Route to Varanasi

The city of Varanasi is well connected by road, rail and air with all the important places of India. Regular flights are there from Varanasi to Delhi, Mumbai, Chennai, Bangalore, Kolkata, Khajuraho and Lucknow. The Banaras Hindu University campus is only 10 Km from Varanasi railway station, 20Km from Pt. Deen Dayal Upadhyaya railway station and 35 Km from the airport.

About the Department

The Department of Mathematical Sciences, IIT (BHU) earlier known as Mathematics/Applied Mathematics has been functioning since 1968. Its importance lies in the fact that it caters to the needs of the undergraduate as well as post-graduate students of the Institute. In addition, the Department runs its own 5-year Dual Degree (B Tech & M Tech) programme in Mathematics & Computing. Computing is the glamour of the Department. It annexes several dimensions in terms of new and growing areas of research and further facilitates simulation of mathematical models constructed for interdisciplinary areas.

About the City

The holy city of Varanasi is known as the city of temples and learning. It is a place of great historical and cultural importance. This religious capital of India is situated on the bank of the holy river Ganges and is famous for temples of Lord Shiva, Buddha (at Sarnath) and Sankat Mochan etc. Varanasi is the premiere most place of oriental learning also. Simultaneously it is keeping pace with modern advanced knowledge. The city is reputed for silk fabrics, perfumes, artistic brass and copper wares and a variety of handicrafts. This vibrant city with multiple dimensions of knowledge and liberation has a magnetic attraction for people all over the world.

Teaching Faculty

Faculty members from the Department of Mathematical Sciences and other Departments of IIT (BHU) Varanasi will be teaching the course contents. Subject experts from other premier institutions will be invited for delivering the special lectures with tutorial sessions.
Introduction and objectives of the course

These days, numerical methods have become an integral part of simulation of many complex physical problems arising in science, engineering and industry. The analytical solutions of real life problems are restricted for some particular cases and therefore, numerical methods play an important role in finding the solutions of such problems in a satisfactory way. The objective of this course is to introduce classical numerical approaches like FDM, FVM and FEM and their applications in solving many complex problems of real life.

This course will provide an opportunity to faculty members and young researchers to interact with eminent speakers and to improve their knowledge in the field of numerical methods. Through this course, the participants will be able to implement appropriate numerical scheme to solve their own problems. Moreover, this will allow communication among mathematicians, engineers and scientists which will enhance new collaborations among them.

Who can attend?

Faculty members of University/Engineering colleges approved by AICTE working in the departments of Applied and Pure Mathematics/Mechanical Engineering/other interested department are eligible to attend the course.

Registration Process

Sponsored Participants (from AICTE approved institutions)

By Email – Scanned copy of the filled in application form duly endorsed by the forwarding authority to be mailed at ansse19iitbhu@gmail.com by July 20, 2019. Application format is given in this brochure.

The selected participants have to send a demand draft for Rs. 2000/- drawn on any nationalized bank in favor of “Registrar, IIT (BHU), Varanasi” to the course coordinators by July 30, 2019 as a caution deposit for confirmation of their participation. The caution money will be returned back only if the participant joins the course.

Course Content

• Applications of Finite Difference Method for Partial Differential Equations associated with science and engineering problems.
• Applications of Finite Element Method for Ordinary and Partial Differential Equations.
• Applications of Finite Volume Method for various science and engineering problems.
• Stability analysis and convergence of the numerical schemes.
• Discretization of Nonlinear Ordinary and Partial Differential Equations.

Accommodation

Sponsored Participants (from AICTE approved institutions)

Accommodation and local hospitality will be provided only to the selected candidates from AICTE approved institutions in institute guest house/hostels.

Financial Assistance to Sponsored Participants (from AICTE approved institutions)

Limited number of Participants (30) from AICTE approved engineering institutions will be eligible for to and fro railway fare via shortest route in III AC class and free lodging and boarding in the Institute guest house/hostels during course period. Candidates attending the course in full only will be eligible for TA. For all other participants no TA will be paid by IIT (BHU) Varanasi.

Course Speakers

Subject experts will be from IITs, NITs, Other reputed Institutes, Research Organizations and Industries.

Course Material

Hard/Soft copies of the lecture notes/presentations will be made available to participants at the end of lecture/presentation.

Important Dates

<table>
<thead>
<tr>
<th>Course duration</th>
<th>Aug. 12-16, 2019</th>
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<tbody>
<tr>
<td>Last date of registration</td>
<td>July 20, 2019</td>
</tr>
<tr>
<td>Intimation of selection by email</td>
<td>July 22, 2019</td>
</tr>
</tbody>
</table>

Website: www.iitbhu.ac.in
Indian Institute of Technology (BHU), Varanasi
Department of Mathematical Sciences
Registration Form
Advanced Numerical Schemes for Scientists and Engineers
(ANSSE-2019)

August 12-16, 2019

1. Name ...........................................................................................................................................................................
2. a) Age ...........................................................................................................................................................................
b) Sex: M/F ........................................................................................................................................................................
3. Designation .................................................................................................................................................................
4. Organization .................................................................................................................................................................
5. Address for correspondence ............................................................................................................................................
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E-mail......................................................................................................................................................................................
Phone/Mobile...........................................................................................................................................................................
6. Highest academic qualification ..............................................................................................................................................
7. Specialization .................................................................................................................................................................
8. Category of participant
   ☐ Sponsored participant from AICTE approved institutions   Yes   No
9. IIT (BHU) accommodation required   Yes   No
10. Payment details
    ☐ Amount (Rs.) ..............................................................................................................................................................
    ☐ Demand Draft number ..................................................................................................................................................
11. * Bank A/c no. & Branch Name .................................................................................................................................
12. *IFSC Code of Bank........................................................................................................................................................
13. * PAN No. ........................................................................................................................................................................

Please register me for the course on Advanced Numerical Schemes for Scientists and Engineers to be held at Department of Mathematical Sciences, IIT (BHU) Varanasi.

Date....................
Place ....................
Signature of the Participant

SPONSORSHIP
Prof./Dr./Mr./Ms./Mrs./..............................is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the short-term course “Advanced Numerical Schemes for Scientists and Engineers” at IIT (BHU) Varanasi during August 12-16, 2019, if selected.

Date:...........................................................
Designation:...........................................
Signature of Sponsoring Authority
Official Seal:...........................................

(*Required for Online payment of TA/DA)