter, 3½ digits having range 2 Amp. D.C. 02 Oven with heater coil. 03 Samples: Test sample - Brass, Standard sample - Aluminium 04 Iron constantan unijunction thermocouple. 05 Beaker: 250ml 06 Thermometer: 110°C 07 DIGITAL STOP CLOCK : With START/STOP operation by means of toggle switch & RESET by a push button switch. TYPE DSC-602 It has a range of 999.9 seconds with resolution of 0.1 seconds and accuracy of ± 0.01% (Quartz controlled). Display is thorough 4 no's of 12.5mm bright Seven Segment Displays and working voltage of the unit is 230VAC ±10% at 50Hz. 08 The unit is operative on 230VAC ±10% at 50Hz . 09 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections & observation of waveforms. 10 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References. 11 Weight: 3.5 Kg. (Approx.) 12 Dimension: W 340 x H 125 x D 210		1
30	**Phase shift Audio oscillator with Power Supply:** **OBJECT** To study the Phase Shift Audio Oscillator**:** 01 To study Phase Shift Audio Oscillator circuit using a single transistor**.** 02 To study the improved Phase Shift Audio Oscillator circuit using two Transistors. **FEATURES** The board consists of the following built-in parts**:** 01 +9V DC at 50mA, IC regulated Power Supply internally connected**.** 02 Two transistors**.** 03 Three sets of three different values of capacitors selected by a switch for varying frequency**.** 04 Potentiometer for setting gain**.** 05 Adequate no**.** of other electronic components**.** 06 Mains ON/OFF switch, Fuse and Jewel light**.** 07 The unit is operative on 230VAC ±10% at 50Hz**.** 08 Adequate no**.** of patch cords stackable from rear both ends 4mm spring loaded plug length 50cm. 09 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms**.** 10 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.** 11 Weight: 2.100 Kg**.** (Approx**.**) 12 Dimension: W 340 x H 125 x D 210. With Dual trace CRO 20MHz.		1
31	**Astable multivibrator using 555 Timer:** Features • Operation as a free running/ astable multivibrator • Operation as a monostable multivibrator • Operation as a preset time delay The set-up consists of 555 IC with facilities for convenient connection at the board, a power supply, built-in facilities for various type of triggers-variable frequency, variable voltage, and manual. The resistors and capacitors required are mounted on the board.		1

32	**Polarization of light by Simple reflection:** To study the Polarisation of Light by Simple Reflection and Verify Brewster Law from a Glass Plate with the help of Nicol's Prism & Malus Law. **OBJECT** 01 Study of Polarization by Reflection from a Glass Plate with the help of Poloride and Photocell. 02 To Verify the Brewster Law using a plain glass plate and a polaroid. 03 Study and Verify Malus Law using a plain glass plate and a polaroid. **FEATURES** The complete Experimental Set-up consists of the following items arranged on a wooden platform. 01 Incandescent bulb/ Halogen spot/reflector lamp Input 240Volt Output 12V/50W bulb with house. 02 Double convex lens (50mm dia & F.L. 10cm.) 03 Mirror Glass plate with arrangement for rotation and angle measurement. 04 Polaroid mounted on a graduated circular scale 360° and attached with Photo Voltaic Cell. 05 Digital Microammeter 0–200 uA. DC house in bakelite case, display 3½ digit, power required 230V ±10% at 50 Hz. mains DPM-054. 06 Weight: 4 Kg. (Approx.) 07 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References**.**		1
33	**Measure Magnetic Susceptibility of Solids** Gouy's Method**:** Experimental Setup for measurement of Susceptibility of Solid samples. The setup should be consisting of following: 1) Scientific Balance, KSB-07 with Capacity: 200 gms. Sensitivity: 1/10 mg. by vernier. Beam: Hard Bronze/ Brass Arrestment: Circular, falling away type. Air Damping: Very quick and positive, beam coming to rest in 2-3 sec. Chainomatic Device: A gold plated chain is suspended from the beam with its other end screwed on the Device rotating drum on which a scale graduated from 0 to 10 div each division representing 1mg is installed. By the movement of this scale before a vernier, reading upto 1/10th mg is taken. 2) Sample in the form of a long rod 3) Suitable MS stand for mounting balance over Electromagnet. 4) Electromagnet with 50mm pole dia tapered to 25mm, Low Carbon steel yoke, with net size of 460x200x05mm. Two coils with 900 turns each. Magnetic field strength variable upto 8.5 KG at 10 mm air gap between its pole pieces. Coil resistance 3.4 ohm per coil. 5) Constant Current Power Supply (transistor based) for above electromagnet (0-4A current) continuously variable. Complete unit housed in metal cabinet of 390x280x160mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 6) Digital Gaussmeter with GaAs Transverse Probe. Range: 0-2KG, 0-20KG and 7 segment LED display with accuracy 0.5%. Complete unit housed in metal cabinet of 260x200x110mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 7) Proper cables for interconnections between different units included with the setup. The setup should be complete in all respect.		1

34	Quinck's tube method: Experimental Setup for measurement of Susceptibility of Liquid samples. The setup consists of following: 1) Traveling Microscope: with Horizontal travel 170mm, vertical travel 110mm. Least Count 0.01mm. Working distance 50mm. Eyepiece Ramsden 8x. Reticle 90° Cross on glass. 2) Electromagnet with 50mm pole dia, Low Carbon steel yoke, with net size of 460x200x05mm. Two coils with 900 turns each. Magnetic field strength variable upto 7.5 KG at 10 mm air gap between its pole pieces. Coil resistance 3.4 ohm per coil. 3) Constant Current Power Supply (transistor based) for above electromagnet (0-4A current) continuously variable. Complete unit housed in metal cabinet of 390x280x160mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 4) Digital Gaussmeter with GaAs Transverse Probe. Range: 0-2KG, 0-20KG and 7 segment LED display with accuracy 0.5%. Complete unit housed in metal cabinet of 260x200x110mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. 5) Proper cables for interconnections between different units included with the setup. The setup should be complete in all respect. 6) Electronic Balance for density measurement 7) Sample: Magnese Sulphate ($MnSO_4$) 500gm 8) Measuring Cylinder 100ml 9) Glass Pipette 10ml 10) Funnel 11) Dropper		1
35	He-Ne laser to measure wavelength & angular spread: OBJECT: 01 To determine wavelength of Laser Light by diffraction grating method. FEATURES. The complete Experimental Set-up consists of the following items. 01 He-Ne LASER WITH POWER SUPPLY Maximum output: 1 mW Wavelength: 670 nm visible red Power supply: Included with ON/OFF switch working on 230 mains. 02 CIRCULAR TABLE: Spectrometer scale 6" dia circle with vernier but without Collimator & Telescope. It has two holders one for laser & other for Laser detector. 03 LASER DETECTOR: Composition silicon Laser detector mounted in Aluminum case. 04 DIFFRACTION: Hilger & Watts Type, 15000 lines per inch/6000 lines per cm. GRATING 05 NANOAMMETER DNM–021, Range 100nA, 1uA, 10uA, 100uA, DISPLAY 3½ digit Seven Segment LED 06 READING LENS: 50 mm diameter with handle 07 SPRIT LEVEL: 60 mm length 08 Weight: 9.2 Kg. (Approx.)		1
36	CRO: Dual trace 20MHz.		1

Digital Gaussmeter with GaAs Transverse Probe. Range: 0-2KG, 0-20KG and 7 segment LED display with accuracy 0.5%. Complete unit housed in metal cabinet of 260x200x110mm with effective electromagnetic shielding. Cabinet should be powder coated with plastic moulding on edges. Proper cables for interconnections between different units included with the setup. The setupshould be complete in all respect

Annexure-III
List of Departments-Wise Library Books Which will be Procured:

1. **Education**

Sl No	Name of the Book	Author	Publisher
01.	Indian Philosophy (Vol-I)	Dr. S. Radhakrishnan	Oxford
02.	Indian Philosophy (Vol-II)	Dr. S. Radhakrishnan	Oxford
03.	An Introduction to India Philosophy	Satish Ch. Chattergy	Rupa and Co.
04.	A Critical History of Western Philosophy	Y. Masih	Motilal Banaras
05.	Advanced Educational Psychology	S.S. Chauhan	S. Chand
06.	Sociological Theory	Ritzer George	Mc Grow Hill
07.	A sociological Approach to Education	S.S. Mathur	Shri Vinod Pustak Mandir
08.	Indian Sociological Thoughts	BK Gagle	Rawat
09.	Teaching Learning method& Pedagogy	Kumudeswar Sarmah	Ashok
10.	Test, Measurement and Research Method	AK Singh	Bharati Bhawan
11.	Measurement, Evaluation and Assessment in Education	Radha Mohan	PHI Learning
12.	Educational Research	JW Creshwell	PHI Learning
13.	Research Methodology	Dr. Bipin Astana	Agrawal Groups
14.	Fundamental of Statistics	DN Elhance	Kitab Mahal
15.	History of Education in Ancient India	RN Sharma	Atlantic
16.	History of Education in Medieval India	Suresh Chandra Ghosh	Low Price Pub
17.	History of Education in Modern India	Suresh Chandra Ghosh	Orient Blackswan Pvt. Ltd.
18.	History & Problems of Indian Education	Dr. SP Chaube	Agrawal Pub.
19.	Curriculum Development	SK Panda	Sipra Pub
20.	Educational Administration and Management	Deepa Mehta	PHI Learning
21.	Educational Management, Administration and Leadership	Dr. Sanjay Kumar	Anu Books
22.	Pedagogy of Social Science	SK Mangal	PHI Learning
23.	Pedagogy of Language Teaching	Dr. Amal Kumar Chakraborty	Desh Publication
24.	Creating an Inclusive School	SK Mangal	PHI Learning
25.	The Basic Principles of Guidance and Counseling	Dr Omprakash B Pal	Neelkamal Pub
26.	ICT in Education	Bhawna Sukla	Agrawal Groups
27.	Education in India Policy &Practices	Jayandhala BG Tilak	SAGE Pub.
28.	Higher Education in India	Jayandhala BG Tilak	Orient Blackswan
29.	Indian Education System Emerging Trends and Related Issues	Sushanta Kumar Roul	Adhyayan Pub.

Physics

Books Required for Physics

SI No	Name of Books	Authors	Unit
01	Mathematical Physics	Satyaprakash	04
02	Mathematical Methods for Physicists	Arfken, Wber & Haris	01
03	Introduction to Special Relativity	R. Resnick	04
04	An Introduction to Mechanics	Kleppner & Kolenkow	04
05	Introduction to Electrodynamics	D.J. Griffiths	04
06	Foundations of Electromagnetic Theory	Ritz & Milford	01
07	Feynman lectures Vol.1, Vol.2 & Vol.3	Feynman	01
08	Priciple of Optics	Max Born & Emil Wolf	01
09	Heat and Thermodynamics	Zemansky & Dittman	04
10	An Introduction to Thermal Physics	Daniel V. Schroeder	01
11	Electronics : Fundamental & Applications	J.D. Ryder	02
12	Solid State & Electronics	Puri & Babar	04
13	Concept of Modern Physics	Arthur Beiser, Mahajan & Choudhury	04
14	Foundation of Modern Physics	Steven Weinberg	01
15	Digital circuit & logic Design	Samuel C.lee	02
16	Digital logic & Coputer Design	Moris Mano	04
17	Modern Quantum Mechanics	J.J. Sakurai	01
18	Quantum Mechanics	Ajay Ghatak	04
19	Quantum Mechanics	Nouredine Zetli	02
20	Introduction to Solid State Physics	Charles Kitttel	01
22	Statistical Physics of Particles	Mehran & Kardar	01
23	Statistical Mechanics	R.K. Patheria	02
24	Classical Mechanics	J.R. Taylor	01

25	Classical Dynamics of Particles & Systems	S.T. Thornton & J.B. marion	01
26	Classical Mechanics	Herbert Goldstein	01
27	Classical Mechanics	J.C. Upadhay	04
28	Nanoscience & Nanotechnology	K.K. Choudhury	04
29	Introduction to Particle Physics	D.J. Griffiths	01
30	Introduction to Nuclear Physics	Roy & Nigam	02
31	Introductory Nuclear Physics	Kenneth S. Krane	02
32	Introduction to Quantum Mechanics	D.J. Griffiths	02

Chemistry

Sl No	Book	Authors	Publishers	Quantity
1	Organic Chemistry	Jonathan Clayden, Nick Greeves , Stuart Warren	Oxford University Press	3
2	Organic Chemistry	Howard Maskill, Tadashi Okuyama	Oxford	2
3	Advanced organic chemistry: PART A	Francis A. Carey, Richard J. Sundberg	Springer	1
4	Advanced organic chemistry : PART B	Francis A. Carey, Richard J. Sundberg	Springer	1
5	Modern Methods of Organic Synthesis	W Carruthers, Iain Coldham	Cambridge University Press	2
6	Spectroscopy of Organic Compounds	P.S. Kalsi	New Age International Pvt Limited	3
7	Inorganic Chemistry – Principles of structure and reactivity	Huheey J. E., Keiter E. A. and Keiter R. L	Pearson Education	2
8	Fundamentals of Inorganic Chemistry Vol I	Asim k Das	CBS Publications	2
9	Fundamentals of Inorganic Chemistry Vol II	Asim k Das	CBS Publications	2

10	Fundamentals of Inorganic Chemistry Vol III	Asim k Das	CBS Publications	2
11	Fundamentals of Inorganic Chemistry Vol IV	Asim k Das	CBS Publications	2
12	Fundamentals of	Asim k Das	CBS Publications	2
	Inorganic Chemistry Vol V			
13	Fundamentals of Inorganic Chemistry Vol VI	Asim k Das	CBS Publications	2
14	Fundamentals of Inorganic Chemistry Vol VII	Asim k Das	CBS Publications	2
15	Bioinorganic Chemistry	Asim k Das	CBS Publications	2
16	Basic Organometallic Chemistry	Anil Elias, Gupta B.D.	Universities Press	2
17	Inorganic Chemistry	Catherine Housecroft	Pearson	2
18	Inorganic Chemistry	Gary L. Miessler, Paul J. Fischer, Donald Arthur Tarr	Pearson	2
19	Electrochemistry	Glasstone		02
20	Quantum chemistry	KL Kapoor	Mcgraw-Hill	02
21	Photochemistry	Rhostogi Mukharjee		
22	Vohgel Quantitative Chemical Analysis	Mendham, J., A. I.	Pearson	02
23	Organic Spectroscopy	L.DS Yadab		02
24	Coordination Chemistry	Ajai Kumar	Aryush Education	03
25	Organic Spectroscopy	Willium Camp		01
26	Organic Chemistry	Allhuwalia Parasar	Narosa	02

History

Department of History

List of text books and reference books (At least ONE copy each)

1. H.D. Sankhalia, **Prehistory of India.**
2. B.R. Alchin, **The Birth of Indian Civilization**
3. Bisman Basu**, The Story of Man**
4. D.N. Jha (ed.), **Feudal Social Formation in Early India**
5. Meenaxi Phukan, **Rise of the Modern West: Social and Economic History of Early Modern Europe**
6. J.L. Mehta, **An Advanced Study of the History of Medieval India**, Vol.II
7. E. Sreedharan, **A Text Book of Historiography**, Orient Longman, Reprinted, 2004
8. K.Rajayyan, **History: it's Theory & Method**
9. Anthony Wood, **History of Europe, 1815 to 1960** (1983)
10. Sumit Sarkar, **Modern India** (1885-1947), Mac Milan
11. K.B. Keswani, **International Relations in Modern World (1990-1995).**
12. Sahu, Mishra & Sahu**, History of Odisha**
13. S.K. Panda, **Political and Cultural History of Odisha**
14. R.C Majumdar **Ancient India**
15. Vikram sampath **Bravehearts of Bharat vignettes from indian history**

List of kalyani publisher's books (Odia language) (At least FIVE copies each)

1. History and Culture of Odisha -I
2. History and Culture of Odisha -II
3. History and Culture of Odisha -III
4. History of India-1 (Early times to 1750) (GE-1)
5. History of India-3 (c.750-1206)
6. History of India-4 (c.1206-1526)
7. History of India-5 (c.1526-1750)
8. History of India-8(c.1857-1950)
9. History of modern Europe -I(c.1780-1880)
10. History of modern Europe -II(c.1880-1939)
11. Social formations and cultural patterns of the medieval world
12. Historical theories and methods

Economics

Department of Economics

List of Textbooks and Reference Books (At least One Copy Each)

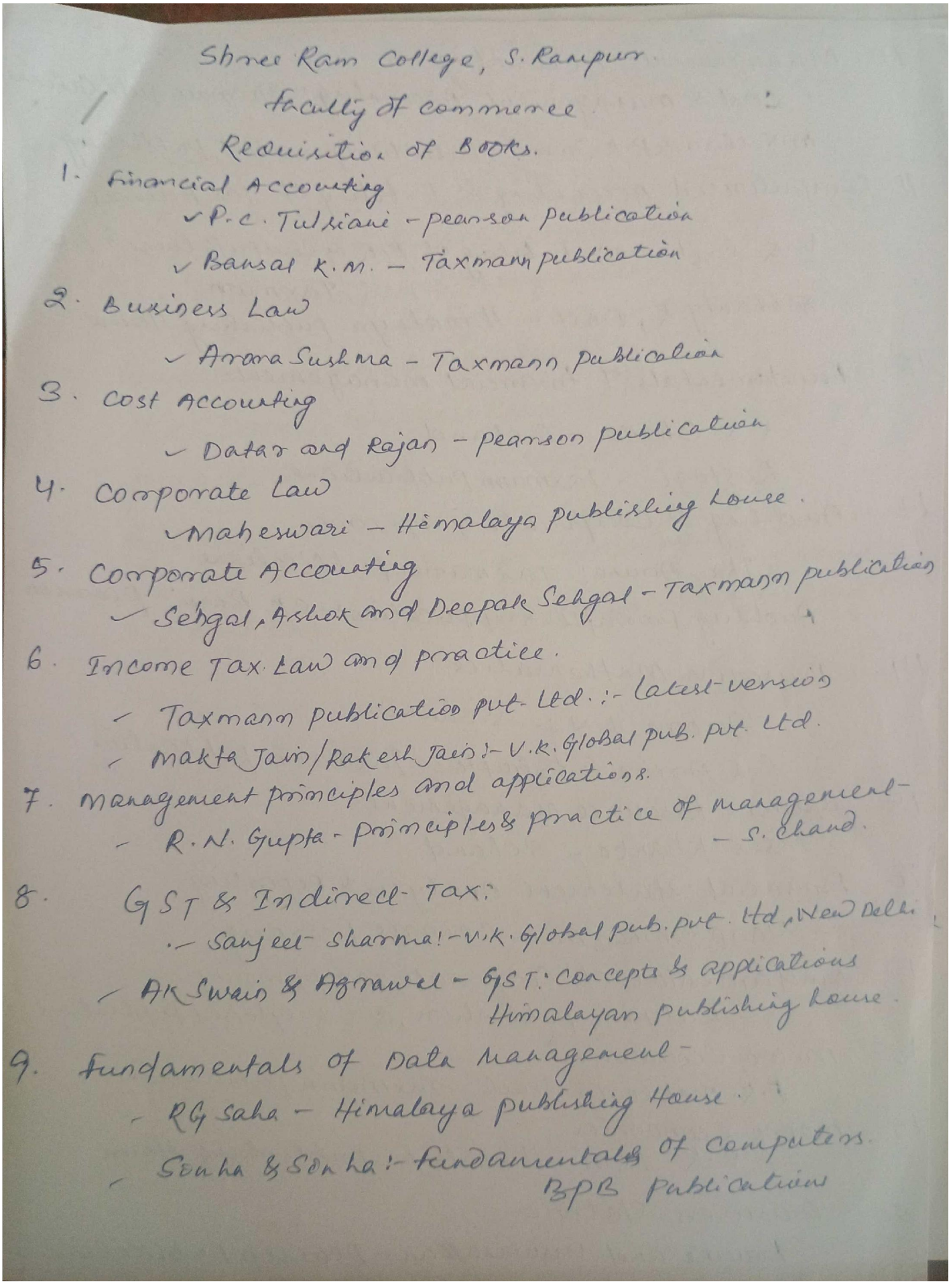
1. Karl E. Case and Ray C. Fair (2007): **Principles of Economics,** 8th Edition, PearsonEducation Inc
2. A. C. Chiang and K. Wainwright (2005): **Fundamental Methods of Mathematical Economics,** McGraw Hill International Edition.
3. K. Sydsaeter and P. J. Hammond (2002): **Mathematics for Economic Analysis**. Pearson Educational Asia
4. N. Gregory Mankiw (2010): **Macroeconomics**, 7th edition, Cengage Learning India Private Limited, New Delhi
5. C. Snyder and W. Nicholson (2012): **Microeconomic Theory: Basic Principles and Extensions,** 11th Edition, Cengage Learning, Delhi, India.
6. S. C. Gupta (2017): **Fundamentals of Statistics**, Himalaya Publishing House, Delhi
7. Guthrie, G. (2010): **Basic Research Methods**, Sage Publications India Private Limited, New Delhi.
8. Dutt R. and Sundharam K. P. M. **Indian Economy.** S. Chand & Company Ltd., New Delhi.
9. Government of India (2023-24): **Economic Survey,** Ministry of Finance, New Delhi

10. Debraj Ray (2009): **Development Economics,** Oxford University Press.
11. Bhatia H L (2018): **Public Finance.** Vikas Publishing House.
12. Sarma, J. V. M. (2018). **Public Finance: Principles and Practices.**
13. Kolstad, C.D (1999); **Environmental Economics** Oxford University Press, New Delhi
14. SalvatoreDominick, **International Economics**,WileIndia.
15. **Economics** (SIE) | 20th Edition. Samuelson, Nordhaus

List of Kalyani Publisher's Books (English Language)(At least 03 copies each)

1. Introductory Microeconomics
2. Introductory Macroeconomics
3. Microeconomics -I
4. Microeconomics -II
5. Macroeconomics -I
6. Macroeconomics -II
7. Statistical Methods
8. Research Methodology
9. Indian Economy-I
10. Indian Economy-II
11. Development Economics -I
12. Development Economics -II
13. Money and Banking
14. Public Economics
15. Environmental Economics

3. **COMMERCE**



Shree Ram College, S. Ranipur.

Faculty of commerce

Requisition of Books.

1. Financial Accounting
   - ✓ P.C. Tulsiani – pearson publication
   - ✓ Bansal K.M. – Taxmann publication
2. Business Law
   - ✓ Arora Sushma – Taxmann publication
3. Cost Accounting
   - ✓ Datar and Rajan – pearson publication
4. Corporate Law
   - ✓ Maheswari – Himalaya publishing house.
5. Corporate Accounting
   - ✓ Sehgal, Ashok and Deepak Sehgal – Taxmann publication
6. Income Tax Law and practice.
   - Taxmann publication pvt. ltd. :- latest version
   - Makta Jain / Rakesh Jain :- V.K. Global pub. pvt. ltd.
7. Management principles and applications.
   - R.N. Gupta - Principles & practice of management – S. Chand.
8. GST & Indirect Tax:
   - Sanjeet Sharma! – V.K. Global pub. pvt. ltd, New Delhi
   - AK Swain & Agrawal – GST: Concepts & applications Himalayan publishing house.
9. Fundamentals of Data Management –
   - RG Saha – Himalaya publishing House.
   - Sinha & Sinha :- Fundamentals of computers. BPB Publication

8.

10. Management Accounting
- Cost & Management Accounting :- Taxmann Pu
- M.Y. Khan & P.K. Jain :- Tata McGraw Hill, Publishi

11. Computerised Accounting & E-filing of Tax Returns.
- V.K. Singhania :- E-filing of ITR & computations & Ta
Taxmann
- Mohanty R, Dash :- Himalaya publishing House.

12. Fundamentals of Financial management-
- V.K. Bhalla - S. chand.
- Rostogi :- Taxmann publications

13. Auditing & Corporate Governance.
- Jha, Arun :- Taxmann Publications
- Auditing Poinaples & application :- S.K. Basu :- pearso

14. Business Mathematics
- Arora P.N. :- S. chand.
- S.R. Arora & K. Gupta :- Taxmann publication

15. Human Resource Management-
- S.S. Khanka - S. chand.

16. Financial statement- Analysis & Reporting
- Narasimhan M.S - Cengage Learning

17. Fundamentals of Corporate Tax planning
- Kalyani publishers, & V.K. Global Publication

18. micro economics.
- P.K. Mehta, M. Seth :- Taxmann publication

19. macro economics.
- V.K. Puri - Himalaya publishing House.

20. Business Statistics.

10.

S.P Gupta & A. Gupta - Statistical Methods:-
Sultan chand & Sons Pvt. Delhi

Principles of marketing
- R. B. Rudani - marketing management - S. chand
- Arun kumar - Mgt. Management Vikash publications
- marketing Principles & Management - Sherlekar and Parny :- Himalaya publishing house

22. Business Research Methods.
- H.K. Dangi :- Business Research Methods :- cengage Learning
- Upagade & Shende - S. chand.

23. Financial makets, Institutions & Services.
- Gordon, Natarajan - Himalayan Publishing House
- M.Y. Khan :- Financial Services :- Tata McGraw Hill

There is a requirement of Book Shelf on account of keeping the books.

Monalisa Mohanty.
H.O.D
Faculty of Commerce

BOTANY

BOOK LIST DEPARTMENT OF BOTANY
SHREE RAM COLLEGE, RAMPUR

Sl.No	Name of Book	Author	Publisher	No. of Copies required
1.	An introduction to Practical Biochemistry	D.T. Plummer	Tata Mc Grawhill	02
2.	Laboratory manual of microbiology and Biotechnology	K.R.Aneja	Medtech	02
3.	Essential of Environmental Science	N. Vasudevan	Narosa Publishing House	01
4.	Plant Tissue Culture Theory and practice	S.S. Bhojwani, M.K.Razdan		01
5.	Advanced Biotechnology	R.C. Dubey	S.Chand	02
6.	Plant Biotechnology	A.K.Gupta	Rastogi	01
7.	Plant Biotechnology	B.D.Singh	Kalyani	01
8.	Outline of Plant metabolism	A.C.Sahooo	Kalyani	02
9.	Introduction to plant physiology	W.G. Hopkin & A.Hunter	John Wiley and Sons	01
10.	Plant metabolism	S.K. Gupta	Rastogi	02
11.	Plant Physiology	N.K. Srivastava	Rastogi	01
12.	Plant Physiology	F.B. Salisbury & C.W. Ross	Wandswerth publishing Company	01
13.	Modern Plant physiology	R.K. Sinha	Narosa Publishing House	02
14.	Reproductive Biology of Angiosperms	B.K.Mishra	Kalyani	02
15.	The Embryology of Angiosperms	S.S. Bhojwani & S.P. Bhatnagar	Vikash Publishing House	01
16.	Reproductive Biology of Angiosperms	V.Singh, P.C. Pandey & D.K.Jain	Rastogi	01
17.	Text Book of Plant Systematic	C.R.Mohanty	Kalyani	02
18.	Plant Taxonomy	D.P. Sharma	Tata Mc Graw Hill	01
19.	Taxonomy of Angiosperms	B.P. Pandey	S.Chand	01
20.	Fundamentals of Ecology	P.D.Sharma	Rastogi	01
21.	A textbook of Plant Ecology	R.S. Shukla & P.S. Chandel	S.Chand	01
22.	Essential of molecular Biology	A.C. Sahu	Kalyani	02
23.	Principle of Genetics	E.J. Gardener, M.J.Simmoons & D.P. Snusted	John Wiley & Sons	01
24.	Genetics	M.W.Strickbenger	Pearson	01
25.	Fundamentals of Genetics	B.D.Singh	Kalyani	03
26.	Economic Botany	B.P.Pandey	S.Chand	02
27.	Economic Botany	B.Baruah	Kalyani	02
28.	Anatomy of Angiosperms	V.Singh, P.C. Pandey & D.K.Jain	Rastogi	02

29.	An introduction of plant Anatomy	A.J.Eames, L.H. Mc Daniels	Tata Mc Graw Hill	02
30.	Anatomy Angiosperms	B.K.Mishra	Kalyani	02
31.	Plant Anatomy	B.P. Pandey	S.Chand	02
32.	Botany for Degree Students, Bryophyte	B.R. Vasistha	S.Chand	01
33.	Pteridophyta	P.C. Vasistha, A.K. Sinha & A.Kumar	S.Chand	01
34.	Archegoniate	B.S.Acharya	Kalyani	02
35.	Mycology & Phyto pathology	B.K.Mishra	Kalyani	02
36.	Text Book of Fungi and Their Allies	I.K. Sethi & S.K. Walia	Mac Millan	01
37.	Mycology & Phyto pathology	P.D. Sharma	Rastogi	02
38.	Biomolecules and Cell Biology	K.Sahoo	Kalyani	02
39.	Leninger Principle of Biochemistry	D.L. Nelson & M.M. Cox	W.H. Freeman and Co.	01
40.	Biomolecules and Cell Biology	P.K.Gupta	Rastogi	02
41.	Microbiology and Cell Phycology	B.K. Mishra	Kalyani	03
42.	Botany for Degree Students, Algae	B.R. Vasistha	S.Chand	01
43.	Introductory Phycology	H.D. Kumar	East West Press	01
44.	Horticultural Practices and Post Harvest Tech.	C.Mohanty	Kalyani	03
45.	Basics of Horticulture	K.V. Peter	Kalyani	01
46.	Natural Resources Management	B.W. Pandey	Mittal Publication	01
47.	Advanced Analytical Techniques	C.S. Patil	ABE Books	01
48.	Introduction to Plant Biotechnology	H.S. Chawla	Oxford & IBH Publishing Co.	01
49.	Microbiology	M.J. Pelezar, E.C.S. ChanKalyani	Tata Mc Graw Hill	01
50.	Life Science Part-I	Pranab kumar, Usha Mina	Path Finder	02
51.	Life Science Part-II	Pranab kumar, Usha Mina	Path Finder	02
52.	Fundamentals of Ecology & Environment	Pranab kumar, Usha Mina	Path Finder	01

Monaketan Patra

(Sri Minaketan Patra)
Head of the Department
Department of Botany
Shree Ram College, Rampur
Mob-7008364067

ZOOLOGY

Books List (Zoology Department)

1. Principles of Anatomy and Physiology (John Wiley & Sons)
   → G.J. Tortora, S. Grabowski
2. Fundamentals of Anatomy and Physiology (Pearson Education)
   → F.H. Martini and E.F Bartholomew.
3. Human Physiology (Pearson Education)
   → E.N. Marieb and K.N Hoehn)
4. Lehninger Principles of Biochemistry (W.H Freeman & Co-New York)
   → M.M. Cox and D.L. Nelson
5. Instant Notes in Biochemistry (BIOS Scientific Publishers Ltd, UK)
   → B.D. Hames and N.M. Hooper
6. Principles of Development (Oxford Univ. Press)
   → Lewis Wolpert
7. Patten's Foundations of Embryology
   Bruce. M. Carlson
8. Analysis of Biological Development (Mc Graw Hill Publisher edn
   → Kathoff
9. Human Embryology and Developmental Biology (Elsevier)
   → Bruce. M. Carlson
10. Developmental Biology (MJP Publishers)
    → M.A. Subramanian
11. Roitt's Essential Immunology, Wiley-Blackwell
    → Peter J. Delves and Seamus J. Martin
12. Kuby Immunology
    → Thomas J. Kindt Richard A. Goldsby, Barbara A. Osborne (W.H Freeman and Company)

(13) Biology of Fishes. Taylor and Frances group
→ Q Bone and R Moore

(14) A textbook of fish biology & Fisheries
Narendra Publishing House
→ S.S Khanna and H.R. Singh

(15) The physiology of fishes. Taylor and frances group
→ D H Evans and J D claiborne

(16) Introduction to Economic Zoology, NCBA Publis
→ Sarkar, Kundu and Chaki

(17) Cell and Molecular Biology: Concept & Experiments
John Wiley and Sons. Inc.
→ Karp, G.

(18) Cell and Molecular Biology, Lippincott Williams and Wilkins, Philadelphia
→ De Robertis, E.D.P and De Robertis E.M.F

(19) Molecular Biology of the Cell, Garland Publishing Inc, New york and London
→ Bruce Albert, Bray Dennis, Lewis Julian Raff Martin, Roberts Keith and Watson James.

(20) The World of the Cell, Pearson Benjamine Cummings Publishing, San Francisco
→ W.M Becker, L.J Kleinsmith, J Hardin, G.P Bertoni

(21) The Cell:-A molecular Approach, ASM Press and Sunderland, Washington D.C; Sinauer Associates, M
→ G.M Cooper and R.E Hausman

(23) Endocrinology, Pearson Education India
→ ME Hadley and JE Levine

(3) Textbook of Medical physiology, Hercourt Asia PTE Ltd / W.B. Saunders Company
→ Acguyton & J.E Hall

24) Biochemistry
→ M Jeremy, Berg, Lubert Stryer, L.John, Tymoczko J. Gregory, Gatto.

(25) Microbiology: An Introduction, Pearson India Education Services Pvt. Ltd
→ GJ Tortora, BR Funke, CL Case

(26) Harper's Illustrated Biochemistry, The McGraw-Hill Companies Inc.
→ R.K Murray, D.A Bender, K.M Botham, P.J Kennelly, V.M Rodwell, P.A Well

27) Microbiology, Mc-Graw Hill Education
→ Jr. MJ Pelezar, E.C.S Chan and NR ~~Krieg~~ Krieg

28) Vertebrates' Comparative Anatomy, function & Evolution Mc-Graw Hill Hegher Education
→ KV Kardong

29) Comparative Anatomy of Vertebrates, The McGraw-Hill Companies
→ G-C Kent, R.K Carr.

1) Genetics. A molecular Approach
→ Benjamin Cummings, P.J Russel

) Principles of genetics. John Wiley and Sons Inc.
→ D.P Snustad, M.J Simmons

(32) Introduction to Genetic Analysis, W.H Free and Co.
→ A.J.F. Griffiths, S.R Wessler, R.C Lewontin and S.B Carrol.

(33) Genetics, GIS, Taylor and francis Group, New York and London.
→ H Fletcher and I Hickey.

(34) A Manual of practical Zoology, S. Chand (Chordates)
→ Dr. P.S Verma

(35) A Manual of practical Zoology Invertebrates S. Chand
→ Dr. P.S Verma

(36) Physiology Controlling and Coordinating Systems. Kalyani Publisher (Semester III - VI)
→ Niranjan Routray

(37) Practical Zoology Invertebrates, Rastogi Publication
→ Dr. S.S. Lal

(38) Fundamentals of Biochemistry and Microbiology Kalyani Publication
→ Asim Kumar Roy

(39) Practical Ecology, Anmol publication
→ K S Rao

(40) Cell Biology practical Manual, Prestige Publisher
→ Dr. Reenu Gupta, Dr. Seema Makhija Dr. Ravi Teja

41) Instant Notes in Immunology. 2nd ed. BIOS
→ Lydyard, Whelan & Fanger

42) Instant Notes in Biochemistry 2nd ed. BIOS
→ Hames and Hooper

43) Instant Notes in Molecular Biology 3rd ed. BIOS
→ Turner, Mclennan, Bates & White

44) Instant Notes in Genetics. 3rd ed. BIOS
→ Fletcher, Hickey and Winter

45) Instant Notes in Animal Biology. 2nd ed BIOS
→ Richard D. Jurd

46) vertebrate Rastogi publication (5 in no.)
→ R.L Kotpal

47) Invertebrate Rastogi publication (5 in no.)
→ R.L Kotpal

48) Invertebrate phylum Series - 2set - Rastogi Published
→ R.L Kotpal

ENGLISH

Department of English

1. Contemporary Communicative English, S chand
2. English phonetics and Pronunciation for Indian Learners by Dr. G.S. Kushwaha
3. A course in phonetics and Spoken English by J. Sethi & P.V. Dhamija
4. A companion to communication skills in English by J.K. Mishra.
5. English Grammar by Wrenn & Martin
6. Oxford Advance Learner Dictionary.
7. The widening Arc: A selection of prose & Stories by Ed. P. Jami Kitab Bhawan, BBSR
8. A Tale from Shakespeare by Charles Lamb & Mary Lamb
   (i) King Lear
   (ii) Othello
   (iii) Macbeth
   (iv) Hamlet
   (v) As you like it
   (vi) Twelfth Night
   (vii) Comedy of Errors
9. Sonnets of Shakespeare
10. History of English literature by W.J. Long Raghuvansh Tilak
11. Paradise Lost by John Milton (Book 4, 6, 9)
12. The Study of Poetry by Matthew Arnold

13. Tradition & Individual Talent by T.S. Eliot
14. The Waste Land by T.S. Eliot
15. History of Indian Writing in English M.K. Naik
K. Srinivas Ayenger
16. Odes of John Keats
17. Romantic poetry or Literature by
(i) William Wordsworth
(ii) S.T. coleridge (vi) Thomas Gray
(iii) John Keats
(iv) P.B. Shelley
(v) William Blake
18. poetics by Aristotle
19. Alchemist by Ben Johnson
20. Lyrical Ballad by wordsworth and S.T. coleridge 2nd Edition
21. Death of the Author by Roland Barthes
22. 19th Century British Literature
(i) Jane Austin - Novels
(ii) Charles Dickens - Novels
(iii) Virginia woolf - Novels
(iv) E.M frester - Novels - A passage to India
(iv) Henrik Ibsen - Novels
(v) Ernest Hemmingway - A farewell to Army
The oldman & the sea
(vi) William faulkner - Sound & Fury - Novel
(vi) Chinua Achebe - Novels - Things fall apart

38. An Introduction to Language and Communication
39. Linguistics by David Crystal
40. The Indianization of English by Braj B Kachru
41. English as a world Language by David Crystal
42. Dalit Literature in India
43. History of Indian writing in English by M.K. Nair
K. Srinivas Ayenger
44. Modern Indian Drama

Detective Fiction :-

(i) The Hound of Baskervilles - Arthur Conan Doyle
(ii) Sherlock Holmes

45. The Argumentative Indian - Amartya Sen
46. Nationalism by Rabindranath Tagore
47. The Renaissance in India & other essay by Sri Aurobindo
48. Time as a Metaphor in Human History by Romila Thapar
49. Amitabh Ghosh's Novels
50. R.K. Narayan's Novels
51. D.H. Lawrence's Essay & Novels
52. Jim Corbett's Novels & Texts
53. Orientalism by Edward W. Said
54. Castes in India by Dr. B.R. Ambedkar
55. The complete psychological works of Sigmund Freud
56. Mitchell Foucult
57. Joseph Conrad's Novels & Stories
58. Post colonial Theory An Introduction by Leela Gandhi
59. Decolonizing the Mind: politics of Language in African Literature
60. The Distant window by Anima Bose, Prachi Prakashan

23. Marxism & Literature - Book

American Literature: Books

Poems Book by:
(i) Walt Whitman
(ii) Robert Frost
(iii) Emily Dickinson
(iv) Maya Angelou
(v) Sylvia Plath

24. A Short History of American Literature by Krishna Sen & Ashok Sengupta

25. (i) Homer - Odyssey (Book-I)
(ii) Sophocles: Oedipus the King

26. The Mad Woman in the Attic by Sandra Gilbert and Susan Gubar

27. A History of Feminist Literary Criticism by Gill Plain & Susan Sellers

28. Literature, Popular culture & Society by Leo Lowenthal

29. Literary theory & criticism

30. Beginning Theory by Peter Berry

31. Language & Paradox by Cleanth Brooks

32. The Second Sex

33. Literary Theory by Terry Eagleton

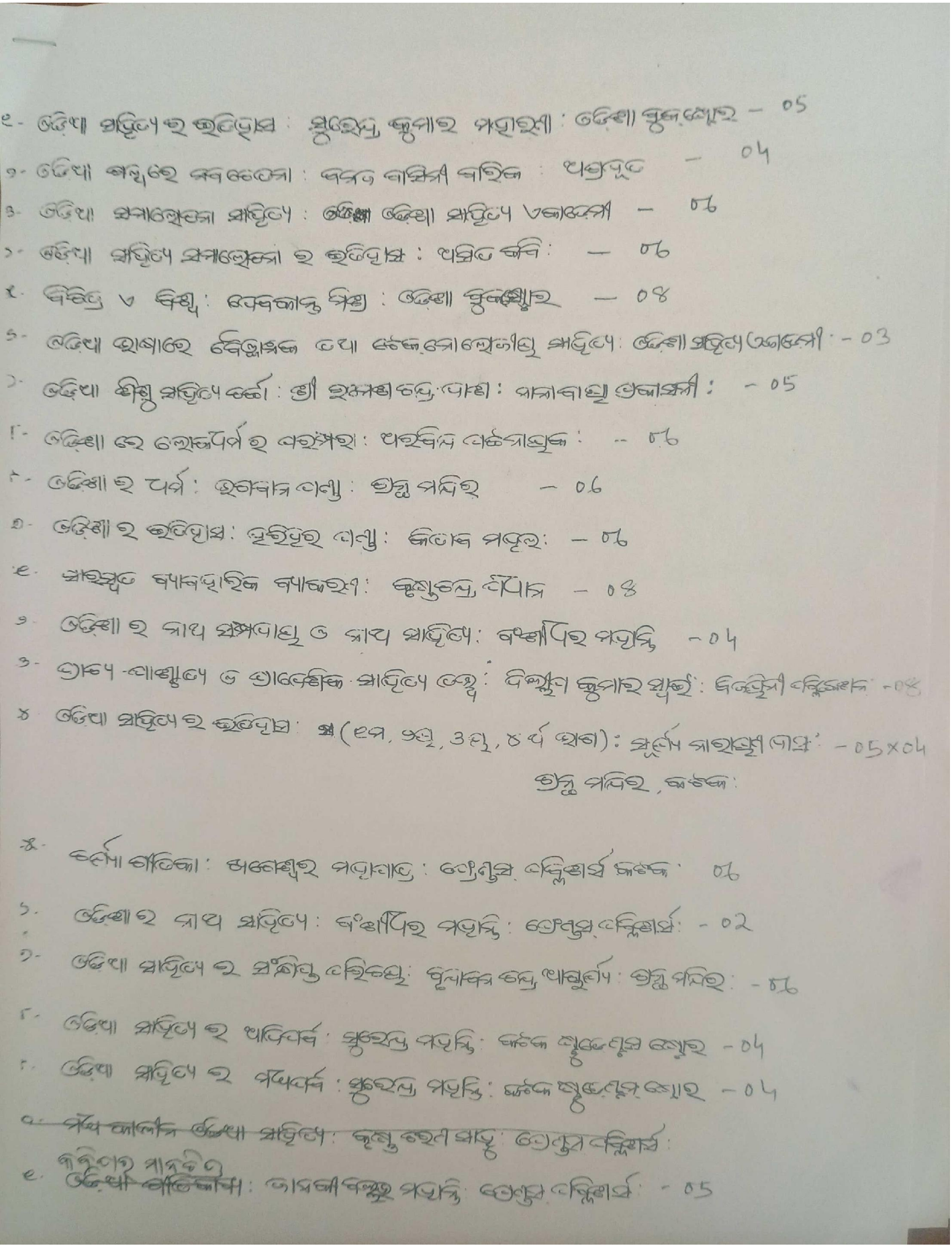
34. In Persuit of Signs by Jonathan Culler

35. Modern Criticism & Theory. ed. David Lodge

36. V.S. Naipaul's Novels & Drama

37. George Bernard Shaw's Drama

ODIA



ମେହେର ସାହିତ୍ୟ ରେ ମାନବୀୟ ମନସ୍ତତ୍ତ୍ୱ : ସନ୍ତୋଷ କୁମାର ମେହେର : ଗ୍ରନ୍ଥମନ୍ଦିର : -02

୨୩ ଓଡ଼ିଆ ସାହିତ୍ୟ ରେ ଉପନ୍ୟାସ ଓ ସତ୍ୟବାଦୀ ଯୁଗ : ଡ. ବୈଷ୍ଣବ ଚରଣ ସାମଲ : ଫ୍ରେଣ୍ଡସ୍ -- 05

୨୪ ଓଡ଼ିଆ ଭାଷାର ଉତ୍ପତ୍ତି ଓ ବିକାଶ : ବାସୁଦେବ ସାହୁ : ଫ୍ରେଣ୍ଡସ ପବ୍ଲିସର୍ସ : -06

୨୫. ଓଡ଼ିଆ ଭାଷା ଓ ଲିପି ର କ୍ରମ ବିକାଶ : କୁଞ୍ଜବିହାରୀ ତ୍ରିପାଠୀ : ଓ. ରା. ପା. ପ୍ର ଓ ପ୍ରକାଶନ ସଂସ୍ଥା : -(

୨୬- ଭାଷା ବିଜ୍ଞାନ ର ରୂପରେଖ : ବାସୁଦେବ ସାହୁ : ଫ୍ରେଣ୍ଡସ ପବ୍ଲିସର୍ସ : -06

୨୭- ଭାଷା ଶାସ୍ତ୍ର ପରିଚୟ : ଗୋଲୋକ ବିହାରୀ ଧଳ : ଓ. ରା. ପା. ପ୍ର. ପ୍ରକାଶନ ସଂସ୍ଥା : -06

୨୮- ଓଡ଼ିଆ ଭାଷା ଓ ଭାଷା ବିଜ୍ଞାନ : ଦେବୀ ପ୍ରସନ୍ନ ପଟ୍ଟନାୟକ : ଗ୍ରନ୍ଥମନ୍ଦିର : -02

୨୯- ସର୍ବସାର ବ୍ୟାକରଣ : ନାରାୟଣ ମହାପାତ୍ର ଓ ଶ୍ରୀଧର ଦାସ : ଧର୍ମଗ୍ରନ୍ଥ ଷ୍ଟୋର -06

୩୦. ଆଧୁନିକ ଓଡ଼ିଆ ବ୍ୟାକରଣ : ଧନେଶ୍ୱର ମହାପାତ୍ର : କିତାବ ମହଲ - 06

୩୧. ଲୋକ ସଂସ୍କୃତି ଓ ଲୋକ ସାହିତ୍ୟ : କୃଷ୍ଣଚନ୍ଦ୍ର ପ୍ରଧାନ : ବିଦ୍ୟାପୁରୀ କଟକ : - 05

୩୧ ପଶ୍ଚିମ ଓଡ଼ିଶା ର ଲୋକ ସଂସ୍କୃତି : ଡ. ସୁଶୀଲ କୁମାର ବାଗ : - 05

୩୨. ଭାରତୀୟ ସାହିତ୍ୟ ତତ୍ତ୍ୱ : ବନମାଳୀ ରଥ : ଓ. ରା. ପା. ପ୍ର ଓ ପ୍ରକାଶନ ସଂସ୍ଥା : -05

୩୩. ପାଶ୍ଚାତ୍ୟ ସାହିତ୍ୟ ଓ ସମୀକ୍ଷା ତତ୍ତ୍ୱ : କୃଷ୍ଣ ଚନ୍ଦ୍ର ପ୍ରଧାନ . ଓଡ଼ିଆ ସାହିତ୍ୟ ପ୍ରତିଷ୍ଠାନ : -05

୩୪- ସାରଳା ମହାଭାରତ (ଗଦାପର୍ବ : ସାରଳା ଦାସ) : - 05

୩୫- ଧର୍ମପଦ ଓ ଚନ୍ଦ୍ରଭାଗା ସମ୍ବାଦ : ବୈଷ୍ଣବ ଚରଣ ସାମଲ : ଫ୍ରେଣ୍ଡସ ପବ୍ଲିସର୍ସ : -05

୩୬- ରସ କଲ୍ଲୋଳ : - 06

୩୭- ରକ୍ତମାଟି : କାଳୀଚରଣ ପଟ୍ଟନାୟକ -06

୩୮- ନନ୍ଦିକା କେଶରୀ : ମନୋରଞ୍ଜନ ଦାସ -06

୩୯- ତଟ ନିରଞ୍ଜନା : ବିଜୟ ମିଶ୍ର - 06

୪୦. ଗୋଲକୁଥା : ବିଜୟ କୁମାର ଶତପଥୀ : ଅଗ୍ରଦୂତ - 06

୪୧. ଭୂଆ : ମହୀଲୁ ଚରଣ ବେହେରା - 06

୪୨. ସାହିତ୍ୟ ସାଧକ ମହୀଲୁ ଚରଣ ବେହେରା : ଗୌରୀଦାସ ପ୍ରଧାନ - 03

୪୩ ଛ ମାଣ ଆଠ ଗୁଣ : ଫକୀର ମୋହନ ସେନାପତି - 06

୪୪- ଦାନାପାଣି : ଗୋପୀନାଥ ମହାନ୍ତି - 06

୪୫- ମୋ କୁନି ବେଳର କାହାଣୀ : ପଦ୍ମରାଣୀ : - 06

ଅଭିନବ ଯାତ୍ରିକାରେ ଓଡ଼ିଆ ଟେକ୍ନିକ୍ : ଭୁବନେଶ୍ୱର ବେହେରା - ୦୬

ସମାଲୋଚନା ର ଦିଗଦିଗନ୍ତ : ଜଗଦୀଶ ମହାପାତ୍ର : ଓ. ଗ୍ରା. ପା. ପ୍ର. ପ୍ରତିଷ୍ଠାନ : - 03

୧୮. ସାହିତ୍ୟ ଓ ସମାଲୋଚନା : କୁଞ୍ଜବିହାରୀ ଦାଶ : ଓଡ଼ିଶା ବୁକ୍ ଷ୍ଟୋର - 03

୧୯. ଓଡ଼ିଆ ରେ କମ୍ପ୍ୟୁଟର ଶିକ୍ଷା : ଭୁବନାରାୟଣ ମହାପାତ୍ର : ସତ୍ୟନାରାୟଣ ବୁକ୍ ଷ୍ଟୋର - 04

୨୦ - ଓଡ଼ିଆ ଭାଷାରେ କମ୍ପ୍ୟୁଟରର ପ୍ରୟୋଗ : ସୁଧୀର କୁମାର ମହାନ୍ତି : ଅ. କେ ମିଶ୍ର : - 04

୨୧. ଯାତ୍ରା କଳା ଓ ଅଭିନୟ ପ୍ରକ୍ରିୟା : କୁଞ୍ଜବନ ପ୍ରଧାନ : ସତ୍ୟନାରାୟଣ ବୁକ୍ ଷ୍ଟୋର : - 04

୨୨. ଶବ୍ଦମାଳା : ପ୍ର. ନାରାୟଣ ସାହୁ, ଅଧ୍ୟାପକ କମଳ ସାହୁ : ବିଦ୍ୟାପୁରୀ ପ୍ରକାଶନ, ଜଗନ୍ନାଥବିହାରୀ - 06

୨୩. ତିନୋଟି ସମାଲୋଚନା : ନାରାୟଣ ଚନ୍ଦ୍ର କର : ଫ୍ରେଣ୍ଡସ୍ ପବ୍ଲିଶର୍ସ : - 04

୨୪. ଓଡ଼ିଆ ସମାଲୋଚନା ସାହିତ୍ୟ : ଓଡ଼ିଶା ସାହିତ୍ୟ ଏକାଡେମୀ - 03

୨୫. ଓଡ଼ିଶାର ଧର୍ମଧାରା : କୃଷ୍ଣଚନ୍ଦ୍ର ମିଶ୍ର . ଓ. ରା. ପା. ପ୍ର ଓ ପ୍ରକାଶନ ସଂସ୍ଥା : - 04

୨୬. ଏକାଙ୍କ ନାଟକ ସମୀକ୍ଷା : ସୁରେନ୍ଦ୍ର ମହାନ୍ତି - 04

୨୭. ପଥ ଓ ପୃଥିବୀ : ସୁରେନ୍ଦ୍ର ମହାନ୍ତି - 02

୨୮. ବିଶ୍ୱସ୍ତ ସାହିତ୍ୟ ତତ୍ତ୍ୱ : ଆଶୁତୋଷ ପଟ୍ଟନାୟକ : ଫ୍ରେଣ୍ଡସ୍ ପବ୍ଲିଶର୍ସ : - 04

୨୯. ଲୀଳାବତୀ ଲୀଳାଦ୍ରୁମ : ବ୍ୟାଖ୍ୟା, ଭୁବନେଶ୍ୱର ଉଦ୍ଗାରଣ (୧ମ ଓ ୨ୟ ଭାଗ) - 02

୩୦ - ଓଡ଼ିଆ ଉପନ୍ୟାସର ଇତିହାସ - [illegible] - ଓଡ଼ିଶା ବୁକ୍ ଷ୍ଟୋର - 04

୩୧ - ଓଡ଼ିଆ ସାହିତ୍ୟ ରେ ଓ [illegible] - ଭୋଲାନାଥ ରାଉତ - 04
[illegible] - [illegible], କଟକ

୩୨ - ଓଡ଼ିଆ ଓ [illegible]
[illegible] - ଆଶୁତୋଷ ରାଉତ, [illegible] - 03

୩୩ - [illegible] - ସୁରେନ୍ଦ୍ର ମହାନ୍ତି - 06

୩୪ - Book Shelf - 01 - required

Lambodar Pradhan
Lecturer in ODIA
D.t. 30.1.2024
SRC, RAMPUR

Department of Mathematics.

Books Required:

Sem-I

① Matlab Programming with Practical (I-IV).

② G.B. Thomas and R.L. Finney, Calculus.
9th edition, Pearson Education.

③ An introduction to linear algebra,
V. Krishna Murthy, V.P. Mainna, Affiliated east-west Press

④ Kenneth Rosen, Discrete Mathematics and its application
Mc Graw Hill, 7th edition.

Sem-II

① A basic course in Real analysis,
A. Kumar, S. Kumaresan, CRC Press, 2014.

② Differential equation,
Simmons G.F., Tata Mc Grawhill, (Latest edition).

③ Mathematical modelling with case studies.
Belinda Barnes and Glenn R. Fulford.

Sem-III

① Fundamental of mathematical Analysis.
A. Das and S. Pattnayak, TMH Publishers.

② Topics in Algebra,
I.N. Herstein, Wiley Eastern Limited, (New edition).

③ An elementary course in Partial Diff. equation.
T. Amarnath, Narosa Publications.

Sem-IV (*)

(1) Scientific Computing: An introductory survey
Michael Heath.

(2) Elementary Numerical Analysis: An algorithmic approach.
S.D. conte & S. de Boor.

(3) Topology: Metric spaces, Springer Publication.

(4) Topology of Metric space: Narosa publishing House.

(5) ~~Topics~~

Sem-V

(X)

Sem-VI (*)

(1) Complex Analysis: Princeton University Press & Oxford.

(2) Complex Variables and applications.
Mc Graw-Hill (above eighth edition).

(3) Elementary Geometry, A. Pressley.
Springer International Edition.

(4) Differential Geometry, Doven publications.

(5) Elementary number theory,
Tata Mc Grawhill.

(6) Beginning Number Theory. (Latest edition).
Narosa Publishing House.

POLITICAL SCIENCE

Date .....
Page .....

(1)

Department of Political Science
Books list CBCS

(I) R. Bellamy (ed), "Theories and concepts of politics" New York: Manchester University Press. (10 Pieces) (1993)

(II) D. Marsh and G. stoker (eds), Theory and Methods in political science, London: MacMillan. (10 Pieces) (1995)

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