BABU BANARASI DAS
INSTITUTE OF TECHNOLOGY & MANAGEMENT
Affiliated to Dr A P J Abdul Kalam Technical University (AKTU College Code- 054)
Approved by All India Council for Technical Education (AICTE)
Website: **www.bbditm.ac.in** / e-mail: **director@bbdnitm.ac.in**
Phone Number: +91 – (522) – 6196222 / 6196223 / 6196305 (VPN No. 723)

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

LAB MANUAL

OF

Structural Detailing Lab

[BCE 651]

B.TECH, 3rd Year, 6th Semester

Dr. A.P.J. Abdul Kalam Tech. University
Uttar Pradesh

2025-26

Department of Civil Engineering

Faculty Name: Mr. Avinash Kumar Upadhyay **Dr. Supriya Phurailatpam**

(Assistant Professor) **(Associate Professor)**

Head of the Department

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

MANUAL CONTENTS

This manual is intended for the 3rd year students of Civil Engineering in the subject of Structural Detailing Lab. This manual typically contains practical/lab sessions related to Structural Detailing, covering various aspects to enhance understanding of reinforced concrete and steel structural components, detailing practices, drafting standards, and design interpretation. Students are advised to thoroughly go through this manual rather than only the topics mentioned in the syllabus, as practical exposure is essential for understanding and visualizing the theoretical concepts related to structural drawings, reinforcement detailing, bar bending schedules, steel connections, and construction practices.

Good luck, and we wish you an engaging and insightful laboratory experience.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

PREFACE

This practical manual will be helpful for students of Civil Engineering for understanding the course from the point of view of applied aspects. Though all the efforts have been made to make this manual error free, yet some errors might have crept in inadvertently. Suggestions from the readers for the improvement of the manual are most welcomed.

VISION OF THE INSTITUTE

"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."

MISSION OF THE INSTITUTE

- To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence.
- To develop technocrats with creative skills and leadership qualities, to solve local and global challenges.
- To impart human values and ethics in students, to make them socially and Eco-friendly responsible

VISION OF THE DEPARTMENT

To impart academic excellence in civil engineering field with emphasis on holistic development of the professional, while inculcating ethics, socially and professionally responsive technocrats.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

MISSION OF THE DEPARTMENT

M1: To provide a comprehensive platform for academic expertise and proficiency

M2: To develop civil engineering professionals with creative skills and leadership qualities in order to face regional and global challenges.

M3: To develop ethics in students in order to promote socially responsible environmental awareness with innovative thinking.

Program Educational Objectives (PEOs) of Department

PEO 1: To enhance skill and expertise in field of civil engineering with aim of boosting employability and entrepreneurship.

PEO 2: To develop multidisciplinary approach of civil engineering system with lifelong learning solutions.

PEO 3: To develop the potential to pursue higher education and research in field of civil engineering

Program Outcomes :(PO)

Graduates will be able to achieve

PO 1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering Fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics,

Natural sciences, and engineering sciences.

PO 3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

PO 10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear.

PO 11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcome (PSO)

PSO 1: Graduates shall be able to apply critical thinking in research, design, analysis and implementation of civil engineering problems

PSO 2: Graduates shall be able to inculcate the idea of sustainability in engineering solution to meet real world challenges.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Course Evaluation Scheme

Sr No	Subject Code	Subject Name	Periods			Evaluation Scheme				Total	Credit
						Sessional Assessment			PE		
			L	T	P	CT	TA	PS			
1.	**BCE651**	Structural Detailing Lab	0	0	2	-	-	50	50	100	1

Lab Objectives:

1.	Understand and prepare structural drawings and detailing of RCC structural components such as beams, slabs, columns, and footings.
2.	Measure, draft, and analyze reinforcement detailing and bar bending schedules as per standard codes and practices.
3.	Analyze and prepare structural detailing of steel connections, trusses, and framed structures using standard detailing procedures.
4.	Determine and evaluate reinforcement requirements, anchorage lengths, lap splices, and detailing provisions for safe structural performance.
5.	Perform and evaluate detailing of complete structural systems using manual drafting and CAD tools to ensure accuracy, stability, and constructability.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Lab Outcomes (LOs)

Lab Outcomes: The students should be able to:		**Knowledge Level**
LO1	Recall key IS codes (IS 456, IS 13920, SP-34, IS1893) related to reinforcement detailing.	**K1, K2**
LO2	Apply IS code provisions to prepare detailed drawings of beams, slabs, columns, and footings.	**K1, K2, K3**
LO3	Analyze and evaluate structural detailing of steel connections, trusses, and framed structures.	**K2, K4**
LO4	Evaluate structural detailing for compliance with IS codes and seismic design standards	**K2, K3, K5**
LO5	Create bar bending schedules (BBS) and detailed reinforcement drawings using BIM or drafting software	**K2, K3, K6**

K1- Remember, K2- Understand, K3- Apply, K4- Analyze, K5- Evaluate, K6- Create

CO-PO-PSO Mapping

LOs /POs	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PS O1**	**PS O2**
LO1	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
LO2	3	2	2	1	2	-	-	-	-	-	-	1	2	1
LO3	3	3	2	2	3	-	-	-	1	-	-	1	3	1
LO4	3	3	3	2	2	-	-	-	1	-	-	1	3	2
LO5	3	3	3	2	2	-	-	-	1	-	-	1	3	2
AVERAGE	3	2.8	2.6	2.0	2.4	-	-	-	1.0	-	-	1.0	2.8	1.6

The extent of mapping is as follows: 1 for low, 2 for moderate, 3 for high &"-" for No correlation between CO & PO.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

List of Experiments

S. No.	Experiment
1	Study and recall of IS codes (IS 456:2000, IS 13920:2016, SP-34, IS1893) for RCC detailing.
2	Preparation of hand sketches for detailing of simply supported and continuous RCC beams.
3	Detailing of RCC slabs (one-way and two-way) with reinforcement placement.
4	Detailing of RCC columns (tied and spirally reinforced) with lap splices and anchorage.
5	Detailing of isolated, combined, and strap footings as per IS codes
6	Preparation of bar bending schedules (BBS) for beams, slabs, and columns.
7	Seismic detailing of RCC beams and columns as per IS 13920:2016.
8	Detailing of Masonry structures as per the IS codes
9	Detailing of shear walls and understanding boundary elements for seismic resistance.
10	Introduction to structural detailing software (AutoCAD/FOSSEE).

Beyond Syllabus:

S.No.	Experiment
1	Detailing of Staircases (Dog-legged and Open Well Type) with Reinforcement Layout
2	Detailing of Steel Connections (Bolted and Welded) for Structural Members

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

INDEX

S.No.	Name of the Experiment	CO	BTL	Lab Conduction Date	Remark/ Grade/ Marks	Faculty Signature with Date

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Software & Hardware Required:

Software Required:

1. AutoCAD for structural drafting and detailing.
2. FOSSEE tools for structural detailing practice and drafting exercises.
3. Microsoft Excel for preparation of Bar Bending Schedules (BBS) and calculations.
4. STAAD.Pro (optional) for understanding structural member behavior and detailing concepts.

Hardware Required:

1. Desktop computers or workstations with adequate RAM and graphics support.
2. Drawing sheets, tracing sheets, and drafting boards.
3. Engineering drawing instruments (scale, set squares, compass, pencils, eraser, etc.).
4. Printer/plotter for printing structural drawings and detailing sheets.
5. LCD projector for demonstration of detailing procedures and software applications.
6. Reinforcement detailing charts, IS code books, and sample structural drawings

Laboratory Safety Instructions (DO's)

1. Follow relevant IS codes and standard detailing practices while preparing drawings.
2. Use proper dimensions, scales, symbols, and notations in structural drawings.
3. Check reinforcement details, bar bending schedules, and annotations carefully before submission.
4. Maintain neatness and accuracy in hand sketches and CAD drawings.
5. Handle computers, drafting instruments, and laboratory resources carefully.

Laboratory Precautions (Don'ts)

1. Do not prepare structural drawings without referring to standard IS code provisions.
2. Do not use incorrect scales, dimensions, or reinforcement markings in detailing.
3. Do not overwrite or clutter drawings with unnecessary annotations.
4. Do not leave CAD systems or laboratory equipment improperly shut down after use.
5. Do not copy detailing sheets without understanding the structural concept and arrangement.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 1

Study and recall of IS codes (IS 456:2000, IS 13920:2016, SP-34, IS1893) for RCC detailing

Aim

To study important IS codes used for RCC structural detailing.

IS Codes Covered

1. IS 456:2000 – Plain and Reinforced Concrete
2. IS 13920:2016 – Ductile Detailing of Reinforced Concrete Structures
3. SP-34 – Handbook on Concrete Reinforcement and Detailing
4. IS 1893 – Criteria for Earthquake Resistant Design of Structures

Theory

Structural detailing is the process of preparing detailed drawings for structural components showing reinforcement arrangement, dimensions, spacing, lap lengths, and anchorage details.

Result

The important IS codes and their applications in structural detailing were studied.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 2

Detailing of RCC slabs (one-way and two-way) with reinforcement placement.

Aim

To prepare reinforcement detailing of a simply supported RCC beam.

Theory

RCC beams are horizontal structural members subjected mainly to bending. Reinforcement is provided at the Tension zone to resist tensile stresses.

Sample Beam Detail

Cross Section

Longitudinal Section

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Procedure

1. Draw beam dimensions to suitable scale.
2. Provide clear cover as per IS 456.
3. Show longitudinal reinforcement.
4. Provide stirrup spacing.
5. Mention bar diameters and spacing.

Result

The reinforcement detailing of RCC beam was prepared successfull

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 3
Detailing of RCC slabs (one-way and two-way) with reinforcement placement.

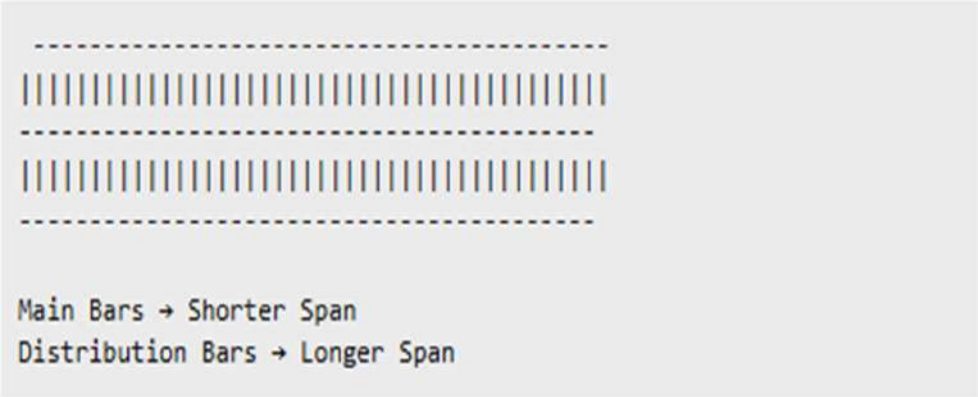
Aim

To prepare detailing of one-way and two-way slabs.

Theory

Slabs are plate elements subjected to transverse loading. Main reinforcement is provided along the shorter span in one-way slabs.

Sample Slab Reinforcement Layout



Result

The reinforcement layout for slab detailing was prepared.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

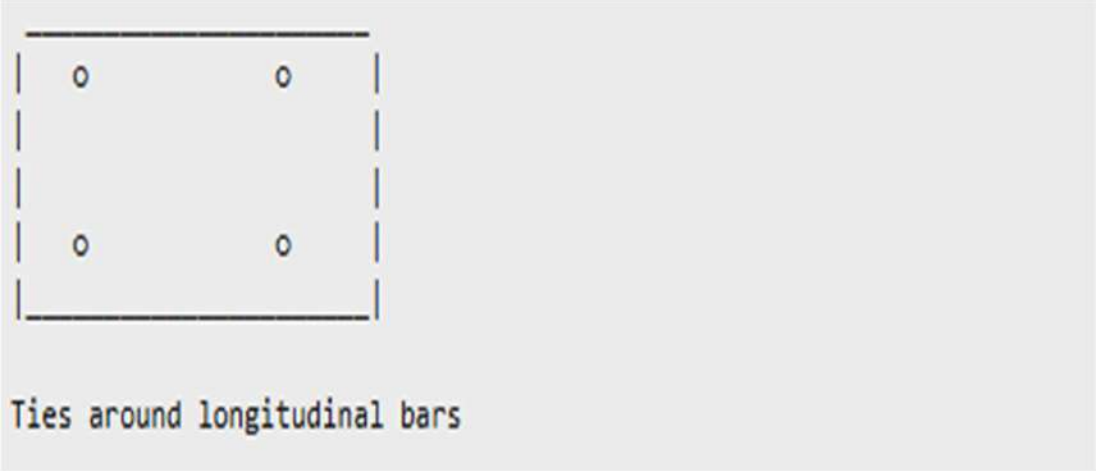
EXPERIMENT 4

Detailing of RCC columns (tied and spirally reinforced) with lap splices and anchorage

Aim

To prepare reinforcement detailing of RCC columns.

Sample Column Section



Result

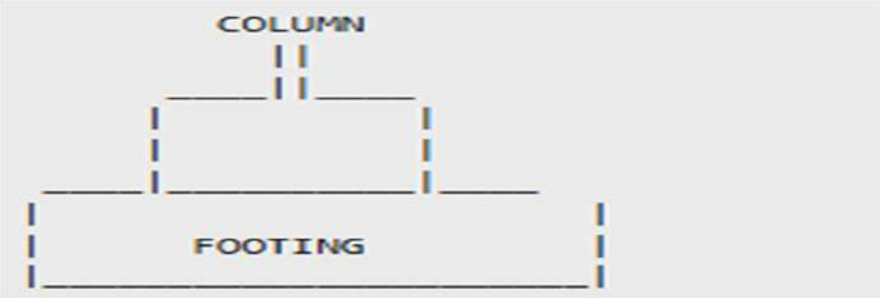
The detailing of RCC column was prepared successfully.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 5
Detailing of isolated, combined, and strap footings as per IS codes

Aim

To prepare detailing of isolated and combined footings.



Result

The reinforcement detailing of footing was prepared.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 6
Preparation Of Bar Bending Schedules (BBS) For Beams, Slabs, and Columns

Aim

To prepare Bar Bending Schedule for RCC members.

Sample BBS Format

Bar Mark	Dia (mm)	Shape	Length (mm)	Quantity
B1	16	Straight	4500	2
B2	8	Stirrup	900	25

Result

Bar Bending Schedule was prepared successfully.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 7

Seismic detailing of RCC beams and columns as per IS 13920:2016.

Aim

To study seismic detailing provisions as per IS 13920:2016.

Important Seismic Provisions

1. Closely spaced stirrups near beam-column joints.
2. Proper anchorage of bars.
3. Confinement reinforcement in columns.
4. Avoid lap splices near joints.

Result

Seismic detailing provisions were studied and implemented.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 8
Detailing of Masonry structures as per the IS codes

Aim

To prepare detailing of masonry walls with lintel and reinforcement provisions.

Result

Masonry detailing was prepared as per IS code provisions.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 9

Detailing of shear walls and understanding boundary elements for seismic resistance.

Aim

To prepare reinforcement detailing of RCC shear walls.

Result

The detailing of shear wall reinforcement was prepared.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 10
Introduction to structural detailing software (AutoCAD/FOSSEE)

Aim

To study structural detailing using AutoCAD/FOSSEE tools.

Commands Studied

1. LINE
2. OFFSET
3. TRIM
4. EXTEND
5. DIMENSION
6. HATCH
7. LAYER MANAGEMENT

Result

Students learned basic structural drafting using CAD software.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Beyond Syllabus:

Experiment 1
Detailing of RCC Staircases (Dog-Legged and Open Well Type)

Aim

To prepare reinforcement detailing and sectional drawings for RCC staircases including landing reinforcement as per IS code provisions.

IS Codes Used

- IS 456:2000

Types of Staircases

1. Dog-legged staircase
2. Open well staircase

Reinforcement Detailing

- Main bars provided along slope of waist slab
- Distribution bars placed perpendicular to main bars
- Proper anchorage provided at landings
- Clear cover maintained as per IS code

Typical Reinforcement

- Main bars: 10–12 mm dia @ 150 mm c/c
- Distribution bars: 8 mm dia @ 150–200 mm c/c

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Drawings Prepared

- Staircase plan
- Longitudinal section
- Cross section
- Reinforcement layout

Result

Detailed reinforcement and sectional drawings for RCC staircases were prepared successfully according to IS code provisions.

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

EXPERIMENT 2
Detailing Of Steel Connections (Bolted and Welded)

Aim

To prepare detailed drawings for bolted and welded steel beam-column and truss connections using standard steel detailing practices.

IS Codes Used

- IS 800:2007
- IS 816

Types of Connections

1. Bolted connections
2. Welded connections

Detailing Includes

- Beam-column connections
- Truss gusset plate connections
- Bolt spacing and edge distances
- Weld size and weld length

Typical Details

- Bolt grades: 4.6 or 8.8
- Fillet weld size: 6–10 mm

Vision of the Institute	Mission of the Institute
"To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values."	⇨ To create an eco-system for the dissemination of technical knowledge, to achieve academic excellence. ⇨ To develop technocrats with creative skills and leadership qualities, to solve local and global challenges. ⇨ To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

Drawings Prepared

- Connection plan
- Elevation
- Sectional details
- Bolt and weld layout

Result

Detailed drawings for bolted and welded steel connections were prepared successfully as per IS code provisions.