Overview:

Differential equations have wide applications in various engineering and science disciplines. In general, modeling of the variation of a physical quantity, such as temperature, pressure, displacement, velocity, stress, strain, current, voltage, or concentration of a pollutant, with the change of time or location, or both would result in differential equations. Similarly, studying the variation of some physical quantities on other physical quantities would also lead to differential equations.

In fact, many engineering subjects, such as mechanical vibration, structural dynamics, heat transfer and theory of electric circuits, are based on the theory of differential equations. It is practically important for engineers to be able to model physical problems using mathematical equations, and then solve these equations so that the behavior of the systems concerned can be studied.

This program has been designed to cover the nuances of online teaching in detail and will help the attendees to develop and deliver online content professionally. The FDP will provide the attendees with hands-on experience on various tools to create video/audio content and present the same to students. This training program, which is being organized under the aegis of the Teaching Learning Centre (TLC), is essentially a humble beginning on the Post-COVID-19 pedagogy of Technical Education.

Objectives:

This online FDP is expected to create awareness and understanding among the participants about the IT tools, software. This will enable to start using these tools in classroom teaching with a focus on providing the knowledge on differential equations. A major focus will be on explaining mathematical concepts with theory and solution of solving differential equations and applications.

Course Content:

- Effective use of ICT in teaching and learning.
- Professional Ethics and Universal Human Values
- Computer Animations and Virtual Experiments
- Applications of Linear/Nonlinear Differential Equations.
- Systems of Differential Equations.
- Numerical Solutions of Differential Equations.
- Dynamical systems, stability.
- Modelling and simulation of dynamical systems.
- Complex dynamical systems.
- Related topics, e.g. bifurcations and chaos in dynamical systems, asymptotic methods in nonlinear dynamics, and others.
- Research Performance, Research Productivity, Institutional Ranking Systems,
- Research metrics, Scientometrics, Citation tools, Impact Factor, h-Index
- Research Ethics – Copyright, IPR issues, Plagiarism, Plagiarism Detection Software.

Registration is open to:

Faculty members who are in the institutions of higher learning. Research Scholars who have an aptitude to teaching and desire to take up teaching profession as their career. This workshop will be useful to research scholars, faculty, and all working professionals working in the application of differential equations.

Resource Persons:

Eminent personalities and experts from IITs, NITs, and Centrally Funded Research Institutions will be delivering the lectures. Also, faculty of the Mathematics Department, Teaching Learning Centre and senior faculty at NIT Warangal are the resource persons.
Registration:
The registration for the FDP program is through online mode by filling the details in the link appended below.

https://docs.google.com/forms/d/e/1FAIpQLSdUzpK30xe76utVdhw-VacXT9gDOMOhAvLNNHa5tP7zA0L-gHg/viewform

Note: Keep the payment receipt ready as a PDF file (size < 1 MB).

The FDP program will be offered in online mode and is limited to 100 participants. It is compulsory to attend all the sessions without fail to receive the digital certificate. The link for attending the online sessions will be shared after completing the registration. LAST DATE for registration: 26-12-2020

Registration Fee:

<table>
<thead>
<tr>
<th>Category of participants</th>
<th>Participants</th>
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<tr>
<td>Faculty Members</td>
<td>Rs. 600/-</td>
</tr>
<tr>
<td>Research Scholars</td>
<td>Rs. 300/-</td>
</tr>
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Note: Registration fee for Faculty and Research Scholars of SC/ST category is half of the amounts mentioned above as applicable.

Registration fee need to be remitted through Online / NEFT to the Bank account given below. Scanned copy of the Proof of remittance of the requisite registration fee (with transaction number if online transaction)

<table>
<thead>
<tr>
<th>Account Name</th>
<th>Director, Research Account, NITW</th>
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<tr>
<td>Account Number</td>
<td>62266262236</td>
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<tr>
<td>Bank</td>
<td>State Bank of India (SBI)</td>
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<tr>
<td>Branch</td>
<td>NIT Warangal Campus</td>
</tr>
<tr>
<td>IFSC code</td>
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About NIT Warangal:
National Institute of Technology Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 31 postgraduate programs besides doctoral programs.

About Department of Mathematics, NITW
The Department of Mathematics is a highly reputed department which functions with excellence as its motto. The Department was started in 1959 along with other Engineering and Science Departments and has established itself as a dynamic center for academic and research activities. The Department has so far produced 120 Ph.D.’s and presently 30 Research Scholars are working. AICTE recognized the Department of Mathematics as QIP center for Ph.D. The Department offers M.Sc. (Applied Mathematics) and M.Sc. (Mathematics & Scientific Computing) Courses. Recently, the Department of Mathematics at NIT Warangal has identified as National Resource Centre (NRC) for Mathematics to develop online courses to train faculty within India.

Teaching-Learning Centre of NIT Warangal:
The Teaching Learning Centre (TLC) is established at NIT Warangal with grants from the MHRD, under the scheme, ‘Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching’ (PMMMNMTT). Many senior and young faculty members across various departments of the Institute are associated with this Center as the Core-Team. One of the important objectives of the center is to conduct training programs for aspiring, newly inducted and in-service faculty in Science, Engineering and Social Sciences disciplines in higher education. Other activities of the TLC include preparation of print and e-learning materials, offering courses online, curriculum development, carrying out research in educational technology and pedagogy and integrating with E&ICT into teaching-learning process. The TLC has special programs for training for the marginalized and women-faculty.

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Ph. No. 0870-2462686 (Office)
REGISTRATION FORM

Name:__________________________________________________
Date of Birth:__________________________________________
Place of Birth: Village/Town/City:__________________________ District: ________________
Tick as applicable (Rural/Urban): _________________________ State: ___________________

Aadhaar number: ___________________________ Gender (Put a ✓ Mark): M   F

Category (Tick as applicable): Open / OBC / SC / ST / PWD

Qualification:____________________________________________
Designation:____________________________________________
Organization:____________________________________________

No. of Years of Teaching Experience:________________________

Address for Correspondence:________________________________
________________________________________________________
________________________________________________________

Mobile(s): ______________________ E-mail(s): __________________________

Payment Details: Amount: ____________ Transaction No.:_______________________
Date: ________________ Bank: _____________________Branch: _____________________

Declaration by the Applicant
If selected, I agree to abide by the rules and regulations of the workshop/training programme and shall attend all the sessions.
** Kindly go through the brochure before making payment

Date: __________________________ Signature of the Applicant

Recommended and Forwarded

Office Seal Signature of the Head of the Department / Institution