



**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD  
Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC  
Coimbatore - 641 043, Tamil Nadu, India

**Bharat Ratna Prof.CNR Rao Research Centre**

**Report of the Workshop on**

**“Design Expert Software-Training Programme”**

**(for Research Scholars of School of Commerce and Management)**

**Date: 06.07.2023**

**Time: 10.00 am to 12.30 pm**

**(Forenoon)**

**Venue: Gallery**

## Report on Workshop Design of Experiment Software - Training Programme

A one day workshop on the Design Expert software was organized by Dr. P. Lalitha (Coordinator), Dr. P. Arulpriya (Assistant Coordinator) and Ms. S. Suba Sree (Lab Technician) of Bharat Ratna Prof. CNR Rao Research Centre and Master of Ceremony was delivered by Ms. R. Harinivashini (Research Scholar, Chemistry). The workshop was held on 6<sup>th</sup> July 2023 from 10.00 am - 12.30 pm at Gallery of our institution for Full time and Part time Research Scholars and Faculty members of School of Commerce and Management.

The session began with a prayer song followed by introductory talk by **Dr. P. Lalitha**, Director, Research and Development Cell i/c. The facilities available at Bharat Ratna Prof. CNR Rao Research Centre are briefly summarized with a short video glimpse for the audience. The advantages of the Design Expert software in big data analysis were also highlighted in the talk.

The theory and demonstration of the software were handled by **Ms.Pon Nivetha. A**, Research Scholar, Department of Chemistry. The theory session focused on the Introduction of Design Expert software, experimental design, data analysis, Response Surface Methodology (RSM), brief explanation of mixture designs, and examples of graphical visualization, and data optimization were provided. The theory part is followed by the software demonstration via a recorded video. The data used for the demonstration was mainly focused on Commerce, Management and big data (survey). Two examples were worked out by performing RSM analysis and optimization. The session included data importing, saving, analysis, exporting the result tables and charts and optimization.

The conclusion of the workshop was with the question and answer sessions. The discussion on the topics such as how to provide data set, the format required for the analysis, the common queries such as the possibilities for consultancy, the tariff for the specific studies raised by the participants were addressed by the speaker Ms.Pon Nivetha in detail followed by participant feedback. Researchers and faculties belonging to Commerce, Business Administration and Tourism Management of about **24 in numbers were the beneficiaries** of the workshop.



**Dr. P. Lalitha, Director (i/c), Research and Development, Coordinator Bharat Ratna Prof. C.N.R Rao Research Centre delivered introductory talk**



**Ms. A. Pon Nivetha, Research Scholar, Department of Chemistry demonstrate the Origin software and its usage involved in research work**



**E-Certificate of participation (sample copy)**

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 Coimbatore - 641 043, Tamil Nadu, India)

**Bharat Ratna Prof.C.N.R Rao Research Centre**

**Workshop on**  
**"Design Expert Software-Training Programme"**

**On**  
**06.07.2023 (Thursday)**  
**Time: 10.00 am to 12.30 pm**

**Dr.P.Lalitha**  
**Director R&D i/c**  
**Will deliver the introductory talk**

**Demonstration and Training**  
**Ms. A. PonNivetha**  
**Ph.D Scholar, Dept. of Chemistry**

**Registration Fee: Rs.50/-, E-certificate will be provided to registered participants**

**Eligibility - Research Scholars of Commerce and Management**  
 \*\*\*\*\*

**Registration link: <https://tinvtul.com/29zidy4n>**



## About the Software Design Expert

Design-Expert is a **statistical software program** commonly used in the field of design of experiments (DOE). It is primarily **used to plan, analyze, and optimize experiments** in various industries such as pharmaceuticals, manufacturing, engineering, and research and development.

The **main purpose** of Design-Expert software is to help researchers and engineers design experiments that efficiently and effectively explore the **factors affecting a particular process or system**. It **provides tools and techniques for experimental design, data analysis, and visualization**.

**Some of the key uses and features of Design-Expert software:**

**Experimental Design:** Design-Expert allows users to design experiments by selecting the appropriate design type, such as factorial, response surface, mixture, or Taguchi designs. It helps in determining the optimal settings for the factors under investigation and ensures efficient use of resources.

**Data Analysis:** The software offers a wide range of statistical analyses for experimental data. It can perform analysis of variance (ANOVA), regression analysis, optimization, and graphical representation of data through various plots and charts.

**Response Surface Methodology (RSM):** Design-Expert supports response surface methodology, which involves creating mathematical models to understand the relationship between input variables (factors) and output responses. It helps in predicting the optimal combination of factors to achieve desired response levels.

**Mixture Designs:** Mixture experiments are used when a system or process involves multiple components. Design-Expert allows users to design and analyze experiments involving mixtures, helping to determine the optimal composition or proportions of the components.

**Graphical Visualization:** The software provides visual tools like contour plots, 3D surface plots, response trace plots, and interaction plots. These visualizations help users interpret and communicate the results of their experiments effectively.

**Optimization:** Design-Expert facilitates optimization by allowing users to find the optimum factor settings that maximize or minimize a response. It can perform numerical optimization based on user-defined objectives and constraints.

Overall, Design-Expert software is a powerful tool for experimental design and analysis, helping researchers and engineers make data-driven decisions, optimize processes, and improve product quality and performance.

## PROGRAMME

10.00- 10.05 am : **Prayer**

10.05- 10.15 am : **Welcome**

**Dr.P.Lalitha**

Professor of Chemistry,  
Director R & D i/e  
Avinashilingam Institute for Home Science  
and Higher Education for Women

10.15 – 11.45 am : **Technical Session**

**"Design Expert Training Programme for  
Commerce and Management"**

**Ms. A. PonNivetha**

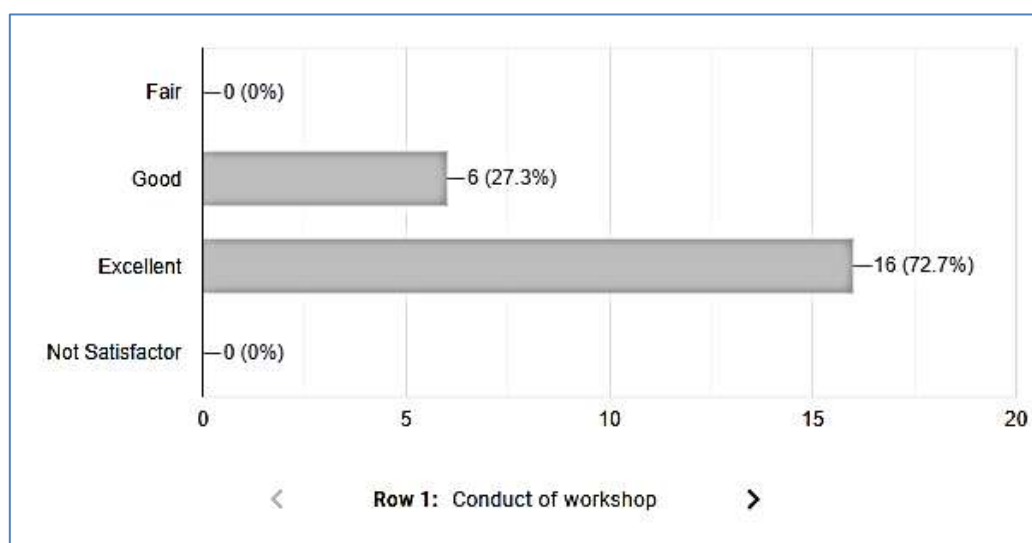
Ph.D Scholar, Dept. of Chemistry  
Avinashilingam Institute for Home Science  
and Higher Education for Women

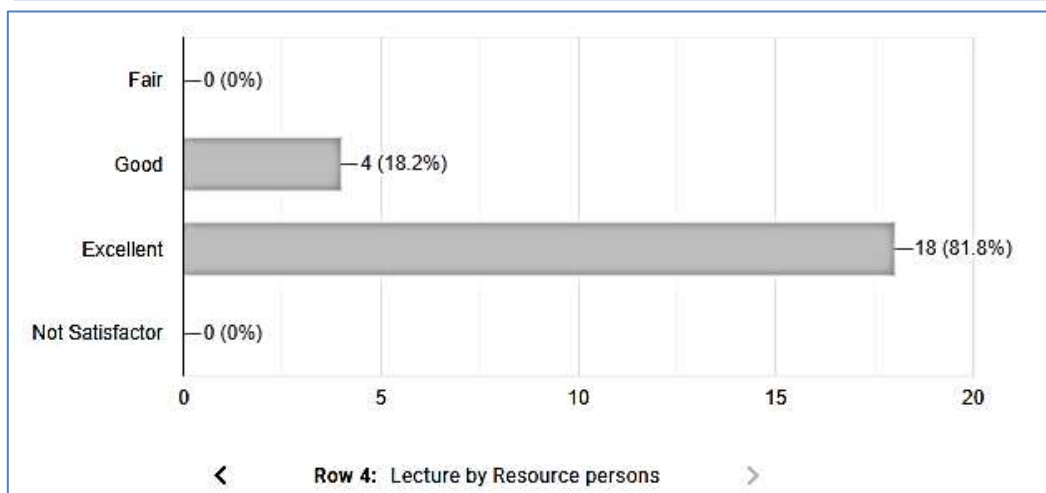
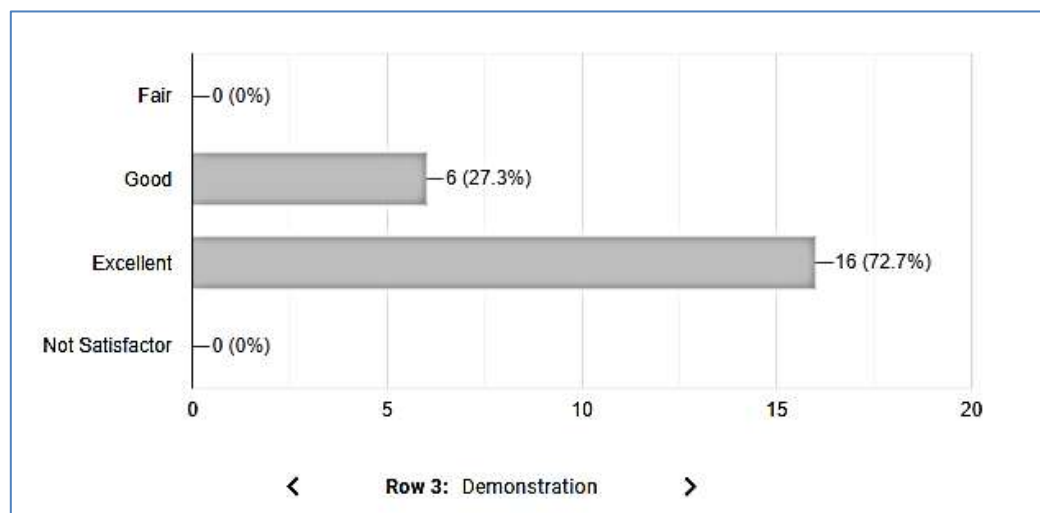
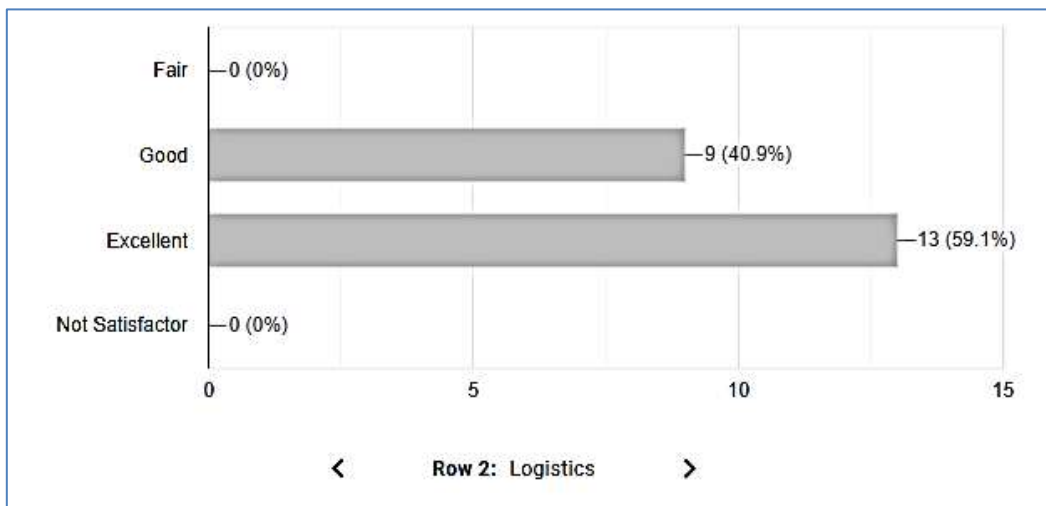
11.45 am-12.15pm : **Feedback Session / Interaction**

12.15 - 12.30 pm : **Vote of Thanks**

**Any one scholar-voluntary basis**

### Feedback about the event





## Suggestion given by participants

- Good
- Good and good expect same way workshop in future
- It was really knowledge provoking session
- Very informative session
- Nothing overall good
- Good
- Thank you organizers for conducting this informative session.
- Nice presentation and useful session
- Conduct more events as such
- Good
- In might be more useful if it's in hand

## Attendance sheet of the Participants



**Avinashilingam Institute for Home Science and Higher Education for Women**  
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 Coimbatore - 641 043, Tamil Nadu, India

Bharat Ratna Prof.C.N.R Rao Research Centre, Commerce & Management  
 Workshop on "Design Expert Training Programme for

Date: 06.07.2023 (FN)

Time: 10.00 am to 12.30 pm  
 Attendance Sheet

Venue: Gallery

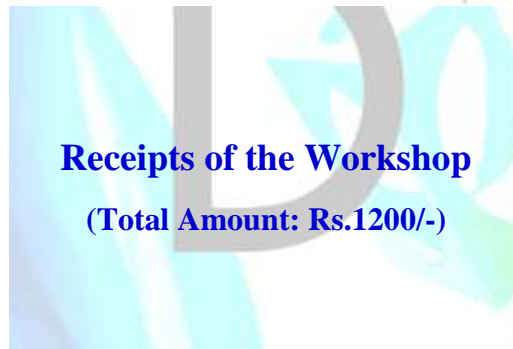
S.No	Name of the Participant	Class/Designation	E-mail	Mobile Number	Signature
1.	M. Mounish Ramya	Ph.D. Scholar	mphco005@avinash.ac.in ramya.mounish@gmail.com	9597712418	
2.	K. Jayanthi	Ph.D. Scholar	21PHCOF002@avinash.ac.in	9003545163	
3.	Reshma K	Ph.D. Scholar	20PHCOF003@avinash.ac.in	7902723395	
4.	C.P. Mary Theresa	Ph.D. Scholar	19PHLOF004@avinash.ac.in	8086937566	
5.	Suketha K.R	Ph.D. Scholar	21PHCOF009@avinash.ac.in	8078123112	
6.	Kanya R S	Ph.D. Scholar	21PHBAF001@avinash.ac.in	9842612928	
7.	Kousi R	Ph.D. Scholar	22PHBAF001@avinash.ac.in	9098011585	
8.	Dharsini R	Ph.D. Scholar	21PHCOF002@avinash.ac.in	7708631810	
9.	Ramya S	Ph.D. scholar	21PHCOF008@avinash.ac.in	9790272336	

Bharat Ratna Prof.C.N.R Rao Research Centre  
 Avinashilingam Institute for Home Science and  
 Higher Education for Women,  
 Coimbatore-641043




	Name	Class/Designation	Email	Mobile no	Signature
10.	Mrs. R. Karambika	Ph.D. Research Scholar Unit Head - MBA	19phkpp003@amity.ac.in	9789734216	
11.	C. Kanchana	Ph.D. (Full time) - com	21phk01002@amity.ac.in	9449144221	
12.	Mrs. V. Yesodha	Research Scholar Dept - Comma	20phk0002@amity.ac.in	9689952229	
13.	Mrs. Nalavizha F	Ph.D. Research Scholar Dept - Comma	19phk0001@amity.ac.in	7529920318	
14.	Mrs. S. Banumathi	Ph.D. Research Scholar Dept - Comma	21phk0002@amity.ac.in	9566216482	
15.	B. Malathi	Ph.D. Dept. Commerce Assistant Professor	21phk0006@amity.ac.in	9007386986	
16.	Dr. C. Mathukrishna	Dept. Commerce Assistant Professor	Mathukrishna.com@amity.ac.in	7698510307	
17.	Dr. S. Sanganitha	Dept. of Commerce Assistant Professor	Sanganitha.com@amity.ac.in	9597937007	
18.	Dr. S. Rubaya	Dept. of Commerce	Rubaya.com@amity.ac.in	9974766772	
19.	Mrs. P. Pongodi	Ph.D. Research Scholar Dept. of Commerce	pongodi.pongodi@amity.ac.in	8523919354	
20.	Mrs. P. Rangela	Dept. of Commerce	rangela.com@amity.ac.in	9344384709	
21.	Mrs. Poja R	Ph.D. Tourism Mgmt	21phk0002@amity.ac.in	9025650671	
22.	Uthra. B	Ph.D Tourism	21phk0002@amity.ac.in	9056429847	
23.	Abhaya. P	Ph.D in Management Dept of Business Administration	21phk0002@amity.ac.in	9500522108	
24.	Andal Devi. S.	Ph.D in Management Business Administration	19phk0002@amity.ac.in	7305223305	
25.					
26.					
27.					

Director IITRR Prof. C. R. Rao Research Centre  
Amity Group Institute for Women Studies and  
Higher Education for Women,  
Campus-011003



**Receipts of the Workshop**  
**(Total Amount: Rs.1200/-)**

  
**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Granted to be University Dept. via 3 of UGC Act 1986, Category 'A' by UHRD)  
 As accredited with 'A' Grade by NAAC, Recognized by UGC Under Section 12B  
 Constituted in 1974, Tamil Nadu, India

**Miscellaneous Receipt**

**Original**

Receipt No : **REM713/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **R. Poongodi**  
 Department Name : **Ph.D/Commerce**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Center**  
 Description : **Design Expert Training Programme July (Ref:218771731339/06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

Cashier


  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM712/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Karunambika. R**  
 Department Name : **Ph.D/MBA**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Center**  
 Description : **Design Expert Training Programme July (Ref: T2307061118558457916874/06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

Cashier

  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM715/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Design Expert Training Programme for Commerce and Management**  
 Department Name : **Ph.D/ Business Administration**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Center**  
 Description : **Design Expert Training Programme July (Ref:T2307061136156156214976717/06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 800.00/-**  
 (Received Eight Hundred rupees only)

Cashier

  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM714/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Munnish Ramya.M**  
 Department Name : **Ph.D/ Business Administration**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Center**  
 Description : **Design Expert Training Programme July (Ref:318765766928/06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

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**Miscellaneous Receipt**

**Original**

Receipt No : **REM709/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Rubeya.S**  
 Department Name : **Asst.Professor**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Centre**  
 Description : **Design Expert Training Programme July (Ref:318754223794/ 06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM711/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Mathathra. O**  
 Department Name : **Asst.Professor**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Centre**  
 Description : **Design Expert Training Programme July (Ref:355343077082)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM710/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Sangamithra.S**  
 Department Name : **Asst.Professor**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Centre**  
 Description : **Design Expert Training Programme July (Ref:355305771724/ 06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 50.00/-**  
 (Received Fifty rupees only)

  
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**Miscellaneous Receipt**

**Original**

Receipt No : **REM708/2023-24**  
 Receipt Date : **13-07-2023**  
 Name : **Abinaya.P, Andul Devi.S**  
 Department Name : **Ph.D/ Business Administration ADU**  
 Account Type : **Research and Consultancy**  
 Towards : **Prof.CNR Rao Res.Centre**  
 Description : **Design Expert Training Programme July (Ref: 202307061216410030/ 06.07.2023)**  
 Mode of Payment : **Online RTGS**  
 Amount : **₹ 100.00/-**  
 (Received One Hundred rupees only)

  
 Cashier

**Permission Letter**





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Recognised by UGC Under Section 12 B Coimbatore-641 043, Tamil Nadu, India

**GUIDELINES/PROFORMA FOR ORGANISING CONFERENCES, WORKSHOPS, SEMINARS, WEBINARS OR OTHER EVENTS MARCH 2022 and onwards**

**Name of the applicant: Dr.P.Lalitha, Department: Prof. CNR Rao Research Centre School: R & D**

1. Activity : **Workshop**
2. Geographical Coverage : Institutional Level
3. Name of the Event : **Design Expert Training Programme For Commerce & Management**
4. Date(s) : 06.07.2023 Total number of days: One
5. Venue : Gallery
6. Name & Designation of Convenor/Organizing Secretary and Team  
Convenor : Dr. P. Lalitha, Director R&D i.c, Coordinator, Prof. CNR Rao RC  
Organizing Secretary : Dr. P. Arulpriya, Asst. Coordinator, Prof. CNR Rao RC  
Organizing Member : Ms. S. Suba Sree, Lab Technician, Prof.CNR Rao RC
7. Financial Assistance Required : **No**
8. Details of assistance sought from other sources : **Nil**
9. Details of collaborating institution, if any : **Nil**
10. Detailed Proposal of the Activity
  - A. Aims/Objectives :  
Effective usage of Design Expert Software for researchers of School of Commerce and Management
  - B. Target audience/participants with expected number: 30
  - C. Details of Sessions:  
The Session covered the advancement of DE software for data analysis of Commerce & Management.
  - D. Please mention themes/topics to be covered under each Technical Session and names of Resource Persons:  
**Demonstration** : Ms. A. Pon Nivetha, Ph.D Scholar, Dept. of Chemistry, ADU
  - E. Expected outcome:
11. In case of an International Conference and collaboration, kindly give resources for International travel and a letter from the concerned head of the collaborating body
12. Registration fee: Yes Rs.50 per participant.

*P. Arulpriya*  
30.6.2023  
**Asst Coordinator**

*P. Lalitha*  
30/6/2023  
**Coordinator**

*P. Lalitha*  
30/6/2023  
**Director R&D**

*[Signature]*  
30.6.23  
**Finance Officer**

*S. Kameelah*  
30/6/23  
**Registrar**

*[Signature]*  
03/07/2023  
**Vice Chancellor**

**Date: 30.06.2023**  
**Place: Coimbatore**

## Acknowledgement

The organizers thank the authorities of the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for the necessary approvals and opportunity to conduct this event.

### Signature of the Coordinator



**(P.LALITHA)**

