REGISTRATION FORM
Motilal Nehru National Institute of Technology Allahabad

ONLINE SELF-FINANCED SHORT TERM COURSE (STC)
ON
ROBOTICS AND AUTOMATION
(APRIL11 – 15, 2022)

Name:

Designation:

Department:

Qualification (Highest Degree):

Area of Research Interest:

Institution/Organization:

Years of Experience:

Address:

E-mail:

Telephone No. : Fax No. :

Mob. No.

Payment Details:

Date:

Place: Signature of the Applicant

Nomination

The Faculty/Staff/Industry participant, if selected will be permitted to attend the online programme from April 11 -15 2022, at Motilal Nehru National Institute of Technology Allahabad.

Signature of Head of Institution/Department with seal

ORGANIZING COMMITTEE

PATRON:

Prof. Rama Shanker Verma
Director, MNNIT Allahabad.

CHAIR PERSON:

Prof. K. N. Pandey
Head, Mechanical Engineering Department,
MNNIT Allahabad.

COORDINATORS:

- Dr. J. C. Mohanta
- Dr. P. K. Agarwal

Department of Mechanical Engineering,
MNNIT Allahabad.

IMPORTANT DATES:

- Last date of receipts of application: 5th April, 2022
- Intimation about selection: 6th April, 2022
- Confirmation from the participants: 10th April, 2022.

Send the scan copy of completed registration form to:

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Motilal Nehru National Institute of Technology Allahabad, Prayagraj – 211004
Phone: (0532) 2271527 (O), 8795372930 (Mo)
Email: jcmohanta@mnnit.ac.in

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ONLINE SELF-FINANCED SHORT TERM COURSE (STC)
ON
ROBOTICS AND AUTOMATION

For

Faculty Members, Practicing Engineers and Scientists, Research Scholars and Students

APRIL11 – 15, 2022

Organized by
Department of Mechanical Engineering
Motilal Nehru National Institute of Technology
Allahabad, Prayagraj – 211004
INDIA

ABOUT THE INSTITUTE

Motilal Nehru National Institute of Technology Allahabad (formerly MNREC Allahabad) is one of the oldest RECs setup in the country. Since inception in 1961, it has been a centre of technological excellence in the state of UP in particular and the country in general.

In 2002, it was converted to National Institute of Technology and was fully funded by the Government of India and in 2007, the Institute was granted the status of Institution of National Importance by an Act of Parliament.

The Institute offers various undergraduate and postgraduate programs such as B.Tech., M.Tech., MCA, MBA, M.Sc. and PhD. It has been recognized by GOI as one of the Quality Improvement Programme (QIP) centre for M.Tech. and Ph.D. program. Also, it is a lead Institution under World Bank funded GOI Project on Technical Education Quality Improvement Programme (TEQIP).

ABOUT THE DEPARTMENT

Department of Mechanical Engineering is one of the oldest and the largest department of the institute. It offers two B. Tech. Programs (Mechanical Engineering and Production and Industrial Engineering), five M. Tech. Programs (Computer Aided Design and Manufacturing, Design Engineering, Production Engineering, Product Design and Development and Thermal Engineering) and PhD program. The department has 36 highly qualified faculty and the department is also a QIP centre for PhD and M. Tech. programs.

INTRODUCTION

An exhaustive online short term course on ROBOTICS AND AUTOMATION is being offered from April 11-15, 2022 at Department of Mechanical Engineering, Motilal Nehru National Institute of Technology, Allahabad in Self-financed mode. The course is designed to cater the needs of teachers from engineering colleges, scientists, practicing engineers from industries, Research scholars and students from academia. This programme will be beneficial for persons to augment the knowledge of industrial applications specifically on the broad area of Robotics Technology and Automations. The beauty behind this course is the focus on the fundamentals of Robotics and Automation as well as providing the knowledge about a real robot/automated system for practical applications and research.

OBJECTIVES

The overall objective of this course is to bring together the scientists and engineers in academia and industry in the fields related to Robotics and Automation. This course covers industrial engineering applications of the above topics including theoretical and simulation methods, hands-on practice, computer programming and experiments. The objective of the programme is to promote the interaction between National scientists and engineers from a large number of disciplines, who are involved in research related to the broad area of Robotics and Automation.

COURSE CONTENTS

Robotics

- Basics of Robotics Technology
- Industrial robots, Types, components
- Applications of industrial robots
- DOF of multi axis Robot Manipulator
- Fundamentals to build a simple Robot
- Basic principle of teach pendant programming
- Work envelope, robot coordinate systems
- Payload, repeatability, precision and accuracy
- Robot Kinematics, pitch, yaw, and roll motion
- Denavit-Hartenburg (D-H) representation
- Robot sensors, types and their modelling
- Position and proximity sensors, touch and tactile sensors, light& infrared sensors, vision sensors etc.
- Electronics and Mechanical components of industrial robot
- Programming of Robot methods
- Testing of the Robot
- Demonstration of Robotic kit, flying robot like quad-copter

Advanced Industrial Automation

- PLC: introduction, types, leading hardware and software, logic development for real applications, Industrial I/Ps & O/Ps, PLC program wiring & Industrial project development.
- SCADA: Introduction, interfacing with PLC, screen development, digital & analog data configuration, analog data scaling, driver selection and configuration, tag creation and configuration & Industrial project development.
- ANALOG: Introduction to analog signal, standard signal type, block diagram, ATD and DTA conversion program and wiring.
- INTERFACING PROJECT: Complete interface of PLC, HMI, SCADA, AC DRIVE, AC motor, Digital I/Os with a real Industrial application.

FACULTY/SPEAKERS

The faculty/speakers will be drawn from IITs, NITs, research lab and other premier institutions and industries to deliver expert lectures.

PARTICIPANTS

The Faculty members, Research scholars and students, participants from Government, Industry Bureaucrats/Technicians/Participants from Industry etc.) and staff.

***Note**: Participation certificate (soft-copy) will be issued only on the successful completion of the STC requirements.*

COURSE FEE

- **Rs. 500/-** for Research scholars and students.
- **Rs. 800/-** for Faculty members, Staff and Industry participants.
- **Payment should be made to the following account; Account No. 77660100023780, IFSC: BARB0VJMNRE [fifth character is Zero] (Bank of Baroda, MNNIT Branch, Allahabad).**

REGISTRATION

The scanned copy of the signed application along with the payment details should reach the course coordinators latest by **April 5, 2022**, by giving the information as shown in the Registration Form.

Candidates will be informed about selection via E-mail.