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**Dr. M.S.N. Murthy**, *Professor, GVPCE(A)*  
**Dr. B. Sreenivasulu**, *Associate Professor & Head, GVPCE(A)*

### COORDINATORS

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### ORGANIZING COMMITTEE

<b>Dr. C.V. Nageswara Rao</b>	<b>Dr. K. Siva Kumar</b>
<b>Dr. B. Sivarama Krishna</b>	<b>Mrs. S. Padma</b>
<b>Mrs. P.J.S. Lakshmi</b>	<b>Dr.T.Ajeeth Prabhu</b>
<b>Dr. N.N.S. Rao</b>	<b>Mr. G. Naga Chaitanya</b>

## **A One Week Faculty Development Programme (Online Mode)**

## **On Python for Chemical Engineers**

**9 – 14 December, 2024**



COLLEGE OF ENGINEERING  
(AUTONOMOUS)

*Organized by*

**Department of Chemical Engineering  
Gayatri Vidya Parishad College of Engineering  
(Autonomous)**

**Accredited by NAAC with 'A++' grade for 7 years in the 3<sup>rd</sup> Cycle  
Madhurawada, Visakhapatnam - 530 048.  
Andhra Pradesh, India.  
[www.gvpce.ac.in](http://www.gvpce.ac.in)**

## ABOUT THE INSTITUTION

Gayatri Vidya Parishad College of Engineering (A) [GVPCE(A)] was established in 1996 by Gayatri Vidya Parishad, a premier educational trust, to promote technical education. The GVPCE(A) offers 10 B.Tech., 5 M. Tech programmes and one MCA with an annual intake of 1260. The college is accredited by NAAC with 'A++' Grade for 7 years in the 3<sup>rd</sup> cycle. Autonomous status was recommended by UGC and conferred by JNTU-K in the year 2009. The institute reached another mammoth milestone by receiving fund to the tune of Rs. 5 crore under subcomponent 1.2 of Technical Education Quality Improvement Program Phase II (TEQIP-II) for Scaling up PG Education and demand-driven Research & Development and Innovation in the country. It is recognized by Indian Society for Technical Education as "The Best Engineering College" of Andhra Pradesh and Telangana States. The college has 122 Doctorates out of 244 Faculty. The college received Rs. 12 Crores from funding organizations DST / NBHM / ARB / AICTE etc. towards 45 R&D projects. Research and Consultancy projects, dedicated faculty, well equipped laboratories, good infrastructure and meritorious students are the major strengths of the Institution. The institute encourages collaborative learning between industry and academia as a means of reinforcing its curriculum with practical and real world experiences

## ABOUT THE DEPARTMENT

Department of Chemical Engineering was established in 1996. The Department has highly qualified faculty members and experienced from diverse research areas. It has completed four projects sanctioned by AICTE. The Department is accredited by NBA for four times starting from 2003. The Department has signed MOU's with various industries to build Industry-Institute interaction. Major equipments like AAS, High pressure Reactors, GC etc., are available to facilitate research. State of art software like COMSOL Multiphysics for CFD, DWSIM, PRO-II, MATLAB, Triangle Simulation software is available for simulation works.

## Theme OF THE FDP

### **Estimation, Dynamic Optimization & Artificial Intelligence (AI) applications in Chemical Engineering.**

In today's competitive academic environment, it is essential for educators to stay updated with the latest tools and technologies in the field of engineering. This Faculty Development Programme aims to equip the participants with knowledge and skills to effectively use Python, an open-source software, in their teaching and research.

Also, the participants will gain hands-on experience with Python's Optimization and Statistic modules, learning how to effectively incorporate it into their curriculum of process design and simulation and also in their research works.

## Hands on sessions will be given on all days by

**Dr. B. Srinivas Ph.D (IITK), Professor, GVPCE (A), Visakhapatnam**

The training will cover simulation studies on the following topics:

- Parameter estimation in non-linear algebraic equations.
- Parameter estimation in ordinary differential equations.
- Fitting Distributions to Random Experimental data.
- Optimization of Denbigh reaction scheme in 3 CSTRs in series.
- Optimal temperature profiles in multiple reactions using Dynamic optimization. (Series and Denbigh reaction schemes)
- AI applications in Chemical Engineering
  1. Regression models for conversion and yield (OLS from statsmodels) of multiple reactions in a CSTR.
  2. Classification algorithms like support vector classifier, decision tree and logistic regression to predict thermal runaway in a Batch Reactor.

## WHO CAN PARTICIPATE

All Industry personnel, Faculty of Chemical Engineering/Petroleum Engineering/Petrochemical Engineering and Research Scholars from AICTE approved engineering colleges can participate. An E-certificate (containing attendance and performance grade based on regularity and performance test conducted at the end of the program) will be issued to the participants.

## REGISTRATION

For Industry Personnel:	Rs 1000/-
For Faculty Members:	Rs. 500/-
For Research Scholars:	Rs. 200/-

## PAYMENT DETAILS:

Name of the Account holder: HOD Chemical Engg. Dept. GVPCEA  
Account Number: 191912010000230  
Name of the Bank: Union Bank, Kommadi Branch, Visakhapatnam  
IFSC code: UBIN0819191

Following is the link for the registration form.

<https://forms.gle/w1hQ1kv7gfaUeq2N8>

All participants will be sent the meeting link before the program.