Bhoj Reddy Engineering College for Women

(Sponsored by Sangam Laxmibai Vidyapeet, Accredited by NAAC with A Grade approved by AICTE and affiliated to JNTUH)
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana. www.brecw.ac.in

Department of Computer Science and Engineering

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Report on Workshop

Topic: "R Programming & Power BI"

Class: II B Tech CSE A & B

Dates: 24 to 25 October 2024

Venue: Seminar Hall WB 402 & Lab-I, Lab-II & Lab-III (SB 111, SB 114 & SB 115)

Banner:

Activity Report

General Information

Type of Activity	Student Development Program (Foster interaction, Interactive Q&A Session, Case Studies and Real-Life Examples)
Title of the Activity	Workshop
Date/s	24 to 25 October 2024
Time	09:30 – 16:30 Hrs
Venue	**Venue:** Seminar Hall WB 402 & Lab-I, Lab-II & Lab-III (SB 111, SB 114 & SB 115)
Collaboration/Sponsor (if any)	SLV

Speaker/Guest/Presenter Details

Name of the Speaker: Mr B Kumar

Title/Position: System Application Manager

Organization: Perfexion Information Technologies Pvt. Ltd., Hyderabad.

Mr. B Kumar has over 15 years of experience in data analysis, cloud integration, IoT programming, and mentoring. He is proficient in developing and maintaining solutions using the Microsoft Power Platform (PowerApps, Power Automate, Power BI) and integrates with Azure, SharePoint, and SQL Server. With a strong foundation in Office 365 and Azure AD, he supports production systems and user requirements daily. Kumar has experience in application development, automation, and report generation, utilizing Python, R, and tools like Pandas and TensorFlow. His IoT expertise includes work with Raspberry Pi and Arduino, embedded systems, and Linux GPIO interfacing.

Inaugural Session:

The Department of Computer Science and Engineering inaugurated a two-day workshop on "R Programming & Power BI" for the II B.Tech CSE A & B students, scheduled from 24 to 25 October 2024. This workshop aims to provide students with hands-on experience in data analysis, visualization, and programming, equipping them with valuable skills for real-world applications.

Inaugural Session Schedule

Welcome Address by II CSE Student: The inaugural session began with a warm welcome from a student representative of II CSE. The student introduced the objectives of the workshop, expressing enthusiasm for the learning opportunities ahead and highlighting the relevance of R Programming and Power BI in the data-driven world.

Address by HoD-CSE, Dr. B. Raveendranadh Singh: Dr. B. Raveendranadh Singh, Head of the CSE Department, addressed the attendees, stressing the importance of data analysis and visualization skills for modern computing professionals. He commended the initiative and encouraged students to actively participate, emphasizing that skills in R and Power BI would be valuable assets in both academic projects and professional endeavors.

Keynote Address by Resource Person, Mr. B. Kumar: The keynote address was delivered by Mr. B. Kumar, a seasoned expert in data analysis, cloud integration, and IoT programming. Mr. Kumar outlined the goals of the workshop, sharing insights into the applications of R Programming and Power BI across industries. He highlighted how these tools empower professionals to transform data into actionable insights, improving decision-making and business outcomes.

Following the keynote, the workshop commenced with its first session, led by Mr. B Kumar. The students eagerly engaged in exploring the fundamentals of R Programming, focusing on data manipulation and visualization techniques, laying the groundwork for the comprehensive learning journey ahead.

Day 1: R Programming Fundamentals

10:00 AM - 11:00 AM: Session 1 - Introduction to R Programming

The first session provided an overview of R programming, including installation, available IDEs, and basic syntax. Students explored data types and structures, essential for organizing data in R. Hands-on exercises included writing basic R scripts, allowing students to familiarize themselves with the R environment.

11:15 AM - 12:30 PM: Session 2 - Data Manipulation with R

This session introduced data manipulation techniques using R packages such as dplyr and tidyr. Participants learned to import, clean, and preprocess data effectively. Practical exercises focused on transforming datasets, preparing students for complex data analysis tasks.

1:30 PM - 3:00 PM: Session 3 - Data Visualization in R

The afternoon session covered data visualization using ggplot2, one of R's most powerful visualization tools. Students learned to create and customize various plots and visualizations, experimenting with real-world datasets to build meaningful data stories.

3:15 PM - 4:30 PM: Session 4 - Statistical Analysis with R

The final session of Day 1 introduced basic statistical analysis in R, covering essential statistical tests and models. Students conducted hands-on analysis and learned to interpret results, enhancing their understanding of how statistical methods support data-driven decision-making.

Day 2: Power BI for Data Visualization and Reporting

9:30 AM - 11:00 AM: Session 5 - Introduction to Power BI

Day 2 began with an introduction to Power BI, focusing on its interface, features, and data connectivity options. Students explored various ways to import data into Power BI and quickly set up their workspaces for analysis.

11:15 AM - 12:30 PM: Session 6 - Data Modeling in Power BI

In this session, participants learned to create data models and manage relationships within Power BI. They explored DAX (Data Analysis Expressions) to create calculated columns and measures, which are critical for effective data analysis.

1:30 PM - 3:00 PM: Session 7 - Creating Interactive Dashboards

Students were guided through designing interactive dashboards in Power BI. They learned to add filters, slicers, and interactive elements to create user-friendly dashboards. Hands-on exercises enabled students to build a complete dashboard, enhancing their presentation skills.

3:15 PM - 4:15 PM: Session 8 - Power BI Reporting and Sharing

The final session covered Power BI's reporting and sharing features. Students learned best practices for publishing reports, collaborating with teams, and sharing insights through Power BI Service.

4:15 PM - 4:30 PM: Valedictory

The workshop concluded with a feedback session, where students shared their experiences and the valuable knowledge they gained. Certificates were distributed, and a vote of thanks was extended to the faculty, resource person Mr. B. Kumar, and participants.

Feedback

During the feedback session, students expressed appreciation for the workshop's structured approach and hands-on exercises, which helped them grasp complex concepts with ease. Many highlighted how the practical sessions provided them with the confidence to explore R Programming and Power BI independently. They also appreciated the interactive teaching style of Mr. B. Kumar, who encouraged questions and ensured each participant could follow along. Students remarked on the value of the skills learned for both academic projects and future career opportunities in data science and analytics.

Conclusion

The two-day workshop on "R Programming & Power BI" was a resounding success. It equipped II-year CSE students with valuable skills in data analysis, visualization, and reporting, making them more adept at handling and presenting data. Through expert guidance and hands-on practice, students gained a comprehensive understanding of R Programming and Power BI, which will be instrumental as they progress in their studies and enter a data-driven industry. The Department of Computer Science and Engineering remains committed to offering similar initiatives, bridging the gap between academic learning and industry requirements, and fostering a culture of continuous learning and skill development among students.

Feeback Analysis Form
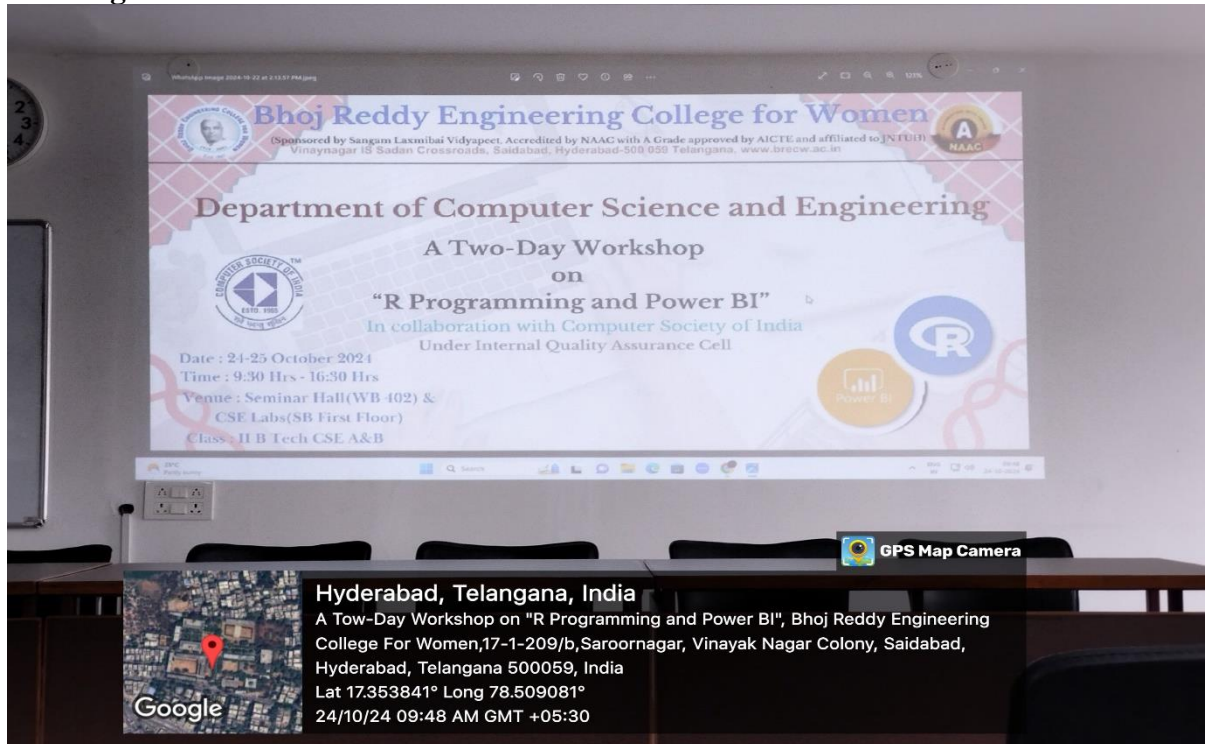
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Department of Computer Science and Engineering

Workshop Feedback Form Analysis

Topic : "R Programming & Power BI" Dates: 24-25 October 2024

Conducted in collaboration with Computer Society of India, Hyderabad.

Feedback collected from **73** number of students.

S.No	R Programming & Power BI	Excellent (5) No. of students given	Very Good (4) No. of students given	Good (3) No. of students given	Satisfactory (2) No. of students given	Poor (1) No. of students given
1	The sessions were well-structured and easy to follow	16	11	18	20	8
2	The workshop covered a comprehensive range of concepts	14	12	23	15	9
3	Hands-on activities and practical demonstrations helpful in understanding the concepts	13	14	20	15	11
4	The workshop provides insights into the current industry practices	15	15	20	12	11
5	This workshop will be helpful for developing my Mini / Major projects	13	14	21	17	8
6	Suggestions for improvement of the workshop in future received are:	Encourage group activities and work on exercises				

Overall Analysis of the feedback is : It was good

Dr P Deepthi
Seminars and Workshops In-charge

Dr B Raveendranadh Singh
HoD-CSE

Dr P Deepthi
Seminars &
Workshops In-charge

Dr B Raveendranadh Singh
HoD-CSE

Geo-Tag Photos:

Figure 1: Banner for the Workshop

Figure 2: During Inauguration Session, Ms Prathyusha Student of II CSE giving the Welcome Address

Figure 3: Dr B Raveendranadh Singh, Head of the Department of CSE, highlighted the significance of "R Programming and Power BI"
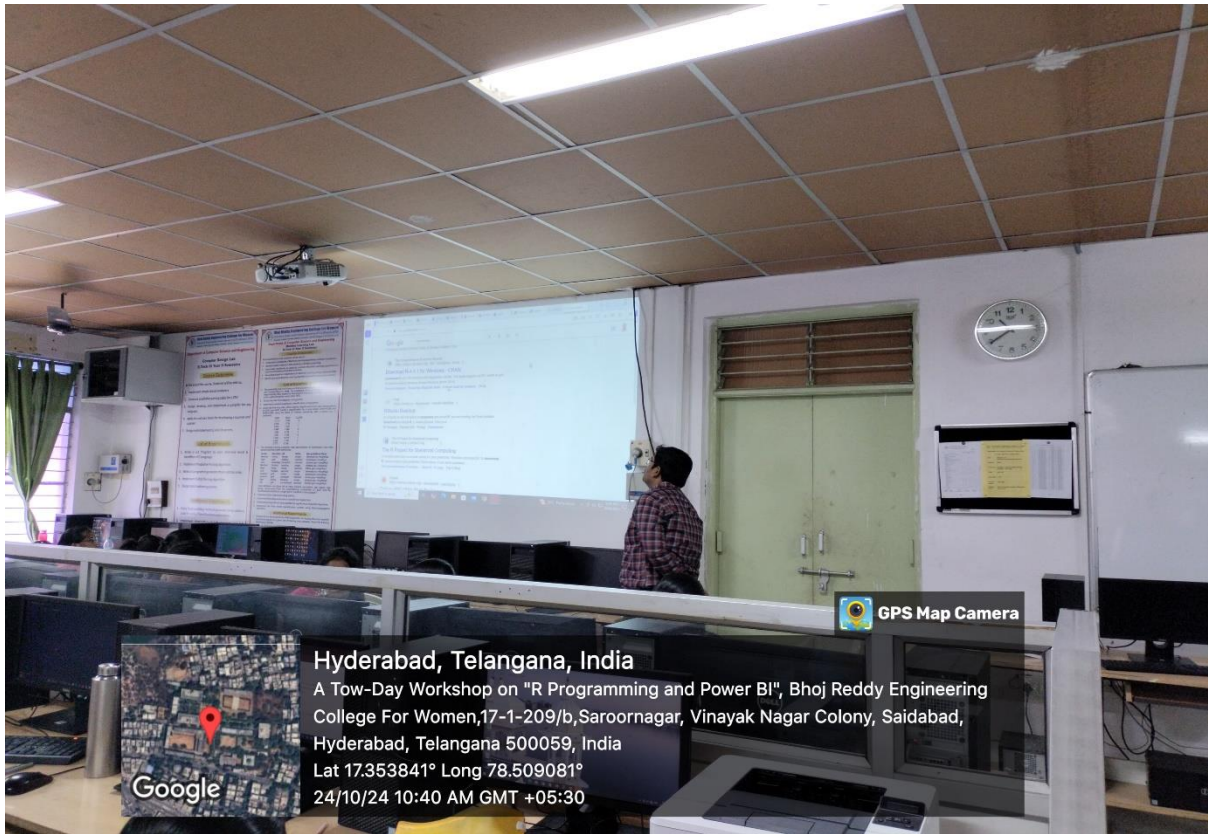

Figure 4: The resource person Mr B Kumar has given overview of the two-day workshop

Figure 5: The resource person Mr B Kumar has given overview of the two-day workshop

Figure 6: II CSE Students listening to the session

Figure 7: The resource person Mr B Kumar explaining installation of R

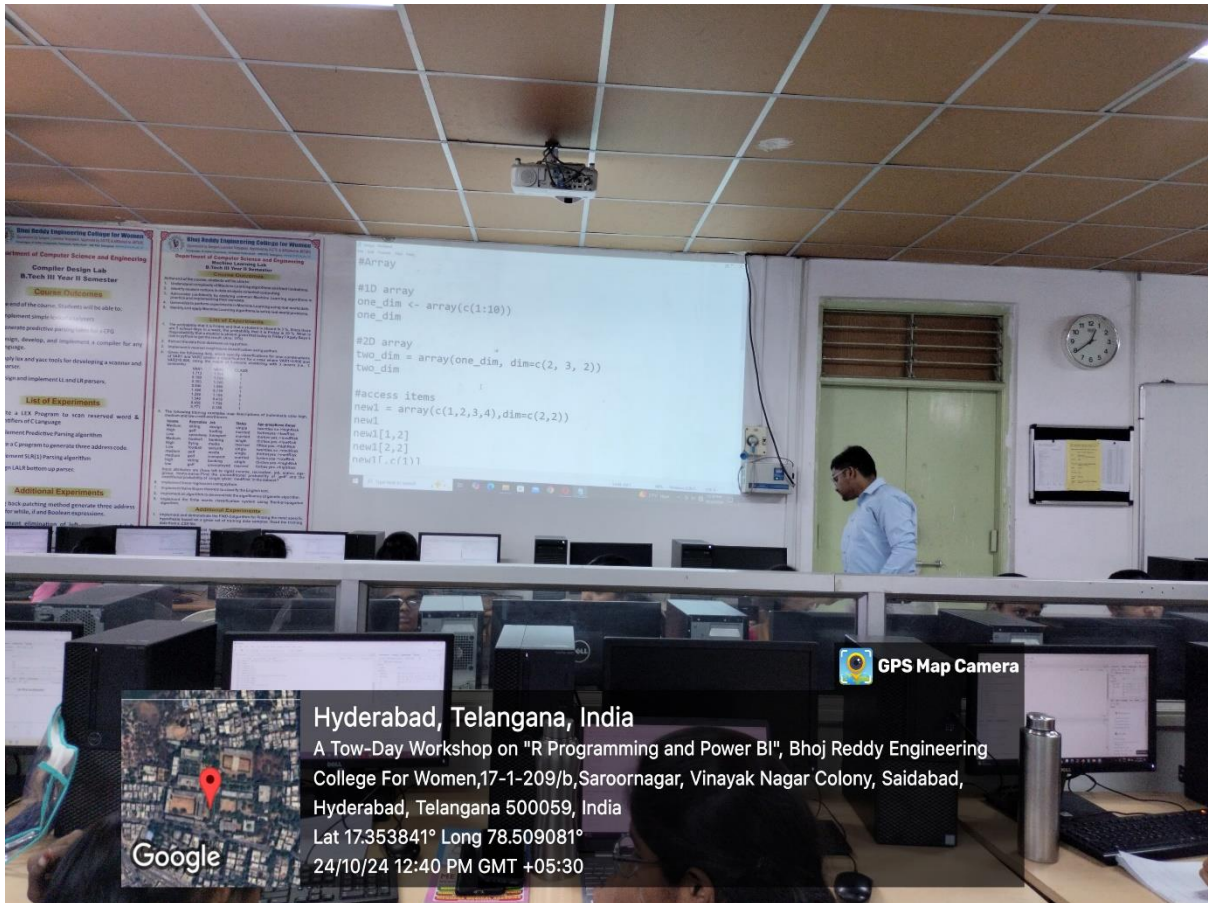**Figure 8: The resource person Mr B Kumar explaining students**

Figure 9: The resource person Mr Praveen explaining Programs of R

Figure 10: Students during the Hands On Session

Figure 11: The resource person Mr B Kumar giving overview of Power Bi

Figure 12: The resource person Mr B Kumar giving overview of Power Bi

Figure 13: The resource person Mr Praveen is explaining installation of Power BI
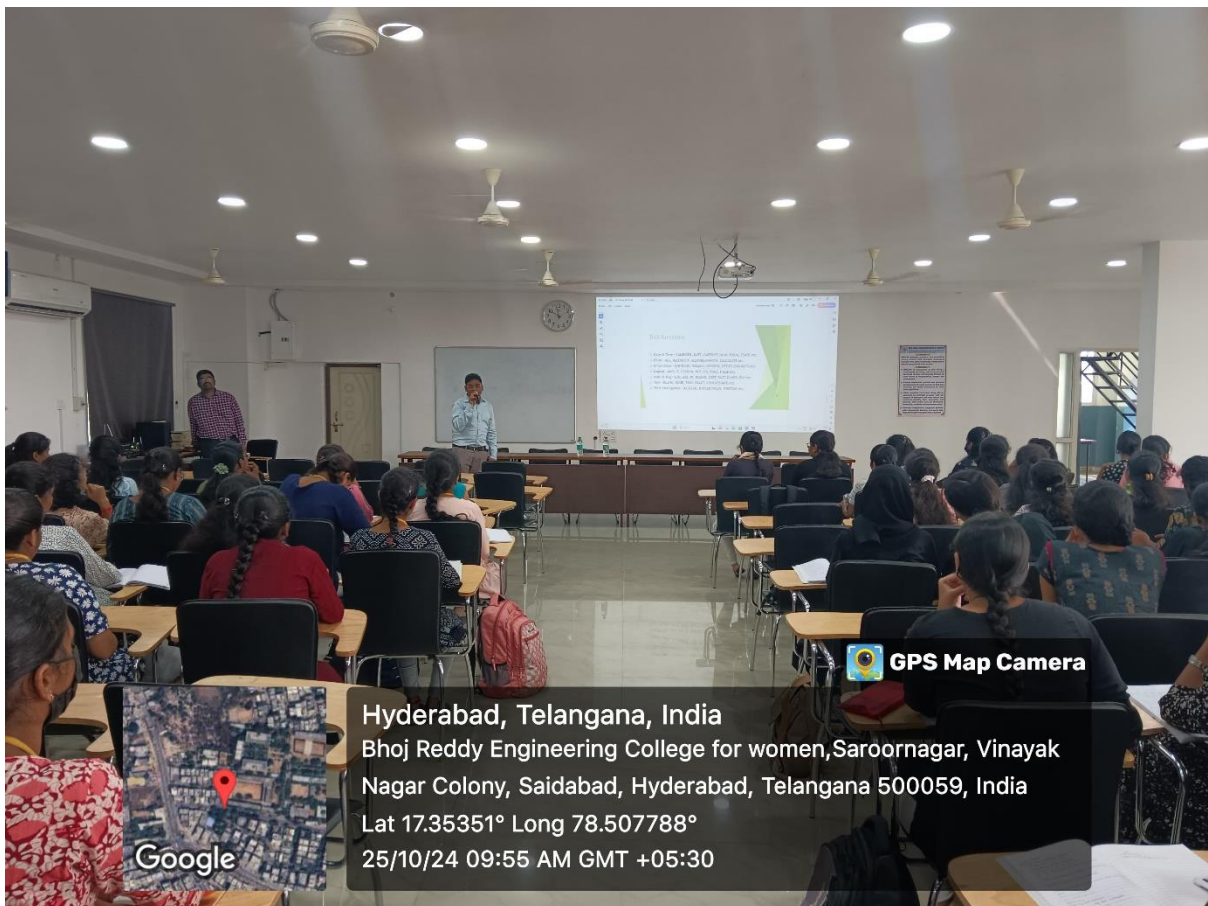

Figure 14: The resource person Mr Praveen is explaining installation of Power BI

Figure 15: Students during the Hands On Session

Figure 16: Principal - Dr J Madhavan, HoD-CSE – Dr B Raveendranadh Singh, Resource Persons Mr B Kumar and Mr Praveen along with CSE Staff in the Valedictory Session
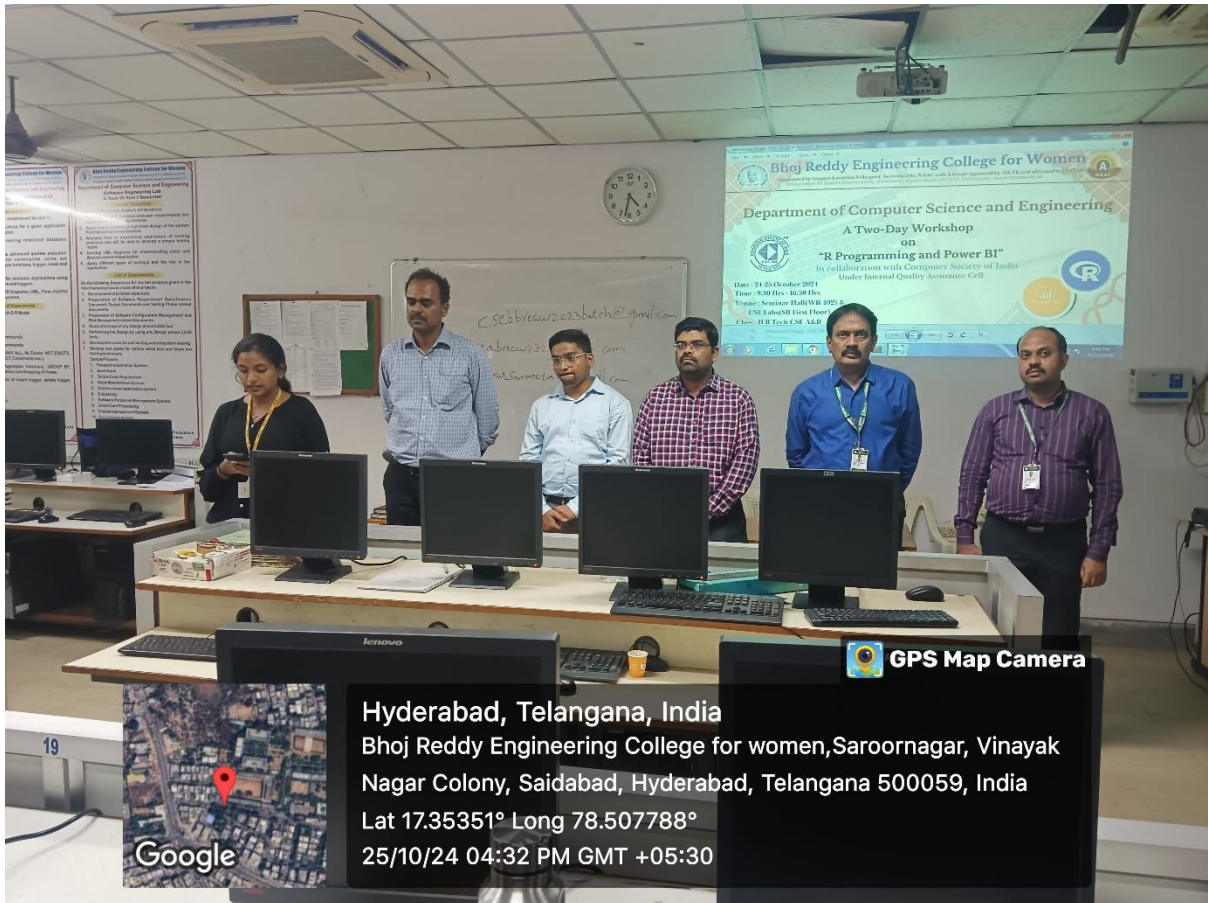
Figure 17: Ms Deeshitha student of II CSE is giving the overview of the two-day workshop in the Valedictory Session

Figure 18: Student of II CSE is giving feedback of the two-day workshop in the Valedictory Session

Figure 19: Principal Dr J Madhavan is Presenting Certificates to students in the Valedictory Session

Figure 20: HoD CSE Dr B Raveendranadh Singh is Presenting Certificates to students in the Valedictory Session

Figure 21: Resource Person Mr B Kumar is Presenting Certificates to students in the Valedictory Session
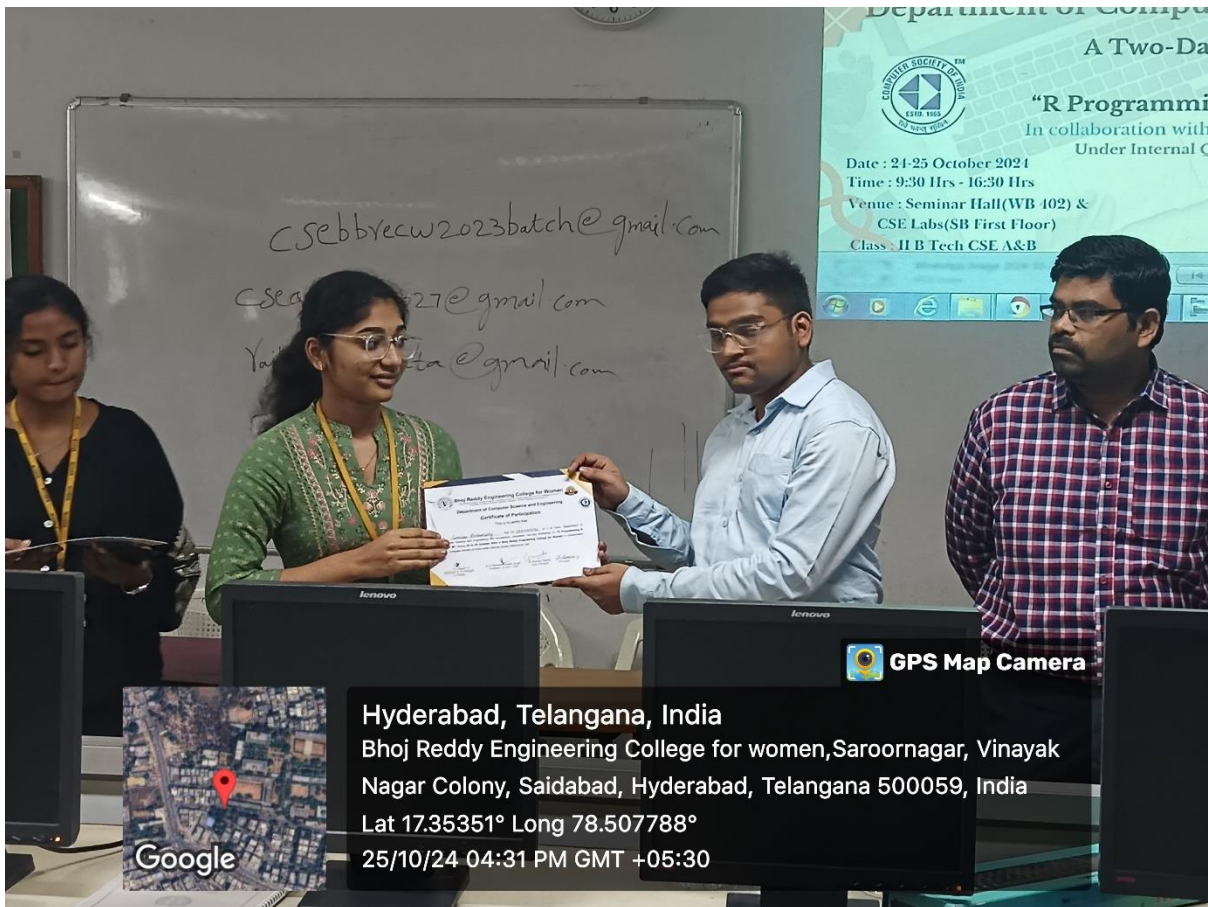

Figure 22: Resource Person Mr Praveen is Presenting Certificates to students in the Valedictory Session

Figure 23: II CSE A Students along with CSE Staff and Resource Person

Figure 24: II CSE B Students along with CSE Staff and Resource Person