

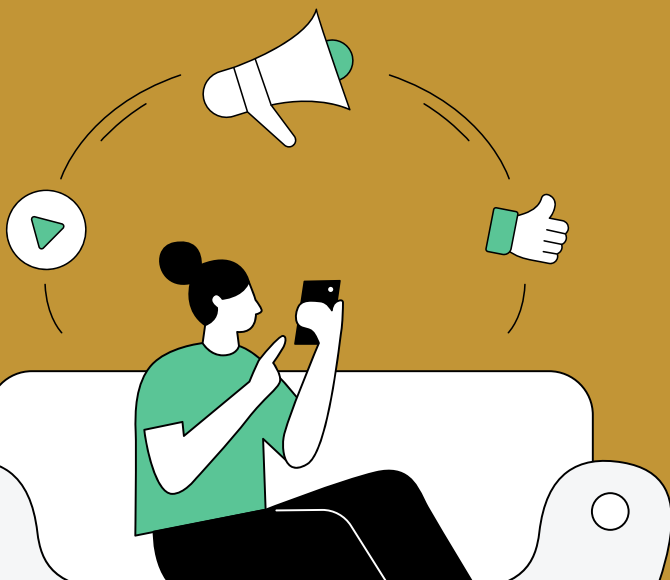


SDG 12: RESPONSIBLE CONSUMPTION & PRODUCTION

Progress Report 2023-2024

MANAV RACHNA UNIVERSITY

Established wide Haryana state Legislature Act
No 26 of 2014 & under section 2(f) of UGC 1956



**Ensure Sustainable Consumption
and Production Patterns**



PREAMBLE

WE, THE FACULTY, STAFF, AND STUDENTS OF MANAV RACHNA UNIVERSITY, recognizing that a fundamental shift is required in how our society produces and consumes goods and services to minimize environmental degradation and resource depletion, hereby affirm our practical commitment to the objectives of the United Nations Sustainable Development Goal 12: Ensure sustainable consumption and production patterns.

WHEREAS unsustainable consumption patterns, particularly in waste generation and the use of natural resources, pose a serious threat to ecosystems and future generations;

WHEREAS the institution has adopted a policy of integrated waste management, prioritizing the 3Rs (Reduce, Reuse, Recycle) across all operations, including the rigorous segregation, composting of organic waste, and recycling of paper and plastic, thereby significantly minimizing the volume of waste sent to landfills;

WHEREAS our commitment to a sustainable supply chain is demonstrated through an Environmentally Sound Procurement Policy, favoring vendors who utilize sustainable production methods, reduce packaging, and provide products that are energy-efficient and sourced ethically;

WHEREAS we actively promote awareness and education on sustainable lifestyles within the community, integrating principles of resource efficiency and responsible consumption into the curriculum and supporting research on the Circular Economy and sustainable material science;

NOW, THEREFORE, BE IT RESOLVED that Manav Rachna University shall continue to serve as a model for sustainable resource management, systematically monitoring its environmental impact through regular audits, ensuring responsible handling of hazardous waste, and championing the adoption of sustainable practices in consumption and production across the academic, administrative, and local community spheres.

1. Global Context

Goal 12 aims to **ensure sustainable consumption and production patterns**. The current global consumption and production trends are putting immense pressure on the planet's resources, leading to environmental degradation, biodiversity loss, and climate change. SDG 12 addresses this by promoting efficiency, reducing waste, and encouraging a shift towards a circular economy.

Key targets include:

- **Reducing food waste** and losses along production and supply chains.
- **Promoting sustainable practices** among businesses, especially large and transnational companies.
- **Encouraging consumers** to make informed, eco-friendly choices.
- **Improving resource efficiency** in energy, water, and material use.

Sustainable consumption and production are not just environmental issues; they are also crucial for economic growth and social development. Implementing SDG 12 helps decouple economic progress from environmental degradation and ensures a healthier planet for future generations.

2. MRU's Strategic Commitment to the Goal

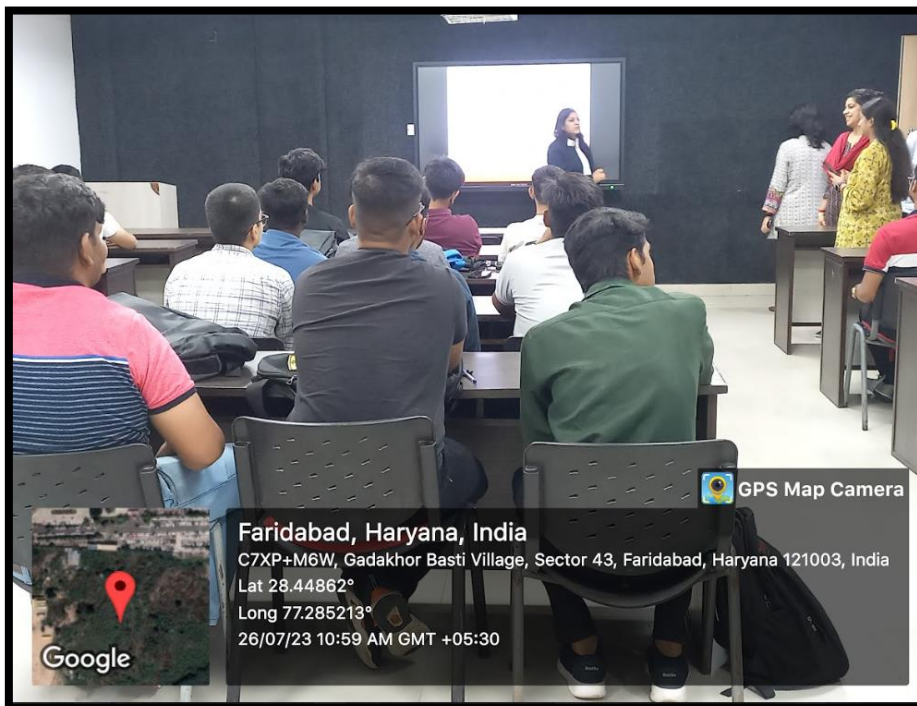
Our university envisions a learning community that nourishes people and planet alike. By 2030 we will be recognised as a regional leader in (i) eliminating food insecurity across our sphere of influence and (ii) operating a resource-efficient, circular campus whose consumption and production patterns respect planetary boundaries.

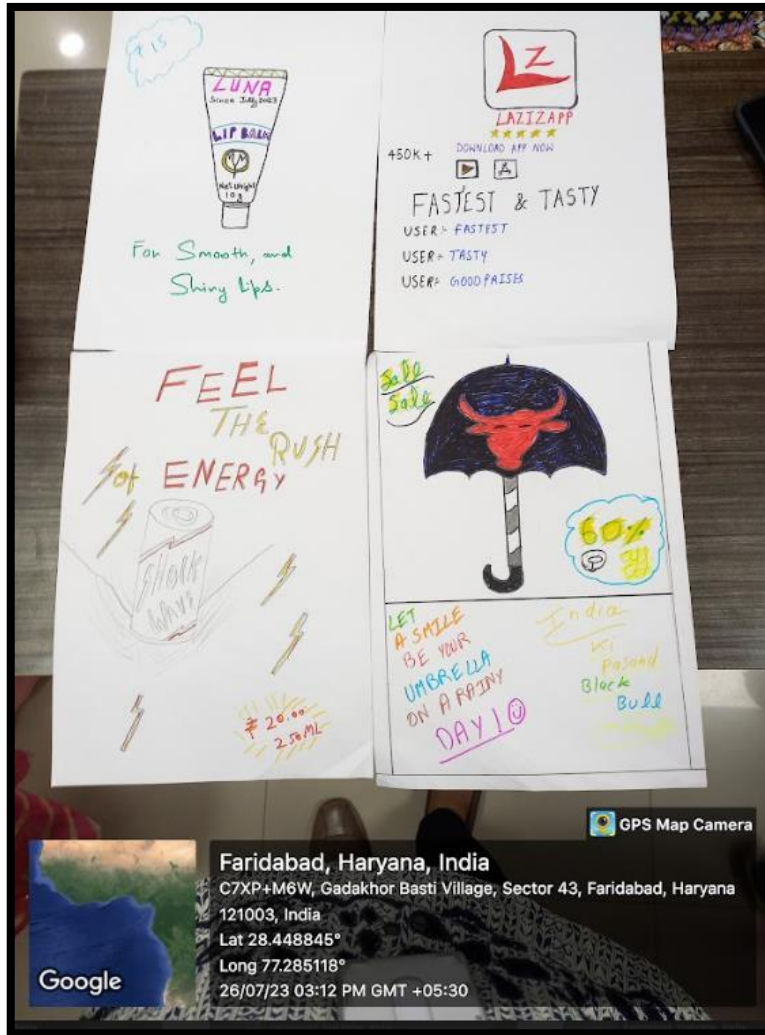
Competitions organised

Ad Mad Show

26th July 2023

Ms Shriti Batla and Ms Sandhya conducted an Ad Mad Show even with the BBA first semester students. Students took up products with enthusiasm and created innovative punchlines, brand names and enacted advertisements of the products chosen. First, second and third prizes were announced for the event.





Research Publications & Patents

SDG12

- Animesh Singh 2023 A Brief Review on Organic Skincare Cosmetics buying behavior of Female Consumers
- Ms Himanshi Bhardwaj 2023 Incorporating Sustainability:A Comprehensive Review of Factors Influencing Consumer Acceptance of Mobile Wallets
- Dr. Yogita Sharma 2023 A framework to assess the smartphone buying behavior using DEMATEL method in the Indian context
- <https://www.sciencedirect.com/science/article/pii/S2090447923000187>
- Mr. MK Koul 2023 Effective transformation technique and solution with principles of supply chain to mitigate carbon emission.

Workshops & Trainings

**BUSINESS SIMULATION WORKSHOP CONDUCTED
AT SCHOOL OF MANAGEMENT & COMMERCE, MRU
12th March- 15th March 2024**

A 4-day Business Simulation workshop was conducted at School of Management & Commerce, MRU to provide students hands-on experience in a virtual business world where they create their own companies, bootstrap their funds and get it running in a competitive space. The game was called “Business Fundamentals- Carbon Fibre Bike Challenge” created and licensed by US Marketplace Simulations. It is about a bicycle industry that is introducing an economical version of carbon fibre using 3D manufacturing technology in certain geographic markets and target segments that the game defines. The game was divided in 4 quarters and thus the students had actually run their firms for a year. Each quarter the decisions became more complex, competition more intense and teams experienced more excitement and challenges to maintain their market position. A brief on the 4 quarters are:

Quarter 1: Introduction to Business Fundamentals- organize your company and set your business in motion.

Quarter 2: Go Test the Market- Take all tactical decisions like employee compensation plans, production scheduling, advertising campaigns, pricing, sales and service personnel, cash flow, and profitability.

Quarter 3: Skilful Adjustments and Market Expansion- Review performance during the test market and adjust strategy and tactics. Do strategic analysis and SWOT.

Quarter 4: Invest in the Future- Review and revise your strategy in light of your assessment and the new Venture funding that is available.

There were 7 participating teams of 35 students who identified their target segments, geographic markets, created their own brands and took decisions ranging from designing their product, marketing, setting the price, scheduling the production, hiring workforce, managing cash flows and profitability etc. The students were actively engaged throughout these days from 10 am to 4 pm and also taking out time from their home to meet the game deadlines.

This simulation experience worked towards developing their analytical and critical thinking skills, develop leadership, teamwork, and interpersonal skills, promote better decision making by learning to manage a totally integrated company, and facilitate learning of important business concepts, principles, and ways of thinking. They also got to understand how performance is evaluated using the Balanced Scorecard tool which is a better parameter for a firm’s performance.

Out of the 7 participating teams one team of girls was from K L Mehta Dayanand College Faridabad who had shown keen interest to be part of this workshop and also seeking support from MRU IIC towards such other entrepreneurial activities, mentoring and funding start-ups in future.

Few team building exercises were also incorporated in this 4 day workshop for better coordination and focus in the game.

The resource person for this workshop was Dr Pragati Chauhan, Prof -SMC MRU & Simulation Coach and Dr Bindu Agrawal – Master Simulation Coach.



School of Education and Humanities

Department of Education and Humanities

Event Report

Date: 15/02/2023

Topic: Workshop on “Research Methodology”

Date of Workshop: 15 February 2023

Time: 9:30AM to 11:30AM

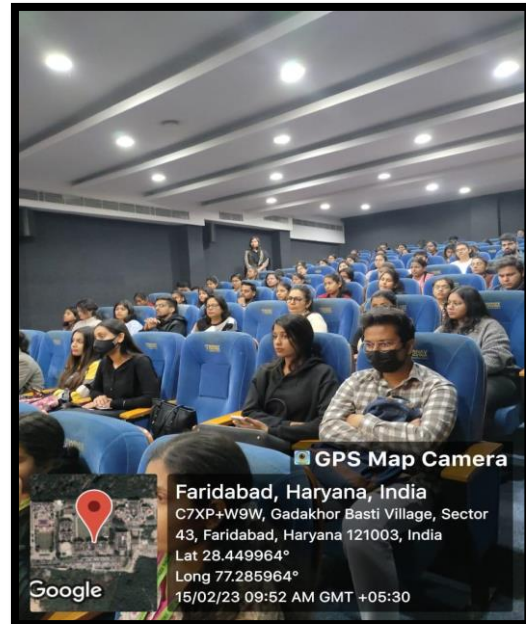
Venue : I-Block, Auditorium

Expert(s): Dr. Amit Ahuja, Associate Professor, USE, GGSIPU

The workshop on Research Methodology was organized for the students and Research scholars of the School of Education and Humanities ,Manav Rachna University on 15th February 2023 by Dr. Amit Ahuja , Associate Professor , USE, GGSIPU in the I-block Audi. With a research and teaching experience of more than two decades, Dr. Ahuja has been actively involved in research in collaboration with a with a number of organisations of repute such as AICTE, GERA, TERA etc. The session started with a brief introduction of the speaker and presentation of a sapling to the speaker. The speaker started with a discussion about the nature and importance of research and research tools.

During the session, Dr. Ahuja acquainted the students with the need to develop research tools for data collection and then helped students select a topic for data collection (Effects of Mobile usage on Students) . Sir facilitated the students in constructing a Likert Scale and taught them to understand the process of calculation of the same.

Session was very interactive and all the students were attentive and were totally engaged throughout the session. The webinar ended with a vote of thanks to the speaker and an expression of desire to have more such webinars in future that enlightened the students about research strategies and instill research aptitude in students.



Expert Delivering the Session in Auditorium



MANAV RACHNA UNIVERSITY
Declared as State Private University vide Haryana Act 26 of 2014

School of Education and Humanities
Manav Rachna University
presents
Workshop
on

RESEARCH
METHODOLOGY

.....

EXPERT SPEAKER

Dr. Amit Ahuja
Associate Professor, USE, GGSIPU



February 15 2023 | 9:30 AM – 11:30 AM | I Block Audi

PHYSICS PROGRAM

November 21, 2023 Expert talk on “Applications of Micron and Nanotechnology”
SGD 4, SDG 9, SDG 12



The poster features the Manav Rachna University logo and School of Sciences (SoS) branding at the top. The main title is "School of Sciences" in red, followed by "Presents #ExpertTalk on APPLICATION OF MICRON AND NANOTECHNOLOGY" in white on a red background. The speaker is identified as "by PROF. V.K.JAIN (FORMER SCIENTIST, DRDO)" in white on a blue background. A circular inset shows a photograph of Prof. V.K. Jain, a man in a suit and tie, gesturing. The event details at the bottom are "21st November 2023 | 11AM – 1 PM | I Block Auditorium" in white on a red background.

EVENT REPORT

TITLE - “Applications of Micro and Nanotechnology”

Date: November 21, 2023

Venue: I Block Seminar Hall

Resource Persons: **Prof. V.K. Jain:** Distinguished Scientist & Professor Amity University, Noida (Formerly Director Grade Scientist, Solid State Physics Lab SSPL, DRDO).

School of Sciences (Physics Program), Manav Rachna University organized an expert talk on “*Applications of Micro and Nanotechnology*” on 21st November, 2023, from 11 am onwards for the UG and PG students and the faculty members.

The program was initiated with a warm welcome of the expert from the organizers, highlighting the importance of nanotechnology to the society. The distinguished expert Prof. V.K. Jain delivered the talk on Applications of Micro and Nanotechnology. The speaker emphasized the significance of Micro Electromechanical System and its applications in nanotechnology. He also discussed about the technologies of silicon solar cells and among these technologies, a few have been transferred to industries. Very recently they have developed room temperature based LPG sensor, flyash battery and cleaning of industrial waste water technology using nano-materials. All these technologies were demonstrated in his talk and few results were very encouraging that were discussed with students and the faculty members.

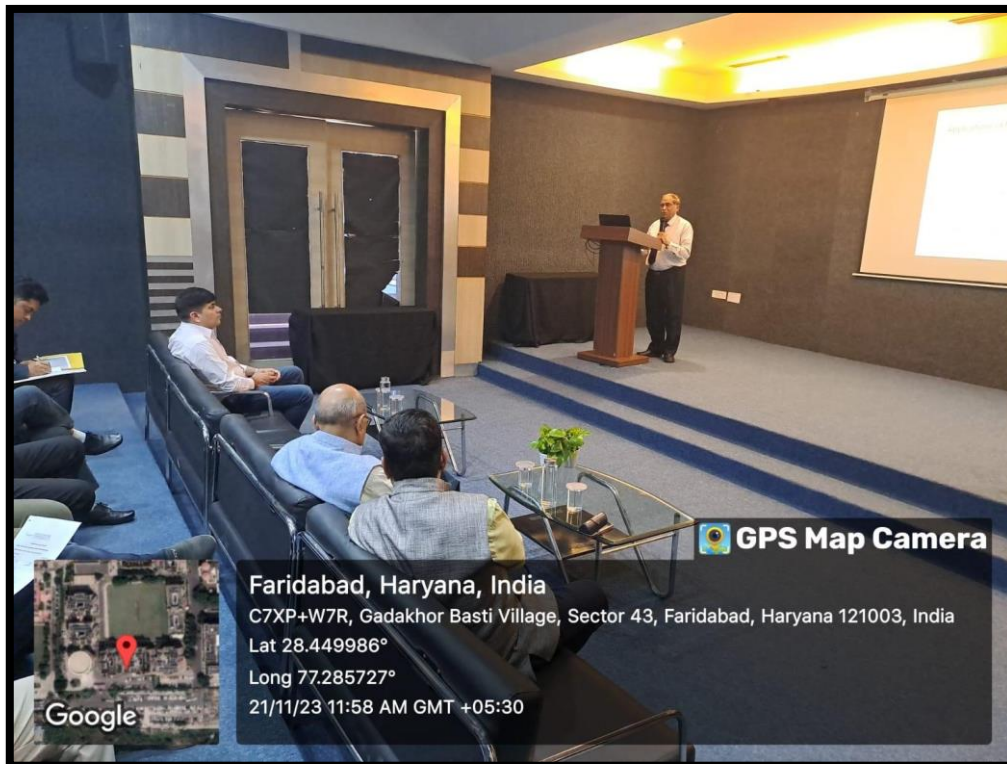
He also discussed about new areas of research such as solar energy, sensors, bio sensors, water purification, MEMS, nanomaterials and some others. Among his recent contributions, his research work on Agri-voltaic has been outstanding, which can double the income of the farmers if properly implemented. He also discussed about the generation of electric power from the waste water and simultaneously cleaning that water. The event received positive feedback from both students and faculty members, indicating a strong demand for such educational initiatives in the future.

At the end of event, students raised several queries and the same were resolved by resource person. The central idea of the session was to update the knowledge about nanotechnology and its applications among the students and faculty members.

The event was well-coordinated by Dr. Shiv Kumar Dixit, Dr. Deepti, Dr. Sandeep kumar, Dr. Jai Prakash and all faculty members from Department of Sciences. The session was concluded with a vote of Thanks by Dr. Shiv Kumar Dixit.

After the expert talk, Prof. V.K. Jain along with Prof. P.K. Bhatnagar (Emeritus Professor Delhi University) visited the UIC, MRU and gave their valuable feedback to improve and strengthen the research activities and research infrastructure at the centre. It was a very informative interaction. Prof V. K. Jain invited and encouraged science faculties as well as Medical college faculties to visit Amity Institute of Advanced Research and Studies (Materials & Devices) lab at Amity Noida for a futuristic collaborative research work. Being an advisory committee member of ICEMRB-2023, they also reviewed the preparation and progress of the forthcoming international ICEMRB-2023 conference to be held in December; 19-22, 2023 at MRU campus.

Few snapshots of the event are attached herewith.





Curriculum Mapping
SDG 12

1. **CLOUD COMPUTING SDG12, SDG11**
Virtualization, Virtual Machines, Load Scheduling, Task scheduling, resource management
2. **PYTHON PROGRAMMING SDG9, SDG12**
Lightweight, energy efficient programming language
3. **INTRODUCTION TO RESEARCH SDG9, SDG12**
Innovation and research related to achieve sustainable development.
4. **ANALYSIS & DESIGN OF ALGORITHMS SDG9, SDG12**
Energy efficient and cost effective software designing
5. **ANALYSIS & DESIGN OF ALGORITHMS SDG9, SDG12**
Energy efficient and cost effective software designing
6. **SOFTWARE CRAFTMANSHIP SDG11,SDG12**
designing softwares to support sustainable development
7. **SECURE CODING IN C/C++ SDG11, SDG12**
making the systems secure from theft and hacking
8. **OPERATING SYSTEM SDG9, SDG12**
Learning and exploring a software programme required to manage and operate a computing device, and making it energy efficient
9. **SOFTWARE ENGINEERING. SDG9, SDG12**
technique of designing and developing efficient and effective softwares
10. **COMPUTER ARCHITECTURE & ORGANIZATION SDG9, SDG12**
Internal computer programming and hardware networking
11. **COMPUTER NETWORKS SDG9, SDG12**
learning energy efficient network design
12. **MODERN WEB AND MOBILE FRAMEWORKS SDG9, SDG12**
Making energy efficient mobile frameworks to reduce carbon emissions
13. **DIGITAL FORENSICS SDG9, SDG12**
Electronic evidence is a component of almost all criminal activities and digital forensics support is crucial for law enforcement investigations.
14. **RESEARCH & INNOVATION-II SDG9, SDG12**
Carbon Footprint, Innovation in Health care, Use of IOT for social well being
15. **DEVOPS AND TEST AUTOMATION SDG9, SDG12**
Using test automation, DevOps can: Use test cases to detect bugs and save time. Unlike manual testing, automatic test cases make testing faster, which means you can deploy products to market more quickly. Use software programs to test applications and minimize the chance of human error.

16. **THEORY OF AUTOMATA & COMPILER DESIGN SDG9, SDG12**
Designing of effective machines
17. **DIGITAL ELECTRONICS & MICROCONTROLLER SDG9, SDG12**
18. **NPTEL COURSES FROM MOOC SDG9, SDG12**
Design, Development, Knowledge
19. **PROJECT SDG9, SDG12**



**MANAV RACHNA
UNIVERSITY**

Declared as State Private University vide Haryana Act 26 of 2014



An experience of working on skills and technology to increases team management skills, communication skills, and time management skills

**21st July 2023 Industry Visit to Moon beverages (Coca Cola bottling Plant)
Greater Noida**

SDG 12: Responsible Consumption and Production(Observing these practices contributes to understanding this goal).