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**INSTITUTIONAL AREA, MADHUBAN CHOWK, ROHINI, DELHI-110085**

# Department of Management Sciences (MBA)

## Academic Session: 2025–2026

## Report

## On

# "Sales Performance Review and Coaching: A Role Play on Managing the Sales Force"

*(Based on Role Play Pedagogy)*

**Activity:** Role Play on Sales Performance Review, Coaching and Motivation of Sales Executives
**Subject:** Sales and Distribution Management (MS 215)
**Programme:** MBA (2nd Year)
**Semester:** III
**Date:** 14/10/2025
**Department:** Department of Management Sciences
**Faculty In-Charge:** Dr. Shalini Gupta, Associate Professor (DMS), TIAS
**Participants:** 11 Students

## Introduction

This report documents a Role Play activity conducted for MBA (2nd Year) students in the subject Sales and Distribution Management. The activity recreated a quarterly sales review at an FMCG company, in which a Regional Sales Manager held one-to-one review and coaching meetings with sales executives of very different profiles ahead of the festive season.

Managing a sales force goes well beyond setting targets. Sales managers must diagnose performance problems, give honest and balanced feedback, motivate people with different needs and link incentives to the right behaviours. The role play allowed students to practise these managerial conversations in a safe classroom setting and to experience both sides of a performance review.

## Objectives

The Role Play activity was conducted with the following objectives:

- To understand the components of sales force management, including supervision, motivation, compensation and evaluation.
- To analyse sales performance data using input measures (calls, coverage) and output measures (sales, collections).



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- To practise conducting a structured, data-based performance review and coaching conversation.
- To apply motivation theories and incentive design to different types of sales executives.
- To develop listening, feedback, negotiation and goal-setting skills required of sales managers.

## Role-Play Scenario

Students were given a case brief on **"NutriFresh Foods"**, a hypothetical packaged-foods company whose Delhi NCR region had fallen short of its quarterly target. A data sheet for each sales executive showed target versus achievement, outlet coverage, calls per day and productive-call ratio, new outlets added, outstanding collections and CRM reporting compliance.

The Regional Sales Manager had to complete one-to-one reviews with three Area Sales Executives and agree on a festive-season action plan with each of them.

## Roles Assigned

- **Regional Sales Manager (RSM):** Conducted the review meetings, gave feedback and agreed on action plans. Different students played this role in each round.
- **Area Sales Executive 1 – The Underperformer:** Well below target; blamed the territory and competitor schemes for the shortfall.
- **Area Sales Executive 2 – The Star Performer:** Above target, but heavily dependent on two distributors, with overdue collections and poor CRM reporting; expected a promotion.
- **Area Sales Executive 3 – The New Joiner:** Three months into the job; motivated but lacking product knowledge and route planning skills.
- **HR Business Partner:** Advised on incentive structure, training support and the company's performance improvement policy.
- **Observers:** Rated each review on use of data, quality of feedback, listening and goal setting.

## Implementation

The activity was implemented in a structured manner in line with the role play pedagogy:

### a) Conceptual Orientation

The faculty recapped the key elements of sales force management: recruitment and selection, training, compensation (salary, commission and incentives), motivation theories such as Maslow's hierarchy, Herzberg's two-factor theory and expectancy theory, sales quotas, and evaluation of sales personnel. The GROW model (Goal, Reality, Options, Way forward) was introduced as a simple coaching framework.



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**b) Role Allocation and Data Sheets**

Students were assigned roles and given their data sheets and role cards. Each sales executive's card included a personal concern that the RSM had to discover through questioning.

**c) Preparation**

Ten minutes were given for preparation. The RSMs analysed the data to plan their questions, while the executives prepared their explanations and requests.

**d) Enactment of Review Meetings**

Three review rounds were enacted before the class:

- **Round 1 – Underperformer:** The RSM moved the discussion from blame to diagnosis. The data showed a low productive-call ratio and outlets being skipped on two beats. Both agreed on a revised beat plan, a joint field visit and 30-day improvement targets.
- **Round 2 – Star Performer:** The RSM recognised the strong sales result while raising overdue collections, over-reliance on two distributors and CRM compliance. Promotion was linked to a balanced set of measures rather than volume alone.
- **Round 3 – New Joiner:** The RSM used the GROW model to coach the executive, arranged product training and paired him with a senior colleague for route planning.

**e) Incentive and Motivation Discussion**

The HR Business Partner joined the RSMs to redesign the festive-season incentive. The class agreed that incentives should reward a mix of volume, new outlet additions and timely collections, so that executives are not pushed to chase volume at the cost of credit discipline.

**f) Debriefing and Faculty Feedback**

Observers shared their ratings and the class discussed common mistakes such as one-way conversations, vague feedback and judging performance on sales volume alone. The faculty linked these observations to the syllabus on supervision, motivation and evaluation of the sales force.



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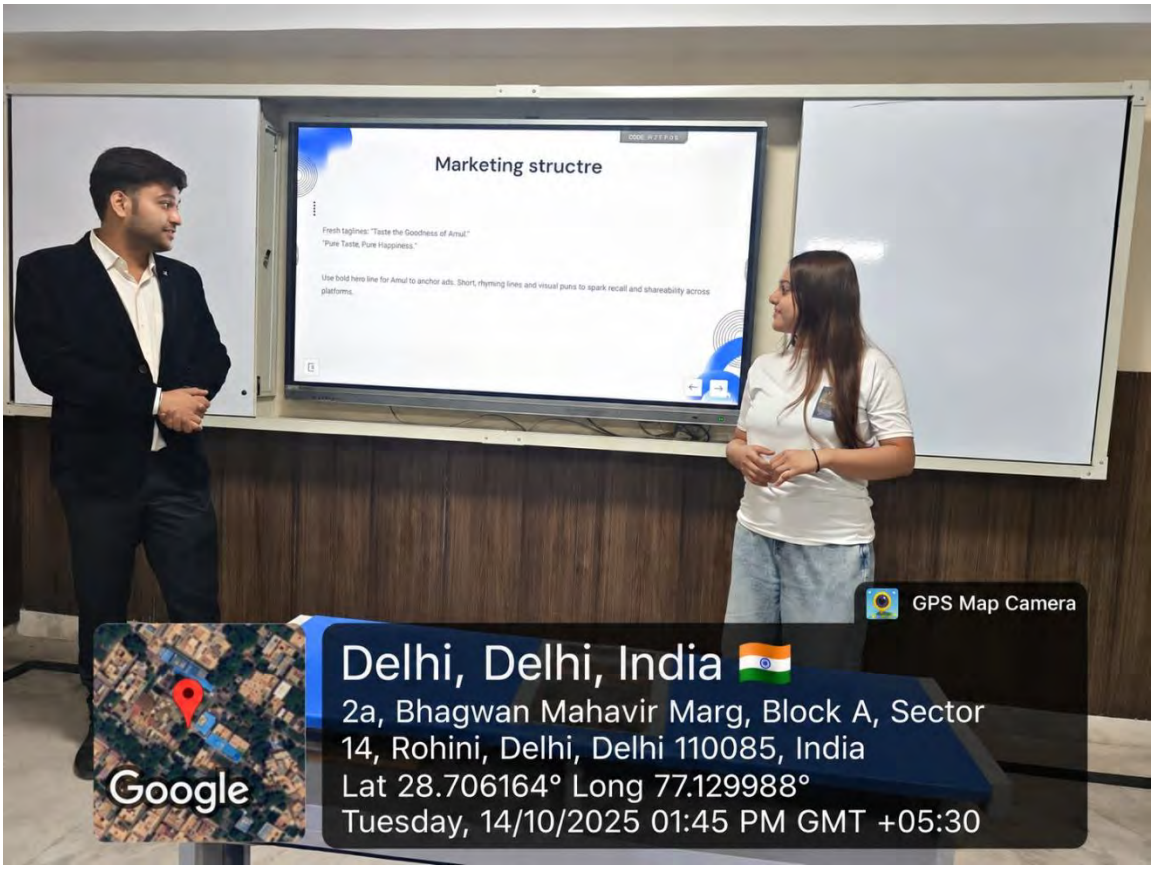
# Photographs




**Students enacting the sales performance review role play**




**Regional Sales Manager coaching an Area Sales Executive during the role play**

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## Key Learning Outcomes

The Role Play activity resulted in the following learning outcomes:

- Better understanding of how sales managers supervise, motivate and evaluate their teams.
- Ability to use input and output measures together to diagnose sales performance.
- Hands-on practice in giving specific, balanced and data-backed feedback.
- Insight into designing incentives that encourage the right selling behaviours.
- Improved listening, empathy and negotiation skills for managerial conversations.
- Greater confidence in handling difficult conversations with team members.

## Conclusion

The sales performance review role play gave students a realistic experience of the people-management side of sales. By reviewing an underperformer, a star performer and a new joiner, they saw that a single approach does not work for every salesperson and that good sales managers combine data, empathy and clear goals.

The activity strengthened the link between sales force management theory and practice and helped develop the managerial competencies expected of MBA graduates entering sales careers.



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# List of Participants

| S.No. | Enrollment No. | Name of Student |
|---|---|---|
| 1 | 00117003924 | SAKSHAM SIKKA |
| 2 | 00217003924 | SARIKA JAISWAL |
| 3 | 00417003924 | NAQEEB ALAM |
| 4 | 00617003924 | RITIKA YADAV |
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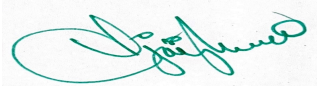
| 8 | 35221303924 | AYUSH CHAUHAN |
| 9 | 35317003924 | SHREYA SHARMA |
| 10 | 50117003924 | YUVRAJ LUTHRA |
| 11 | 01017003924 | HIRDIKAA |

**Dr. Shalini Gupta**
Associate Professor
Department of Management Sciences
TIAS



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**Department of Management Sciences (MBA)**

**Academic Session: 2025–2026**

**Report**

**On**

# "From Business Problem to Analytics Solution: A Client–Consultant Role Play"

*(Based on Role Play Pedagogy)*

**Activity:** Role Play on Requirement Gathering and Problem Framing in Business Analytics
**Subject:** Business Analytics (MS-211)
**Programme:** MBA (2nd Year)
**Semester:** III
**Date:** 20/11/2025
**Department:** Department of Management Sciences
**Faculty In-Charge:** Dr. Shalini Gupta, Associate Professor (DMS), TIAS
**Participants:** 11 Students

## Introduction

This report documents a Role Play activity conducted for MBA (2nd Year) students in the subject Business Analytics. Students enacted a discovery meeting between an analytics consulting team and the senior management of an online retail company, and then presented a scoped analytics project proposal.

Many analytics projects struggle not because of weak models but because the business problem was never clearly defined. This activity focused on the first and most important stage of any analytics project: understanding the business need, asking the right questions, identifying the data available and converting vague concerns into specific, measurable analytics questions. The role play format required students to practise these skills in a live conversation with demanding clients.

## Objectives

The Role Play activity was conducted with the following objectives:

- To understand the stages of an analytics project, with special emphasis on business understanding and problem definition.
- To practise requirement gathering through structured, open-ended questioning.
- To convert broad business concerns into specific analytics questions and measurable KPIs.

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- To map business questions to suitable data sources and to descriptive, diagnostic, predictive and prescriptive analytics.
- To develop consulting, communication and expectation-management skills.

## Role-Play Scenario

The case brief introduced **"UrbanCart"**, a hypothetical online grocery and home-essentials retailer operating in Delhi NCR. Its management was worried about falling repeat orders and rising delivery costs and had invited an analytics consulting firm to help. The client's concerns were deliberately vague: "sales are dropping and costs are going up; tell us what to do."

The consultants had to run a discovery meeting, uncover the real problem, and return with a one-page project proposal.

## Roles Assigned

- **Client – Chief Executive Officer:** Wanted quick answers and growth; impatient with technical detail.
- **Client – Head of Marketing:** Believed that more discounts would bring customers back.
- **Client – Head of Operations:** Concerned about late deliveries, stock-outs and rising cost per delivery.
- **Client – IT and Data Manager:** Knew what data existed and its quality problems, but shared this only when asked.
- **Consultant – Engagement Manager:** Led the meeting, managed client expectations and agreed the project scope.
- **Consultant – Business Analyst:** Asked probing questions and documented business requirements.
- **Consultant – Data Analyst:** Assessed data availability and suggested suitable analytical methods.
- **Observers:** Evaluated the quality of questioning, listening and clarity of the final proposal.

## Implementation

The activity was implemented in a structured manner in line with the role play pedagogy:

### a) Orientation

The faculty introduced the CRISP-DM framework (business understanding, data understanding, data preparation, modelling, evaluation and deployment), the four types of analytics, and the difference between a symptom and a root business problem. Guidelines for writing SMART KPIs were also discussed.

### b) Role Cards with Hidden Information

Each client role card contained information that the consultants had to uncover through questioning. For example, the IT and Data Manager knew that many orders came from guest



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checkouts without customer IDs, and the Head of Operations knew that a warehouse had recently been relocated.

**c) Discovery Meeting**

The consultants used open-ended questions and the "5 Whys" technique to dig beneath the client's concerns. Over the meeting, the vague statement "sales are dropping" was reframed into a precise question: which customer segments show the steepest fall in repeat purchases over the last two quarters, and how far do delivery delays, stock-outs, prices and discounts explain it?

**d) Data and Method Mapping**

The consultants mapped each question to available data (order history, delivery logs, inventory records, customer feedback and campaign data) and proposed suitable methods:

- **Descriptive:** cohort analysis and RFM segmentation of customers
- **Diagnostic:** analysis of the link between delivery delays, stock-outs and repeat orders
- **Predictive:** identifying customers likely to stop ordering
- **Prescriptive:** recommendations on delivery slots and stock planning

**e) Proposal Presentation and Negotiation**

The consultants presented a one-page proposal covering objectives, KPIs (repeat purchase rate, order frequency, on-time delivery percentage, cost per delivery and stock-out rate), data requirements, deliverables and timeline. The client team challenged the scope and timeline, and both sides agreed on a phased plan with an early, visible result within four weeks.

**f) Debriefing and Faculty Feedback**

Observers commented on how well consultants listened, avoided jargon and handled pressure from the CEO. The faculty emphasised that clear problem definition saves time and cost later in the project, and briefly discussed data quality and privacy considerations when working with customer data.



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## Photographs




**Students enacting the client–consultant discovery meeting**

## Key Learning Outcomes

The Role Play activity resulted in the following learning outcomes:

- Clear understanding of the business-understanding stage of an analytics project.
- Improved ability to frame specific, measurable analytics questions from broad business concerns.
- Practical skill in matching business questions with data sources and types of analytics.
- Development of questioning, active listening and client communication skills.
- Awareness of data quality limitations and how they shape the scope of an analytics project.
- Experience in negotiating project scope and managing stakeholder expectations.

## Conclusion

The client–consultant role play showed students that successful business analytics begins with asking the right questions. By playing both the client and the consulting team, students understood how managers express problems and how analysts must translate them into a clear, feasible analytics plan.

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The activity strengthened analytical thinking and professional communication, and reinforced the practical relevance of the Business Analytics syllabus for future managers and analysts.



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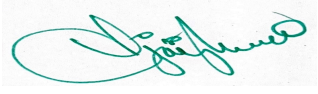
Associate Professor
Department of Management Sciences
TIAS



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**Department of Management Sciences (BBA)**

**Academic Session: 2025–2026**

**Report**

**On**

# "The Personal Selling Process in Action: A Salesperson–Customer Role Play"

*(Based on Role Play Pedagogy)*

**Activity:** Role Play on Personal Selling: Approach, Presentation, Objection Handling and Closing
**Subject:** Sales and Channel Management (BBA 210)
**Programme:** BBA
**Semester:** IV
**Date:** 12/02/2026
**Department:** Department of Management Sciences
**Faculty In-Charge:** Dr. Shalini Gupta, Associate Professor (DMS), TIAS
**Participants:** 28 Students

## Introduction

This report documents a Role Play activity conducted for BBA (Semester IV) students in the subject Sales and Channel Management. Students enacted face-to-face sales conversations between salespersons and customers across a range of products and buying situations, applying each step of the personal selling process.

Personal selling is best learnt by doing. Reading about objection handling or closing techniques is very different from responding to a customer who says "it is too expensive" or "I will think about it." The role play allowed students to experience the pressure and the opportunity of a live sales conversation, to observe their peers, and to receive structured feedback on their selling skills.

## Objectives

The Role Play activity was conducted with the following objectives:

- To understand and apply the steps of the personal selling process.
- To practise identifying customer needs through effective questioning and listening.
- To present products in terms of customer benefits using the Features–Advantages–Benefits (FAB) approach.
- To handle common customer objections and apply suitable closing techniques.



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- To build confidence, communication skills and professional selling behaviour.

## Role-Play Scenario

Students worked in small groups. Each group received a situation card describing a product and a customer, along with a hidden customer profile known only to the student playing the customer. The situations included:

- Cloud-based billing and inventory software for a neighbourhood kirana store owner
- An electric scooter for a first-time two-wheeler buyer at a dealership
- A term insurance plan for a young salaried professional
- Bulk office stationery and printing supplies for a corporate procurement manager
- A premium smartphone for a price-conscious customer at a retail store
- An annual fitness centre membership for a busy working professional

Customer profiles included the price-sensitive buyer, the indecisive buyer, the silent buyer, the know-it-all, the busy executive and the customer loyal to a competitor's brand.

## Roles Assigned

- **Salesperson:** Approached the customer, discovered needs, presented the product, handled objections and attempted to close the sale.
- **Customer:** Played the assigned buyer type and raised realistic objections based on the hidden profile card.
- **Sales Manager / Observer:** Assessed the salesperson using an evaluation rubric and shared feedback during the debrief.

## Implementation

The activity was implemented in a structured manner in line with the role play pedagogy:

### a) Recap of the Personal Selling Process

The faculty revised the seven steps of personal selling: prospecting and qualifying, pre-approach, approach, presentation and demonstration, handling objections, closing, and follow-up. The AIDA model, SPIN questioning (Situation, Problem, Implication, Need-payoff) and the FAB approach were briefly explained.

### b) Group Formation and Situation Cards

Students were divided into small groups of three or four. Each group drew a situation card, and roles of salesperson, customer and observer were assigned within the group.

### c) Preparation

Groups were given ten minutes to prepare. Salespersons listed the product's features and benefits and anticipated likely objections, while customers studied their hidden profiles.



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**d) Enactment of Sales Conversations**

Each group performed a short sales conversation in front of the class. Some effective moments included:

- In the software case, the store owner's objection that "my notebook works fine" was answered by showing time saved in stock counting and GST billing.
- In the insurance case, the objection "I am too young for insurance" was addressed by comparing premiums at different ages.
- In the smartphone case, the price objection was handled by focusing on long-term value, warranty and easy EMI options.

**e) Objection Handling and Closing Techniques**

After the enactments, the faculty highlighted the techniques students had used or missed, including the LAER approach (Listen, Acknowledge, Explore, Respond), the "feel–felt–found" method, and closing techniques such as the assumptive close, alternative-choice close, summary close and trial close.

**f) Peer Evaluation and Debriefing**

Observers scored each salesperson on opening, need discovery, product knowledge, objection handling, closing and body language. Common areas for improvement were talking too much, missing buying signals and hesitating to ask for the order. The faculty linked these points to the syllabus and to real selling situations.

## Photographs




**Students enacting a salesperson–customer role play**

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## Key Learning Outcomes

The Role Play activity resulted in the following learning outcomes:

- Practical understanding of each step of the personal selling process.
- Improved questioning and listening skills for identifying customer needs.
- Ability to present products in terms of customer benefits rather than features alone.
- Confidence in handling price, timing and competitor-related objections.
- Familiarity with a range of closing techniques and the importance of follow-up.
- Enhanced communication, body language and professional selling behaviour.

## Conclusion

The salesperson–customer role play turned the personal selling process from a list of steps into a skill that students could practise and improve. Facing realistic customer types and objections, they learnt to listen first, sell on benefits and ask confidently for the order.

The activity created an engaging, student-centred classroom and strengthened the practical relevance of the Sales and Channel Management syllabus, preparing students for customer-facing roles in sales and marketing.



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# List of Participants

| S.No. | Enrollment No. | Name of Student |
|---|---|---|
| 1 | 00617001724 | Riya |
| 2 | 01617001724 | Vaishnavi Patnaik |
| 3 | 01917001724 | Swayam Khurana |
| 4 | 02117001724 | Hamza Zafar Khan |
| 5 | 02217001724 | Raghav Mohan Kapur |
| 6 | 02517001724 | Jai Aggarwal |
| 7 | 03017001724 | Krish Mittal |
| 8 | 03217001724 | Bhavya Rathi |
| 9 | 03317001724 | Abhimanyu Arora |
| 10 | 03417001724 | Saatvik Khanna |
| 11 | 03617001724 | Aryan Mehta |
| 12 | 03717001724 | Aadit Goel |
| 13 | 04017001724 | Parv |
| 14 | 04117001724 | Molik Mutreja |
| 15 | 04317001724 | Om Sharma |
| 16 | 04817001724 | Satyam |
| 17 | 05317001724 | Krish Chhabra |
| 18 | 05517001724 | Ehimaya |
| 19 | 05617001724 | Dhruv Tripathi |
| 20 | 35217001724 | Vanshika Chauhan |
| 21 | 35517001724 | Pratham Gupta |
| 22 | 36117001724 | Aryan Sondhi |
| 23 | 50217001724 | Ayush Jain |
| 24 | 50317001724 | Yug Jain |
| 25 | 50817001724 | Priyanka Bora |
| 26 | 50917001724 | Apurv Kumar |
| 27 | 51317001724 | Pranav Goel |
| 28 | 51517001724 | Bhumika |

**Dr. Shalini Gupta**
Associate Professor
Department of Management Sciences
TIAS

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**Department of Management Sciences (BBA)**

**Academic Session: 2025–2026**

**Report**

**On**

# "Customer Churn and Retention Strategy: A Boardroom Role Play on Marketing Analytics"

*(Based on Role Play Pedagogy)*

**Activity:** Role Play on Using Customer Analytics for Churn Reduction and Retention Strategy
**Subject:** Marketing Analytics (BBA 309)
**Programme:** BBA
**Semester:** V
**Date:** 17/09/2025
**Department:** Department of Management Sciences
**Faculty In-Charge:** Dr. Shalini Gupta, Associate Professor (DMS), TIAS
**Participants:** 26 Students

## Introduction

This report documents a Role Play activity conducted for BBA (Semester V) students in the subject Marketing Analytics. The activity simulated a board meeting at a telecom company that was losing prepaid subscribers, and asked students to use customer data to agree on a retention strategy within a fixed budget.

Customer retention is one of the most direct applications of marketing analytics, since keeping an existing customer usually costs far less than acquiring a new one. By stepping into the roles of senior managers, analysts and customers, students had to interpret a churn dashboard, defend their recommendations under questioning, and see how the same data looks different to marketing, finance and service teams. The role play pedagogy turned concepts such as churn rate, customer lifetime value and segmentation into decisions that students had to argue for and justify.

## Objectives

The Role Play activity was conducted with the following objectives:

- To understand key retention metrics such as churn rate, retention rate and customer lifetime value (CLV).

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- To interpret a customer analytics dashboard and identify the main drivers of customer churn.
- To apply customer segmentation for designing targeted, cost-effective retention strategies.
- To appreciate how different functional heads view the same data and negotiate a common decision.
- To build presentation, persuasion and data-backed reasoning skills in a business meeting setting.
- To create awareness about the ethical and responsible use of customer data.

## Role-Play Scenario

Students were given a one-page case brief on **"ConnectPlus Telecom"**, a hypothetical mid-sized mobile operator. The brief stated that monthly prepaid churn had risen sharply over two quarters and that the board had set aside a limited budget for a retention programme. A simplified dashboard accompanied the brief, showing churn by customer tenure, plan type, region, data usage, recharge pattern and number of service complaints.

The board meeting had a single agenda: agree on a retention plan that reduces churn without wasting money on customers who were never likely to leave.

## Roles Assigned

- **Chief Executive Officer:** Chaired the meeting, set the agenda and pushed the board towards a clear, budgeted decision.
- **Chief Marketing Officer:** Proposed retention campaigns and loyalty offers, and justified them using customer lifetime value.
- **Marketing Analytics Team:** Presented the churn drivers, the customer segments most at risk and a simple churn-risk scoring logic drawn from the dashboard.
- **Customer Service Head:** Brought in complaint and network-quality data and argued that service issues had to be fixed before offers were made.
- **Finance Head:** Questioned costs and return on investment, and warned against giving discounts to loyal customers who would have stayed anyway.
- **Customer Panel:** Students played different customer types (a price-sensitive student, a heavy data user, a senior citizen and a small business owner) and reacted to the proposed offers.
- **Observers:** Evaluated the quality of arguments, use of data and teamwork using a simple rubric.

## Implementation

The activity was implemented in a structured manner in line with the role play pedagogy:



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**a) Concept Briefing**

The faculty began with a short recap of churn rate, retention rate, CLV, RFM (Recency–Frequency–Monetary) segmentation, cohort analysis and A/B testing, explaining how each is used in retention decisions.

**b) Distribution of Case Brief and Role Cards**

Students were divided into role groups and given role cards. Each card carried the role's responsibilities along with a private objective; for example, the Finance Head had to keep total spending within the approved budget, while the Customer Service Head had to secure funds for network fixes.

**c) Preparation**

Groups were given fifteen minutes to study the dashboard and prepare their positions. The analytics team identified three leading churn drivers: low tenure (customers in their first six months), repeated network complaints, and cheaper data packs offered by competitors.

**d) Enactment of the Board Meeting**

The analytics team opened the meeting with its findings, after which each functional head responded from their role. The customer panel's reactions proved decisive: the heavy data user made it clear that a discount would not stop him from leaving if network quality stayed poor, while the price-sensitive student responded well to a targeted data top-up.

**e) Decision and Retention Plan**

After discussion, the board agreed on a segmented retention plan which included:

- Proactive outreach to high-value customers with a high churn-risk score
- A structured onboarding programme for new subscribers in their first six months
- Priority network fixes in the regions with the most complaints
- Testing offers on small customer groups (A/B testing) before full rollout
- Tracking monthly churn, save rate, CLV and campaign ROI as key performance indicators

**f) Debriefing and Faculty Feedback**

Students stepped out of their roles and reflected on what they had learnt. The faculty linked the discussion to the syllabus, highlighted the difference between blanket and targeted retention spending, and discussed responsible use of customer data, including consent and privacy obligations under India's Digital Personal Data Protection Act, 2023.



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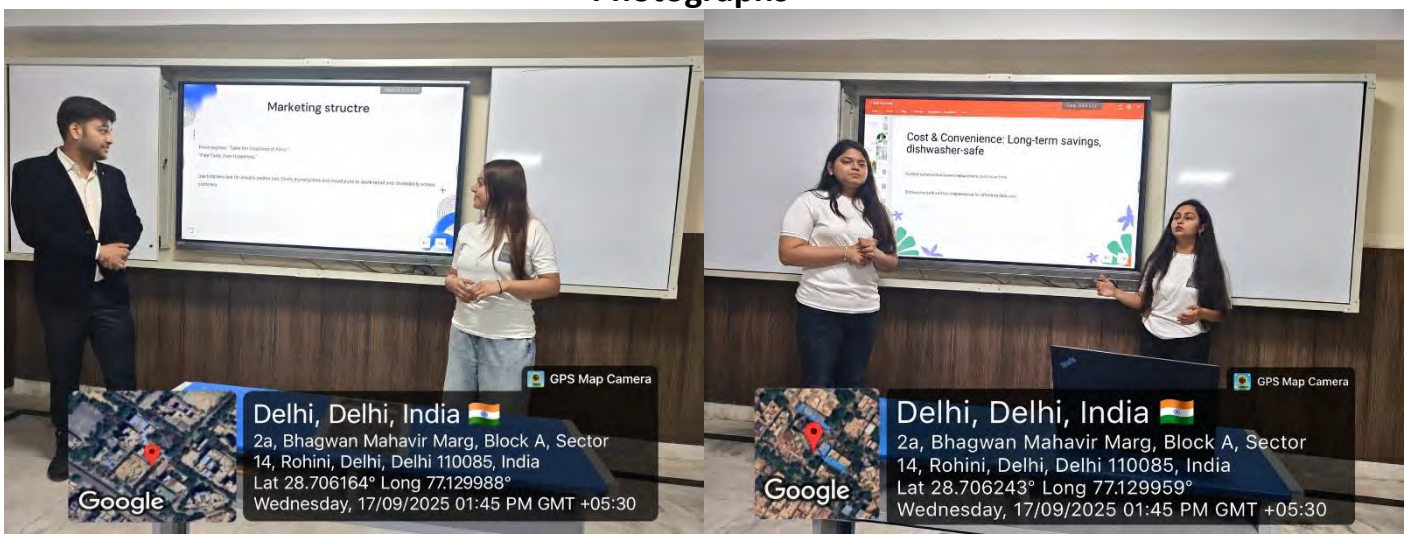
## Photographs




**Students presenting real-life scenarios through an interactive role-play activity, showcasing communication, teamwork, and presentation skills.**

## Key Learning Outcomes

The Role Play activity resulted in the following learning outcomes:

- Clear understanding of churn, retention and CLV metrics and their role in marketing decisions.
- Improved ability to read a customer dashboard and turn patterns into actionable insights.
- Practical appreciation of segmentation-based targeting as opposed to blanket discounting.
- Recognition of how marketing, finance and service priorities must be balanced in a final decision.
- Stronger presentation, questioning and persuasion skills in a formal meeting setting.
- Awareness of ethical and legal responsibilities in using customer data.

## Conclusion

The boardroom role play on customer churn helped students see marketing analytics as a decision-making tool rather than a set of formulas. Playing senior managers, analysts and customers, they learnt to question data, argue from evidence and reach a balanced, budget-conscious retention plan.

The activity encouraged active participation from the whole class and reinforced the practical relevance of the Marketing Analytics syllabus, preparing students for data-driven roles in marketing.

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# List of Participants

| S.No. | Enrollment No. | Name of Student |
|---|---|---|
| 1 | 00321301723 | ESHAAN BHOJWANI |
| 2 | 00521301723 | SUJAL SHARMA |
| 3 | 00721301723 | PRANAY |
| 4 | 01021301723 | VANSH ARORA |
| 5 | 01121301723 | YASH AGGARWAL |
| 6 | 01221301723 | GARIMA KOCHER |
| 7 | 01321301723 | DEEPANSHU RAWAT |
| 8 | 01721301723 | NAITIK AGGARWAL |
| 9 | 01821301723 | MOHD REYAN KHAN |
| 10 | 01921301723 | UJJWAL AGGARWAL |
| 11 | 02021301723 | PARTH GULATI |
| 12 | 02221301723 | OM SHARMA |
| 13 | 02321301723 | DEV VERMA |
| 14 | 02621301723 | NIDHI SINGHAL |
| 15 | 02721301723 | VANI VERMA |
| 16 | 03021301723 | ARYAN |
| 17 | 03321301723 | TINA MAITY |
| 18 | 03421301723 | AYUSH JAIN |
| 19 | 03521301723 | AALIYAH KHAN |
| 20 | 03621301723 | HARSHIT KHANDELWAL |
| 21 | 03721301723 | VISHU DHANKAR |
| 22 | 03821301723 | KANISHKA TRIPATHI |
| 23 | 04021301723 | CHETNA JINDAL |
| 24 | 04121301723 | CHESHTA |
| 25 | 04721301723 | PANKAJ GUPTA |
| 26 | 04821301723 | ROHIT JAIN |

**Dr. Shalini Gupta**
Associate Professor
Department of Management Sciences
TIAS



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INSTITUTIONAL AREA, MADHUBAN CHOWK, ROHINI, DELHI-110085

**DEPARTMENT OF INFORMATION COMMUNICATION AND TECHNOLOGY**
**BACHELOR OF COMPUTER APPLICATION**

Ref:TIAS/2025-26/MCA/OSL/177/331/PD 1(1) **Date:4-Nov-2025**

**REPORT ON**

**Learning With PPT Presentation**
**Course Code-MCA-105**
**Subject- Operating System with Linux**

## Teaching Pedagogy Adopted: Presentation-Based Learning (PPT Presentation)

| | |
|---|---|
| **Activity** | : Learning with PPT Presentation |
| **Subject** | : **Operating System with Linux**(MCA-105) |
| **Department** | : Department of Information Communication and Technology |
| **Faculty In charge** | : Ms. Bharti Aggarwal ; Assistant Professor, DICT, TIAS |
| **Participants** | : MCA-1st Year Students |
| **Date** | : 4-Nov-2025 |

### Introduction

Presentation-Based Learning is an effective student-centric pedagogy that enhances conceptual clarity, communication skills, and confidence among learners. The Department of Information Communication and Technology adopted this pedagogy to promote active participation, peer learning, and in-depth understanding of technical concepts through structured PPT presentations.

This activity was conducted as part of regular teaching–learning practices to align theoretical knowledge with analytical and presentation skills as recommended by IPU and Outcome-Based Education (OBE) guidelines.

### Activity Details

Activity Type: PPT Presentation Activity
Teaching Pedagogy: Presentation-Based Learning
Methodology: Individual & Group Presentations

### Objectives of the Activity

- To enhance students' understanding of core subject concepts.
- To develop analytical thinking and structured explanation skills.
- To improve communication and presentation abilities.
- To encourage self-learning and peer learning.
- To align learning outcomes with Bloom's Taxonomy levels.

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## Description of the Activity

Students were assigned specific topics from the syllabus and instructed to prepare PPT presentations covering definitions, concepts, diagrams, examples, and real-world applications. Each student/group presented their topic followed by a question–answer session and peer discussion.

The faculty evaluated presentations based on content accuracy, clarity, visual design, explanation, and interaction with the audience.

## Teaching–Learning Process

- Topic allocation as per syllabus
- Self-study and content preparation
- PPT design with diagrams and examples
- Oral presentation by students
- Peer interaction and doubt clarification
- Faculty feedback and discussion

## Course Outcome (CO) and Bloom's Taxonomy Mapping

| CO | Description | BT Level |
|---|---|---|
| CO1 | Understand fundamental concepts of the subject | L2 – Understand |
| CO2 | Explain and apply concepts using examples | L3 – Apply |
| CO3 | Analyze and interpret technical concepts | L4 – Analyze |

## Assessment Strategy

| Assessment Criteria | Weightage |
|---|---|
| Content Accuracy | 30% |
| Conceptual Clarity | 25% |
| Presentation Skills | 20% |
| Interaction & Q/A | 15% |
| Time Management | 10% |

## Learning Outcomes Achieved

- Improved conceptual understanding of subject topics.
- Enhanced communication and presentation skills.
- Increased student confidence and participation.
- Better retention of concepts through peer learning.

## Conclusion

The PPT Presentation Activity proved to be an effective pedagogical approach for improving subject comprehension and soft skills. It actively engaged students in the learning process and aligned well with IPU's emphasis on experiential and outcome-based education.

Faculty In-Charge
Ms. Bharti Aggarwal

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...l, Delhi

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Anexure-1




Dr Sushma Bahuguna

Asso Dean- DICT

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## troduction to perating ystem

An Operating System (OS) is system software that manages hardware and software resources.

Acts as an interface between the user and computer hardware.

Controls tasks such as process management, memory, device handling, and security.

Essential fo ions smoothly.

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# Types of Operating Systems

- Batch Operating System
- Time-Sharing (Multitasking) OS
- Distributed OS
- Network OS
- Real-Time OS
- Mobile OS

## Batch Operating System

Executes jobs in batches without user interaction.

Jobs are collected, grouped, and processed sequentially.

Used in banks, payroll systems, scientific computing.

Examples: IBM OS/360, early mainframe systems.

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# Distributed Operating System

Multiple connected computers work together as a single system.

Shares processing, storage, and resources across machines.

Improves performance and reliability.

Example: LOCUS, Distributed Linux.

# Time-Sharing / Multitasking OS

MULTIPLE USERS SHARE SYSTEM RESOURCES SIMULTANEOUSLY.

REDUCES RESPONSE TIME AND INCREASES EFFICIENCY.

EACH TASK GETS TIME-SLICES OF CPU.

EXAMPLES: UNIX, LINUX, WINDOWS.

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## Mobile Operating System

- Designed for smartphones, tablets, and handheld devices.
- Optimized for touch interface, low power use, and mobility.
- Supports apps, connectivity, and sensors.
- Examples: Android, iOS, HarmonyOS.

## Advantages of Different Operating Systems

- Batch OS increases efficiency in large data processing.
- Time-sharing OS improves resource utilization and user productivity.
- Distributed OS offers high performance and fault tolerance.
- Real-Time OS ensures immediate respon… critical system…

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# Conclusion

Operating Systems are essential for managing hardware, software, and user operations.

Different OS types serve different needs based on performance and usage.

Selecting the right OS depends on environment requirements, speed, and resource control.

OS technology continues evolving with cloud and mobile innovations.

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**DEPARTMENT OF INFORMATION COMMUNICATION AND TECHNOLOGY BACHELOR OF COMPUTER APPLICATION**

**Ref: TIAS/2025-26/MCA/DMS/178/334** **Date: 27Nov2025**

**REPORT ON**

Learning with Power Point Presentation
**Course Code: -MCA-107**
**Subject- Database Management System** (MCA-107)

**Teaching Pedagogy Adopted:** Learning with Power Point Presentation

| | |
|---|---|
| **Activity** | : Learning with Power Point Presentation |
| **Subject** | : Database Management System (MCA-107) |
| **Department** | : Department of Information Communication and Technology |
| **Faculty In charge** | : Dr. Nupur Jain; Assistant Professor, DICT, TIAS |
| **Participants** | : MCA 1st Year Students |
| **Date** | : 27-Nov-2025 |

## 1. Objective of the Activity

The objectives of conducting the PPT presentation activity were:

- To strengthen conceptual understanding of **core DBMS concepts**.
- To promote **student-centric and active learning**.
- To enhance **technical presentation and communication skills**.
- To encourage **self-learning and peer learning**.
- To align teaching–learning practices with **Outcome-Based Education (OBE)** as per IPU guidelines.
- To map learning outcomes with **Bloom's Taxonomy cognitive levels**.

## 2. Description of the Activity

1. Students were assigned individual DBMS topics covering the complete syllabus, including
2. Data models, schemas, and instances

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3. SQL queries, joins, and functions
4. ER model and normalization
5. Transactions, concurrency control, and recovery
6. Database architecture and security

**Each student prepared and delivered a PPT explaining:**

- Concept definition
- Examples / syntax
- Applications and use cases

### 3. Execution of the Activity

- Topics were allotted in advance.
- Students prepared PPTs following standard academic guidelines.
- Each student presented for **5–7 minutes**.
- Interactive discussion followed each presentation.
- Faculty evaluated students on **content accuracy, clarity, and understanding**.

### 4. Learning Outcomes Achieved

After the activity, students were able to:

- Explain DBMS concepts with clarity.
- Apply theoretical knowledge to practical examples.
- Analyze database structures and normalization techniques.
- Demonstrate improved confidence and communication skills.
- Achieve mapped **Course Outcomes (COs)** at appropriate Bloom's levels.

### 5. Conclusion

The PPT presentation activity proved effective in promoting active learning and deeper conceptual understanding. It supported continuous assessment and contributed positively to Course Outcome attainment in DBMS for MCA students.

| S.No | Enrollment No. | Student Name | Topic Presented | CO Mapping | Bloom's Level |
|---|---|---|---|---|---|
| 1 | 00117004425 | Mohit Bhoriya | Data Model, Schema and Instance | CO1 | Understand |
| 2 | 00217004425 | Mayank Verma | Demo of PL/SQL | CO3 | Apply |
| 3 | 00317004425 | Parv Billa | All Types of Joins with Query | CO3 | Apply |

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| S No | Enrollment No. | Student Name | Topic Presented | CO Mapping | Bloom's Level |
|---|---|---|---|---|---|
| 4 | 00417004425 | Dhruv Saini | Cursor, Trigger, Procedure and Function | CO4 | Analyze |
| 5 | 00517004425 | Shubham | View, Sequence, Index, Synonym | CO2 | Understand |
| 6 | 00617004425 | Shubham Saini | SQL Function (Single & Aggregate) | CO3 | Apply |
| 7 | 00717004425 | Aryan Chauhan | Set Operations (Union, Intersection, Minus) | CO3 | Apply |
| 8 | 00817004425 | Gargi Sharma | DML Statement | CO2 | Understand |
| 9 | 00917004425 | Bhumi | DCL and DDL Statement | CO2 | Understand |
| 10 | 01017004425 | Rajeev Kumar | Database & Database Users | CO1 | Remember |
| 11 | 01117004425 | Kanishk Tolia | Database System Concept & Architecture | CO1 | Understand |
| 12 | 01217004425 | Nikhil | Overview of Heterogeneous & Distributed DBMS | CO4 | Analyze |
| 13 | 01317004425 | Nupur Jain | Overview of Hierarchical & Relational DBMS | CO1 | Understand |
| 14 | 01417004425 | Suyash Gandhi | Data Integrity | CO2 | Understand |
| 15 | 01517004425 | Nitin Manral | AI & Keys Concept with Relational Data Model | CO4 | Analyze |
| 16 | 01617004425 | Chirag Bhardwaj | DML Statement | CO3 | Apply |
| 17 | 01717004425 | Rohan T Singh | Generalization, Specialization & Aggregation | CO4 | Analyze |
| 18 | 01817004425 | Amber Gupta | ER Model | CO3 | Apply |
| 19 | 01917004425 | Manas Sharma | DCL and DDL Statement | CO2 | Understand |
| 20 | 02017004425 | Aayushman Sharma | Database System Concept & Architecture | CO1 | Understand |

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| S.No | Enrollment No. | Student Name | Topic Presented | CO Mapping | Bloom's Level |
|---|---|---|---|---|---|
| 21 | 02117004425 | Zeya Suhail | Tuple Relational Calculus & Domain Relational Calculus | CO5 | Evaluate |
| 22 | 02217004425 | Amaan Ahmed | ER Model Explanation Based on Two Case Studies | CO4 | Analyze |
| 23 | 02317004425 | Mehul Bansal | Data Type, Literal and Operator in SQL | CO2 | Understand |
| 24 | 02417004425 | Manish Kathayat | Recovery from Transaction Failure, Checkpoint & Deadlock | CO5 | Evaluate |
| 25 | 02517004425 | Yogesh Malhotra | Serializability | CO5 | Evaluate |
| 26 | 02617004425 | Nishi Srivastava | Normalization (BCNF) | CO4 | Analyze |
| 27 | 02717004425 | Tushar Panchal | Normalization (1NF, 2NF, 3NF) | CO4 | Analyze |
| 28 | 02817004425 | Harsha Chauhan | Join Dependencies & Multivalue Dependencies | CO5 | Evaluate |
| 29 | 02917004425 | Shreya Jain | Mapping Constraint & Concept of Key | CO3 | Apply |
| 30 | 03017004425 | Saurav Kumar Jha | Normalization (1NF, 2NF, 3NF) | CO4 | Analyze |
| 31 | 03117004425 | Deepika | Structure of PL/SQL with Examples | CO3 | Apply |
| 32 | 03217004425 | Shubham | Functional Dependencies & Decomposition | CO4 | Analyze |
| 33 | 03317004425 | Pranav Sharma | Functional Dependency, Join Dependency, Multivalue Dependency | CO5 | Evaluate |
| 34 | 03417004425 | Anchal Sharma | Normalization (1NF, 2NF, 3NF) | CO4 | Analyze |
| 35 | 03517004425 | Kanka | All Commands with Select Statement | CO3 | Apply |

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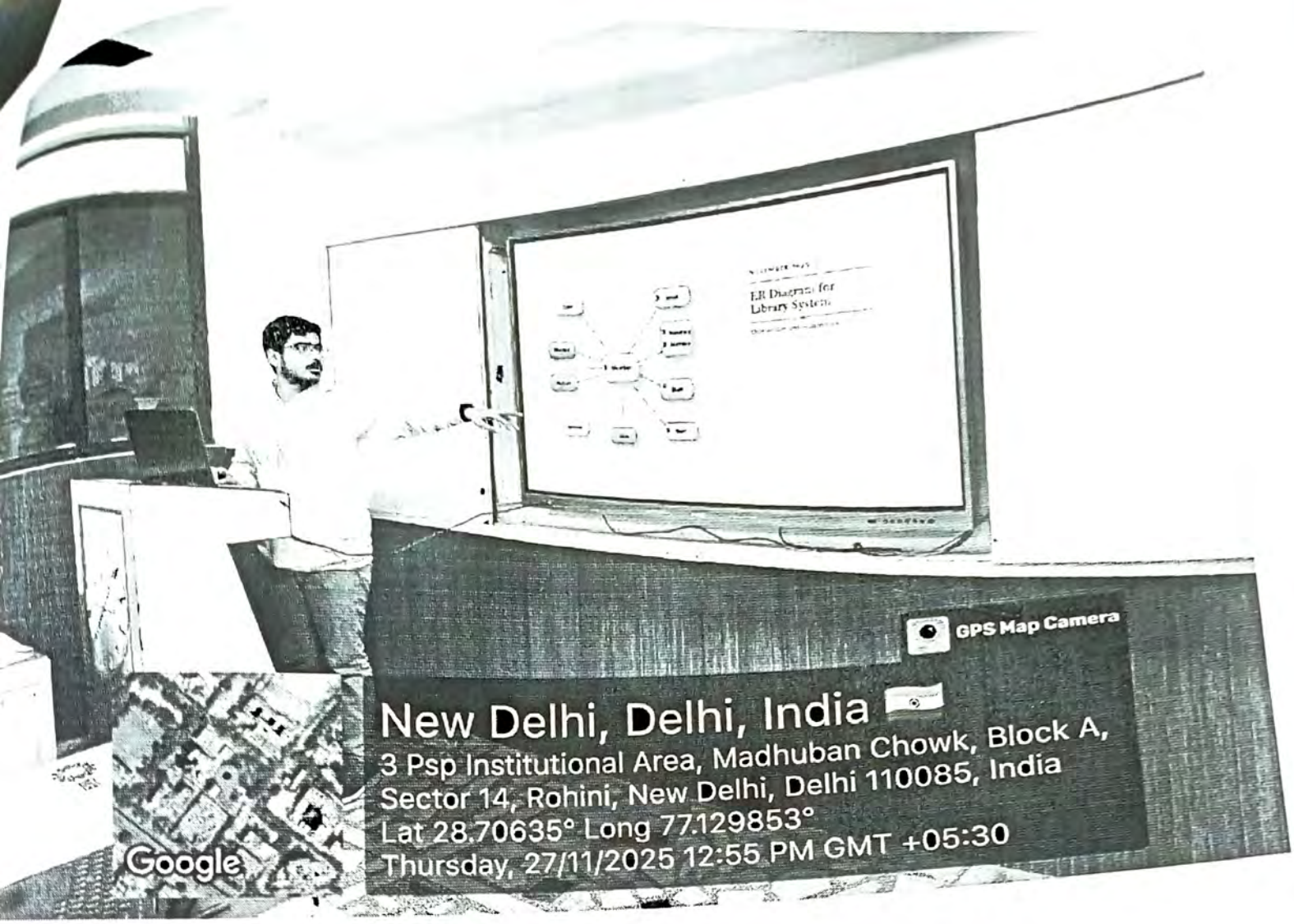


Dr. Sushma Bahuguna
Assoc. Dean, DICT

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MASTERS OF COMPUTER APPLICATION

Ref:TIAS/2025-26/MCA/OOPJ/177/331/14(1) Date:4-Nov-2025

**REPORT ON**

**Learning With PPT Presentation**
**Course Code-MCA-109**
**Subject- Object Oriented Programming and Java (MCA-109)**

## Teaching Pedagogy Adopted: Presentation-Based Learning (PPT Presentation)

| | |
|---|---|
| **Activity** | : Learning with PPT Presentation |
| **Subject** | : Object Oriented Programming and Java (MCA-109) |
| **Department** | : Department of Information Communication and Technology |
| **Faculty In charge** | : Ms. Garima Saini; Assistant Professor, DICT, TIAS |
| **Participants** | : MCA-1st Year Students |
| **Date** | : 4-Nov-2025 |

### Introduction

Presentation-Based Learning is an effective student-centric pedagogy that enhances conceptual clarity, communication skills, and confidence among learners. The Department of Information Communication and Technology adopted this pedagogy to promote active participation, peer learning, and in-depth understanding of technical concepts through structured PPT presentations.

This activity was conducted as part of regular teaching–learning practices to align theoretical knowledge with analytical and presentation skills as recommended by IPU and Outcome-Based Education (OBE) guidelines.

### Activity Details

Activity Type: PPT Presentation Activity
Teaching Pedagogy: Presentation-Based Learning
Methodology: Individual & Group Presentations

### Objectives of the Activity

- To enhance students' understanding of core subject concepts.
- To develop analytical thinking and structured explanation skills.
- To improve communication and presentation abilities.
- To encourage self-learning and peer learning.
- To align learning outcomes with Bloom's Taxonomy l

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**Description of the Activity**

Students were assigned specific topics from the syllabus and instructed to prepare PPT presentations covering definitions, concepts, diagrams, examples, and real world applications. Each student/group presented their topic followed by a question answer session and peer discussion.

The faculty evaluated presentations based on content accuracy, clarity, visual design, explanation, and interaction with the audience.

**Teaching–Learning Process**

- Topic allocation as per syllabus
- Self-study and content preparation
- PPT design with diagrams and examples
- Oral presentation by students
- Peer interaction and doubt clarification
- Faculty feedback and discussion

**Course Outcome (CO) and Bloom's Taxonomy Mapping**

| CO | Description | BT Level |
|---|---|---|
| CO1 | Understand fundamental concepts of the subject | L2 – Understand |
| CO2 | Explain and apply concepts using examples | L3 – Apply |
| CO3 | Analyze and interpret technical concepts | L4 – Analyze |

**Assessment Strategy**

| Assessment Criteria | Weightage |
|---|---|
| Content Accuracy | 30% |
| Conceptual Clarity | 25% |
| Presentation Skills | 20% |
| Interaction & Q/A | 15% |
| Time Management | 10% |

**Learning Outcomes Achieved**

- Improved conceptual understanding of subject topics.
- Enhanced communication and presentation skills.
- Increased student confidence and participation.
- Better retention of concepts through peer learning.

**Conclusion**

The PPT Presentation Activity proved to be an effective pedagogical approach for improving subject comprehension and soft skills. It actively engaged students in the learning process and aligned well with IPU's emphasis on experiential and outcome-based education.

Faculty In-Charge
Ms. Garima Saini

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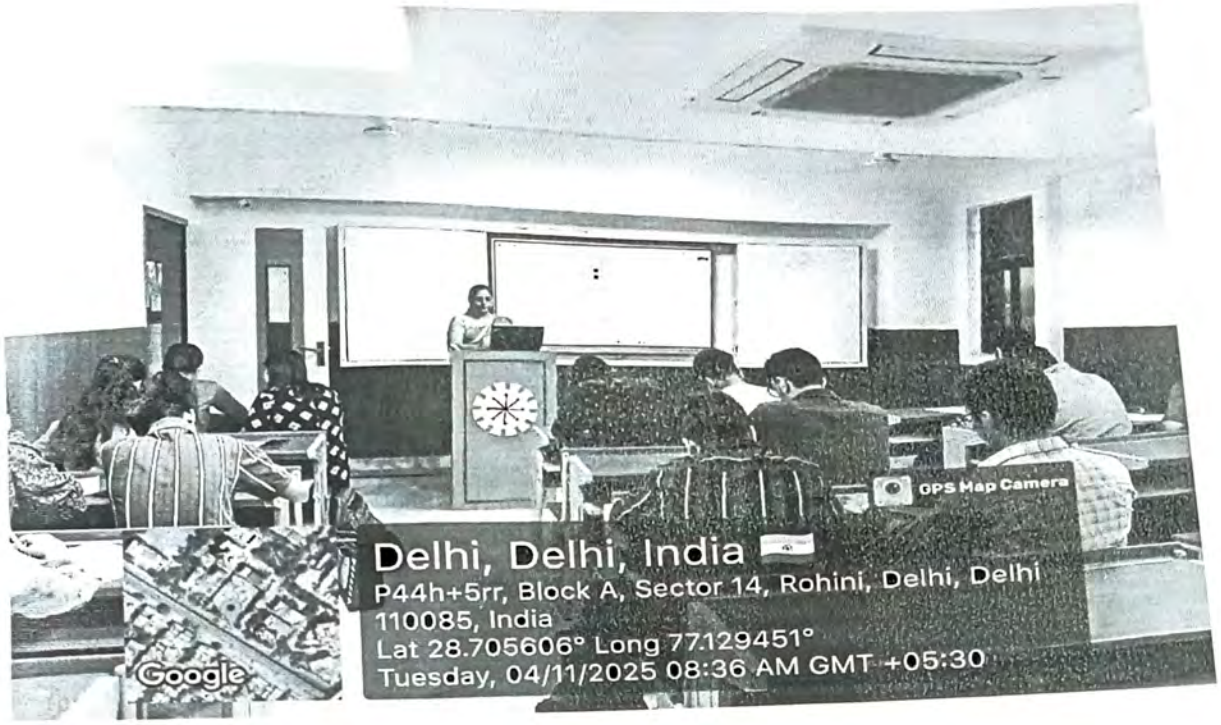


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# Multithreading in Java

## What is Multithreading?

Definition: Multithreading is the ability of a program to execute multiple threads (independent sequences of execution) concurrently within a single process.

Key Benefits:

- Improved Responsiveness: Keeps applications (especially GUIs) interactive.
- Efficient Resource Utilization: Better use of multi-core processors.
- Faster Execution: Tasks can run in parallel, reducing overall completion time.
- Simplified Program Design: Complex operations can be broken down into smaller, manageable threads.

## Java's Built-in Support for Multithreading

Core Components:

- `Thread` Class: Represents a thread of execution. You can extend this class to create a new thread.
- `Runnable` Interface: A functional interface that defines a task to be executed by a thread. Preferred over extending `Thread` as it allows class inheritance.

JVM Management: The Java Virtual Machine manages thread lifecycle, scheduling, and execution.

`java.util.concurrent` Package: Offers advanced utilities for managing threads, thread pools, and concurrent operations.

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## Creating Threads in Java

## Thread Lifecycle

Understanding the states a thread goes through.

New: The thread has been created but has not yet been started.

Runnable: The thread is ready to run and is waiting for the operating system to allocate CPU time.

Running: The thread is currently executing its task.

Blocked/Waiting: The thread is temporarily inactive, waiting for a condition, resource, or notification.

Terminated: The thread has completed its execution or has been exited prematurely.

## Synchronization: Ensuring Thread Safety

The Challenge: Race Conditions

When multiple threads access and modify shared data concurrently, the outcome can be unpredictable and erroneous (race condition).

The Solution: Synchronization

Ensures that only one thread can access a critical section of code or a shared resource at any given time.

Key Mechanism: The `synchronized` Keyword

Can be applied to methods or blocks of code. Threads must acquire a lock before entering a synchronized section.

Other Tools: `java.util.concurrent.locks` package provides more flexible locking mechanisms.

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## Code Example: Implementing Runnable

This example demonstrates creating and starting two threads using the `Runnable` interface.

Each thread will print its name and a countdown before exiting.

```
java
class MyRunnable implements Runnable {
  private String threadName;

  MyRunnable(String name) {
    threadName = name;
    System.out.println("Creating " + threadName);
  }
```

## Key Takeaways

Multithreading is crucial for building responsive and efficient Java applications.

Java provides robust support via the `Thread` class and `Runnable` interface.

Understanding thread lifecycle and synchronization is vital to avoid common pitfalls like race conditions.

The `java.util.concurrent` package offers advanced tools for complex multithreading scenarios.

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