

Report on: “Research Methodology in Applied Sciences: Experimental Design Basics”

Organized By: Department of Mathematics, Department of Statistics, and SSIP Cell of Gujarat Arts and Science College, Ahmedabad

Date of Event: 2nd March 2026

1. Workshop Overview

The workshop titled “**Research Methodology in Applied Sciences: Experimental Design Basics**” was organized on **2nd March 2026** by the Department of Mathematics, Department of Statistics, and SSIP cell of Gujarat Arts and Science College, Ahmedabad. The event was conducted under the **Research, Innovations and Extension Grants to Government Colleges**, supported by Knowledge Consortium of Gujarat (KCG), Department of Education, Government of Gujarat.

2. Objectives of the Workshop

The key objectives were:

- To introduce the fundamentals of **research methodology and experimental design**
 - To develop understanding of **statistical analysis using Jamovi**
 - To train participants in **hypothesis testing and data interpretation**
 - To explore **AI-based tools for research reporting**
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3. Participants & Registration

- Total **104 participants** actively attended the workshop.
- The registration process was efficiently arranged and managed by Dr. Mahaveer Singh P. Shekhawat.

Participants included students, faculty members, and research enthusiasts from various academic backgrounds.

4. Inauguration Session

- Time: **12:00 PM – 12:15 PM**

The inauguration session was conducted smoothly with the following contributions:

- **Anchoring** by Prof. Zankhana Jagdishchandra Mali
- **Welcome Address** by Prof. Bansari Kalidas Jethwa
- **Floral Welcome of Guests** by Dr. Jigneshkumar J. Gondaliya

The session highlighted the significance of research skills and encouraged participants to actively engage in the learning process.

5. Technical Sessions

Session 1: Introduction to Experimental Design & Descriptive Statistics

- Time: **12:15 PM – 01:45 PM**
- Resource Person: Dr. D. P. Raykundaliya
(Professor & Head, Department of Statistics, Sardar Patel University)

Key Highlights:

- Fundamentals of experimental design
- Types of data and variables
- Descriptive statistics using Jamovi

Refreshment Break

- Time: **01:45 PM – 02:00 PM**

Refreshments were thoughtfully arranged by:

- Prof. Meena Vasudev Mulchandani
 - Prof. Mamta Sanjaykumar Amrutiya
 - Dr. Pariben J. Kundaliya
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Session 2: Hypothesis Testing, t-tests & ANOVA

- Time: **02:00 PM – 03:30 PM**
- Resource Person: Dr. D. P. Raykundaliya

Key Highlights:

- Hypothesis testing concepts
 - t-tests and ANOVA applications
 - Practical implementation using Jamovi
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Session 3: Data Collection, Chi-square Test & AI-based Reporting

- Time: **03:30 PM – 05:00 PM**
- Resource Person: Dr. Jayshree Pandey
- The welcome introduction of the speaker was delivered by Dr. Ankit Rameshbhai Sinojiya

Key Highlights:

- Data collection techniques
 - Chi-square test
 - AI-based research reporting methods
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6. Valedictory Session

- Time: **05:00 PM – 05:15 PM**

The workshop concluded with a formal vote of thanks delivered by Dr. Jigneshkumar J. Gondaliya. In his address, he expressed sincere gratitude to:

- **Principal Sir** for his constant guidance and support
 - **Resource persons** for accepting the invitation at short notice
 - Dr. Mahaveer Singh P. Shekhawat for notice, registration, and certificate management
 - Prof. Zankhana Jagdishchandra Mali for brochure design, banner preparation, and anchoring
 - Prof. Meena Vasudev Mulchandani, Prof. Mamta Sanjaykumar Amrutiya, and Dr. Pariben J. Kundaliya for kit distribution, venue arrangement, inauguration ceremony, and refreshments
 - Dr. Jigneshkumar J. Gondaliya and Dr. Ankit Rameshbhai Sinojiya for session arrangement, billing, photography, and report preparation
 - Prof. Bansari Kalidas Jethwa for memento arrangement, invitation to the Principal, and guest hospitality
 - All the **students and participants** for their enthusiastic participation
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7. Key Outcomes

- Strengthened understanding of **research methodology and experimental design**
- Practical exposure to **Jamovi software**
- Improved skills in **statistical testing and data interpretation**
- Awareness of **AI tools in research reporting**

8. Conclusion

The workshop was highly successful in achieving its objectives and provided a valuable platform for enhancing research skills. The collaborative efforts of the organizing team and the insightful sessions by expert speakers made the event impactful and enriching. The initiative reflects the continued commitment of Gujarat Arts and Science College and Knowledge Consortium of Gujarat towards fostering **academic excellence, innovation, and research culture**.







