

**Technical Education Quality Improvement Programme  
(TEQIP-II)  
Sponsored**

**One week Workshop**

**On**

***GROUND WATER***

**During**

**March 21-25, 2014**



**Organised By**

**Department of Civil Engineering**

**College of Technology**

**GB Pant University of Agriculture & Technology (GBPUAT)**

**Pantnagar-263145, Distt. - Udham Singh Nagar**

**Uttarakhand State**

[www.gbpuat.ac.in](http://www.gbpuat.ac.in) / [www.gbpuat-tech.ac.in](http://www.gbpuat-tech.ac.in)



## ABOUT THE UNIVERSITY

**G. B. Pant University of Agriculture and Technology (GBPUA&T)** is the first agricultural university of India. Pt. Jawaharlal Nehru, the first Prime Minister of India, laid the foundation stone on 17<sup>th</sup> November 1960 as the Uttar Pradesh Agricultural University (UPAU). Later the name was changed to Govind Ballabh Pant University of Agriculture and Technology in 1972 in memory of the great freedom fighter Govind Ballabh Pant. The University lies in the campus-town of Pantnagar in the district of Udham Singh Nagar in the state of Uttarakhand. The university is regarded as the harbinger of Green Revolution in India. College of Technology is one of the constituent colleges of the University. The G.B. Pant University is a symbol of successful partnership between India and the United States. The university campus is located at a distance of 250 km from Delhi in Udham Singh Nagar district of Uttarakhand. The nearby towns are Rudrapur (16 km), Haldwani (25 km) and Nainital (65 km). Two National Highways- NH 87 and Bareilly-Nainital highway touch the campus.

Two railway stations of North Eastern Railways- Pantnagar (PBW) and Haldi Road (HLDD) are located in the campus at a distance of 4 km (east) and 2 km (west) respectively from administrative building. University shuttle service, local rickshaws, autorickshaws and matador vans connect various parts of the campus. The weather is cold at Pantnagar during February and stay will be very much enjoyable in this location, which is rich in flora and fauna.

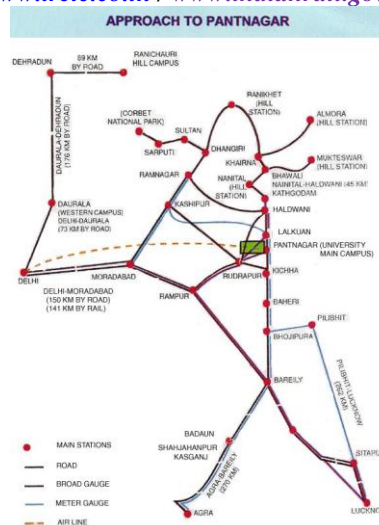
## COLLEGE OF TECHNOLOGY

The **College of Technology** one of the constituent colleges of the University was established in 1966. Its ten departments offer eight B. Tech Degree Programs namely Agriculture, Civil, Computer, Electrical, Electronics & Communication, Information Technology, Mechanical Engineering and Industrial & Production Engineering. In addition to it, the College offers 24 post graduate programs including a self financed MCA program. The College of Technology, an ISO 9001:2000 certified institution, is privileged to have a well qualified and experienced faculty with judicious mix of creative, talented and committed academicians. All the programs of study are approved by AICTE and accredited by the National Board of Accreditation. The College is the lead institute in Uttarakhand in the World Bank project for Technical Education Quality Improvement Programme (TEQIP-II). The college is proud of its infrastructural facilities befitting to modern technological needs.

## HOW TO REACH

**Pantnagar** is about 250 kilometers from Delhi, 360 kilometers from Lucknow, 90 kilometers from Moradabad, 75 kilometers from Bareilly and 65 kilometers from Nainital by road. It is connected to the rest of world by the Delhi Nainital National Highway and the Bareilly Nainital Highway. A large number of state and interstate buses fly on these roads. Two railway stations of North Eastern Railways- **PANTNAGAR (PBW)** and **HALDI ROAD (HLDD)** are located in the campus at a distance of 4 kms (east) and 2 kms (west) respectively from administrative building. Further, **LAL KUAN (LKU)** is the nearby junction situated at a distance of 8 kms from the campus.

[www.irctc.co.in](http://www.irctc.co.in) / [www.indianrail.gov.in](http://www.indianrail.gov.in)



## Places of interest:

Nainital, Binsar, Sattal, Bhimtal, Ranikhet, Almora, Bhowali, Poornagiri, Nanakmatta and Jim Corbett Park are nearby places of interest in the Kumaun region.

For more details [www.kmvn.gov.in](http://www.kmvn.gov.in) or [www.uttarakhandtourism.gov.in](http://www.uttarakhandtourism.gov.in) or [www.gmvnl.com](http://www.gmvnl.com)

## ***PREAMBLE***

Uttarakhand State is well endowed with water resources contains about 12,000 glaciers and 8 major river catchments act as the lifeline for the entire hydrological system of Indo-Gangetic plain. The State is drained by major perennial rivers like Ganga, Yamuna, Ramganga, Sarda and Kali and their tributaries. The state physiography consists of Ganga Plain, Shiwalik Hills, Lesser Himalayas and Central Himalayas. The state with an area of 53,484 sq.km. has a rainfall of around 1523 mm. The predominantly hilly State of Uttarakhand has a varied hydrogeological setup and can be divided broadly into two distinct hydrogeological regimes viz. the Gangetic alluvial plain and the Himalayan mountain belt. The former is covered with a vast expanse of alluvium and unconsolidated sedimentary material of varying size fractions (ranging from boulder to clay) and is a promising zone for ground water development. The latter zone, being predominantly hilly, offers much less potential for large scale development of ground water. Ground water in the hilly region occurs mostly in fissures/fractures and emerges as springs. The springs are amenable to small scale development of ground water resources in the State. The yield of tube wells in Siwalik formation ranges from 50.4 m<sup>3</sup>/hr to 79.2 m<sup>3</sup>/hr, in Bhabar formations yield is up to 332.4 m<sup>3</sup>/hr. In Tarai belt yield of tubewell ranges 36m<sup>3</sup>/hr to 144 m<sup>3</sup>/hr and in Indo-Gangetic plain yield varies from 90 m<sup>3</sup>/hr to 198 m<sup>3</sup>/hr.

## ***COURSE OBJECTIVES***

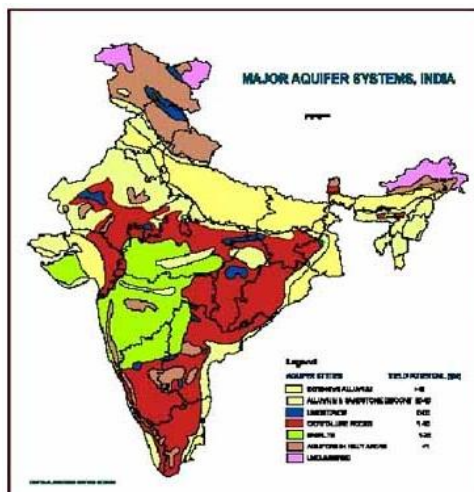
- To provide a platform for the participants to acquire knowledge about current technological developments in the field of Groundwater.
- To impart practical knowledge about groundwater by way of field/site visits.
- Industry-Institute Interaction with the agencies involved in the field of groundwater studies, development.

## ***COURSE OUTLINE***

- Introduction to Ground Water and its Management
- Geohydrological aspects of Ground Water
- Ground Water Modeling and related Software's
- Ground Water Quality, their Modeling and Management
- Case Studies of typical Ground Water Projects
- Remote Sensing Applications in Ground Water Mapping and Management
- Artificial Recharge Studies
- Conjunctive Use of Surface and Ground Water, Sustainable Ground Water Development and Management
- Group Discussion and Interaction
- Technical visit / Field trip to Wetlands /Artificial Recharge sites

## ***RESOURCE PERSONS***

- Faculty members and Topic Experts from GBPUA&T, Pantnagar and other premier institutions like IITs, IISc, NITs, Central Universities and reputed institutions.
- Resource Persons from Industries / Public Sector Organizations dealing with Ground Water.



### ***HOW TO APPLY***

Completed application form as per the given proforma may be sent to the address of communication by **February 25, 2014**. Advance E-mail applications are preferred in view of postal delay and only 25 participants are selected, based on various criteria.

### ***ELIGIBILITY***

The course is inter disciplinary in nature and open to faculty members from AICTE approved Engineering Colleges, field engineers from Government, Semi Government and Private industry and other public sector organizations who are interested on the topic.

### ***REGISTRATION FEE***

No registration fee will be charged for the participants.

### ***ACCOMMODATION***

Lodging and boarding of all the selected participants will be provided free of charges at university guest house on availability basis. However, Hotel accommodation at **RUDRAPUR (16 kms)** will be arranged/booked on payment of charges as applicable, if required.

### ***TRAVEL SUPPORT***

No TA/DA will be paid to the participants to reach Pantnagar. However, local travel / field / site visits will be provided free of charges.

### ***IMPORTANT DATES:***

Last Date submission of applications: **February 25, 2014**

Intimation of selection of participants: **February 28, 2014 (by E-mail only)**

Confirmation of participation by the applicants: **March 05, 2014**

Training Programme Dates: **March 21-25, 2014**

### ***COORDINATOR & ADDRESS FOR COMMUNICATION***

**Dr H J Shiva Prasad**

Professor of Civil Engineering, College of Technology

G B Pant University of Agriculture & Technology

PANTNAGAR-263145, Uttarakhand State

E-mail: [sptce@gbpuat-tech.ac.in](mailto:sptce@gbpuat-tech.ac.in) / [hjs\\_prasad@yahoo.com](mailto:hjs_prasad@yahoo.com) / [h.j.s.prasad@gmail.com](mailto:h.j.s.prasad@gmail.com)

Mobile: 9719245303 / 8449859593

Tel: 05944-233731 (Resi); 05944-233491 (Off. P.P.)

Telefax: 0091-5944-233338 (P.P.)

### ***WEB SITE:***

[www.gbpuat.ac.in](http://www.gbpuat.ac.in) / [www.gbpuat-tech.ac.in](http://www.gbpuat-tech.ac.in)

Course website details and latest updates: <https://sites.google.com/site/groundwater2014/>



PROFORMA FOR APPLICATION

TEQIP Sponsored One Week Programme

**on**  
**“GROUNDWATER”**  
**(March 21-25, 2014)**

1.	Name (Block Letters)	
2.	Designation	
3.	Name and address of the Institute/College/ University/Organization	
4.	Branch of Specialization with years of experience	
5.	Postal Address for Correspondence  E-mail Tele No.(Residence) Tele No.(Office) Mobile Fax No	
6.	Whether accommodation is required: If, yes please indicate	Yes / No Hotel / University Guest House
7.	Expected arrival: Expected departure:	Date: March 2014; Time:____ Date: March 2014; Time:____
	Place: Date:	Signature
8.	<u>Sponsorship Certificate:</u>  Mr/Ms/Mrs/Prof/Dr_____a faculty/engineer/scientist of our institute / organization / university is sponsored to attend the TEQIP sponsored course on “GROUNDWATER” during <b>March 21-25, 2014</b> , if selected.  <div style="text-align: right;">Signature Name and Designation of sponsoring authority with office seal</div>	

Advance soft copy may be sent to **hjs\_prasad@yahoo.com** or **h.j.s.prasad@gmail.com**  
not later on **February 25, 2014**