



# **Department of Mathematics**

## **Maharshi Dayanand University**

### **Rohtak, Haryana**

**(NAAC Accredited-A+ Grade)**

**<http://www.mdurohtak.ac.in/>**

**Organizes**

**ONE WEEK ONLINE FACULTY DEVELOPMENT  
PROGRAMME (FDP)**

**on**

**RECENT DEVELOPMENTS IN MATHEMATICAL  
SCIENCES AND ENGINEERING**

**December 22-26, 2021**

**Sponsored By**

**AICTE Training And Learning  
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(Former Professor, BITS Pilani)

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## ABOUT THE UNIVERSITY

Maharshi Dayanand University, Rohtak, named after a great social reformer “Swami Dayanand Ji”, was established through an Act of Legislative Assembly of Haryana in the year 1976 with special objective. “To establish and incorporate a teaching cum affiliating University at Rohtak for the encouragement of interdisciplinary higher education and research. It is located 70 kms away from Delhi on NH-10 and is spread in 630 acres of land. During the last 45 years of its existence the University has achieved a remarkable degree of success in its expansion programmes, infrastructural developments and in academic excellence. The university has 12 different faculties with 38 University Teaching Departments in the campus running 159 academic programmes and it has 284 institutions and colleges affiliated with an enrolment of about 2.5 lacs students.

## ABOUT THE DEPARTMENT



The Department of Mathematics is one of the oldest department of the M.D. University, Rohtak and was established in the year 1976 under Faculty of Physical Science. The Department is housed in an independent building having good infrastructural facilities with three Computer Labs, two Research Labs, NBHM funded Departmental Library, a Seminar Hall, Multi-Purpose Hall and Wi-Fi Connectivity. Over the years, the Department has made rapid strides in academics and at present it has more than 550 students distributed over several programs such as M.Sc. Mathematics, M.Sc. Mathematics with Computer Science, 5-Year integrated M.Sc.(Hons) Mathematics, M.Phil. and Ph.D. The Department has 16 teachers and 9 supporting staff members. The Department of Mathematics has completed the level of DRS-I under Special Assistance Program for its excellent research and academic activities by UGC in 2017. The Department keeps on organizing conferences/seminars frequently. Recently, Department of Mathematics organized an online International Conference on History and Development of Mathematics sponsored by Haryana State Council for Science, Innovation & Technology to Commemorate 133rd Birth Anniversary of Srinivasa Ramanujan on “National Mathematics Day,’ December 22, 2020.

## COURSE CONTENTS AND OBJECTIVES

The aim of this course is to discuss various recent developments in Mathematical Sciences and Engineering. Few important topics that will be covered in this programme are:

- Computational Techniques in Engineering and Industries
- Mathematical Modeling and Analysis
- Advanced Mechanics of Solids
- Computational Fluid Dynamics
- Statistical Techniques
- Optimization Techniques
- Operation Research Models
- Fuzzy Sets and Logic
- Neural Network
- Information Technology
- Cyber Security
- Computational Graph Theory
- Deep and Machine Learning
- Data Analytics
- Artificial Intelligence
- Algebra and Coding Theory
- Traffic Flow Modelling

The FDP will meet following objectives:

- To give knowledge about the recent developments in mathematical sciences.
- To expose the participants about applications of artificial intelligence and deep learning.
- To provide exposures to the participants about various advanced computational techniques for engineering systems.
- To make participants understandable the new optimization and data analytic techniques.
- To update the participants with the advanced concepts of neural network and cyber security.
- To build confidence and capability amongst the participants to identify problems in various fields, especially in the areas of mathematical sciences and engineering to obtain their remedial solutions.
- To make aware the participants with various statistical techniques and software for data analysis.
- To empower the participants to teach courses related to the topics of mathematical sciences.

## TENTATIVE SPEAKERS

Prof. KumKum Dewan, Former Vice Chancellor,  
Jamia Millia Islamia & Noida International University, Delhi

Prof. H.R. Wason, Indian Institute of Technology, Roorkee

Prof. S.C. Arora, University of Delhi, Delhi

Prof. S.C. Agrawal, Former Head and Dean, Meerut University, Meerut

Prof. C.B. Gupta, The NorthCap University, Gurugram  
(Former Professor, Birla Institute of Technology, Pilani)

Prof. Paras Ram, National Institute of Technology, Kurukshetra

Prof. C.K. Jaggi, University of Delhi, Delhi

Prof. S.K. Tomar, Punjab University, Chandigarh

Prof. H. C. Taneja, Delhi Technological University, Delhi

Prof. Anil Vashishth, Kurukshetra University, Kurukshetra

Prof. Gulshan Lal Taneja, Maharshi Dayanand University, Rohtak

Prof. Rashmi Bhardwaj, Guru Gobind Singh Indraprastha University, New Delhi

Prof Arvind Kumar Gupta, Indian Institute of Technology, Ropar

Mr Varun Upadhyay, Art of Living, Bangaluru

## ELIGIBILITY & HOW TO APPLY

The faculty members of the AICTE approved institutions, Research Scholars, PG Scholars, participants from Government, Industry (Bureaucrats/Technicians /Participants from Industry etc.) and staff of host institutions are eligible to participate in the programme.

**Register and apply through:**

<http://www.aicte-india.org/atal>

<http://atalacademy.aicte-india.org/signup>

## COURSE FEE

There is no registration fee for eligible participants. (Limited Seats Available)  
Registration acceptance will be on first come first serve basis.

## TEST AND CERTIFICATE

A test will be conducted by the coordinator at the end of the program and the certificate shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test, and submitted feedback form. Certificate will be provided after successful completion of the FDP.

## FOR ANY FURTHER ENQUIRY, CONTACT :

Dr Anju Panwar - 9991778764

Dr Poonam Redhu -7307914600

# TENTATIVE SCHEDULE OF THE FACULTY DEVELOPMENT PROGRAMME

Days/Date	10:00 AM to 11:15 AM	11:15AM to 11:45AM	11:45 AM to 1:15 PM	1:15 PM to 1:45 PM	1:45 PM to 03:15 PM	03:15 PM to 03:30 PM	03:30 PM to 05:00 PM
Day 1 22/12/21	Inauguration	Tea Break	Session 1 <b>State of Education: Embracing Techno-Alliances of the Future</b> Prof. KumKum Dewan <i>JMI &amp; Noida International University, Delhi</i>	Lunch Break	Session 2 <b>Role of Probability in Performance Analysis of Industrial Systems</b> Prof. Gulshan Lal Taneja <i>Maharshi Dayanand University, Rohtak</i>	Break	Session 3 <b>Operations Research: An Overview</b> Prof. C.B. Gupta <i>The NorthCap University, Gurugram</i>

Days/Date	10:00AM to 11:30 AM	11:30 AM to 12.00 PM	12.00 PM to 1.30 PM	1.30 PM to 2:30 PM	2:30 PM to 4.00 PM
Day 2 23/12/21	Session 4 <b>Fluid Dynamics/Blood flow</b> Prof. S.C. Agarwal <i>Meerut University, Meerut</i>	Tea Break	Session 5 <b>The Reach of Inventory Management</b> Prof. C. K. Jaggi <i>University of Delhi, Delhi</i>	Lunch Break	Session 6 <b>Mathematical Modeling of Ferrofluid in Tribology</b> Prof. Paras Ram <i>NIT Kurukshetra</i>
Day 3 24/12/21	Session 7 <b>From Logic to Fuzzy Logic</b> Prof. S.C. Arora <i>University of Delhi, Delhi</i>	Tea Break	Session 8 <b>Fractals: Unsolved Mysteries in Science &amp; Engineering</b> Prof. Rashmi Bhardwaj <i>Guru Gobind Singh Indraprastha University, Dwarka, New Delhi</i>	Lunch Break	Session 9 <b>Modeling of Stochastic Transport</b> Prof. Arvind Kumar Gupta <i>Indian Institute of Technology Ropar Punjab</i>
Day 4 25/12/21	Session 10 <b>Mathematics: Some Applications Aspects</b> Prof. H.C. Taneja <i>Department of Applied Mathematics, Delhi Technological University, Delhi</i>	Tea Break	Session 11 <b>Teaching and Learning of Mathematics</b> Prof. S.K. Tomar <i>Punjab University, Chandigarh</i>	Lunch Break	Session 12 <b>Stress Management</b> Mr. Varun Upadhayay <i>Bengaluru, Karnataka</i>
Day 5 26/12/21	Session 13 <b>Recent Developments in Regression Procedures for Variables Containing Errors</b> Prof. H.R. Wason <i>IIT Roorkee</i>	Tea Break	Session 14 <b>Conformation of System of Differential Equations in Mathematical Modelling</b> Prof. Anil K. Vashishth <i>Kurukshetra University, Kurukshetra</i>	Lunch Break	Valedictory and Feedback