



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

("ವಿ ಟಿ ಯು ಅಧಿನಿಯಮ 1994"ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)

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REGISTRAR

REF: VTU/BGM/673/2024-25/ 5342

Date: 15 JAN 2025

CIRCULAR

Subject: Updated syllabus of BCV654A-Water Conservation and Rainwater Harvesting regarding...

Reference:

- Email from chairperson BoS dated: 08.01.2025
- The Hon'ble Vice-Chancellor approval dated: 11.01.2025

This is with reference to the subject mentioned above. Based on feedback, the course content of the subject BCV654A - Water Conservation and Rainwater Harvesting has been refined, and the reference section updated by the Chairperson of the Board of Studies in Civil Engineering, VTU Belagavi. A copy of the revised syllabus is enclosed with this circular for stakeholders' reference.

All Principals of Engineering Colleges, Constituent Engineering Colleges, and Chairpersons of University Departments are requested to ensure the contents of this circular are communicated to all concerned individuals without fail.

Encl: BCV654A syllabus copy

To,

Principals of all engineering colleges under the ambit of the university

Chairpersons/Program coordinators of the University departments of VTU Belagavi

Copy to:

- The Hon'ble Vice Chancellors through Secretary to VC, VTU, Belagavi for information.
- The Registrar (Evaluation) VTU Belagavi for information and needful
- The Special Officer, QPDS section, Registrar (Evaluation) office, VTU Belagavi for information and needful
- The I/c Director ITI SMU, VTU Belagavi for information and make arrangements to upload the circular on VTU web portal
- The Special Officer Board of Studies for information
- Office copy

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WATER CONSERVATION AND RAIN WATER HARVESTING		Semester	6
Course Code	BCV654A	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	3:0:0;0	SEE Marks	50
Total Hours of Pedagogy	40Hrs	Total Marks	100
Credits	03	Exam Hours	3
Examination type (SEE)	Theory		
<p>Course objectives:</p> <ul style="list-style-type: none"> • Appreciate basic concepts of Water and its importance. • Learn elementary knowledge of ground water. • Conceptually learn various theories related to Groundwater recharge and Groundwater recharge • Study about Subsurface investigation of Ground water. 			
<p>Teaching-Learning Process (General Instructions) These are sample Strategies,teachers can use to accelerate the attainment of the various course outcomes.</p> <ol style="list-style-type: none"> 1. Chalk and talk 2. PPT 3. You Tube video lectures 4. Open book test to understand the concepts. 			
Module-1			
<p>Water and its importance: Monsoon– types and behavior in India, rainfall – characteristics and distribution, onset and withdrawal of effective rains, dry spells and wet spells, critical dry spells, water loss from the soil, measurement and factors, hydrological cycle, Importance and issues relating water status Scenario of water in Karnataka: sources, geographical distribution, quality. Water (hydrological) cycle, influence of human activity on the water cycle, Surface water resources.</p>			
Module-2			
<p>Elementary knowledge of ground water: General aquifer. Water quality and its impact on human beings. Water harvesting: need, principles of water harvesting, general water harvesting methods - rain water harvesting - methods, classes, benefits, approach, rooftop rainwater harvesting , subsurface barrier/dykes, farm ponding, etc mostly used in rural areas</p>			
Module-3			
<p>Groundwater recharge. : Factors affecting groundwater recharge, Revival of traditional techniques for water harvesting. Calculation of available rain water for harvesting. Preparation of suitable technical drawing and design of rain water harvesting structure</p>			
Module-4			
<p>Elementary conservation of water: Importance, knowledge regarding conservation/saving of water in daily use, in agriculture, in industries. Water Conservation strategies- Limiting the consumption, Reuse and recycling, Elimination of losses, Pollution prevention</p>			
Module-5			
<p>Subsurface investigation of Ground water: General, geophysical methods and its importance. Present law regarding water management Water footprints- blue water footprint, green water footprint, grey water footprint. Sustainability assessment</p>			

Course outcome (Course Skill Set)

At the end of the course, the student will be able to :

- Understand the significance of water, its issues & current status.
- Acquire knowledge on principles of water harvesting & challenges.
- Calculate and prepare design rain harvesting structures.
- Identify various geophysical methods, water management laws and sustainability assessment process.

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50) and for the SEE minimum passing mark is 35% of the maximum marks (18 out of 50 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

- For the Assignment component of the CIE, there are 25 marks and for the Internal Assessment Test component, there are 25 marks.
- The first test will be administered after 40-50% of the syllabus has been covered, and the second test will be administered after 85-90% of the syllabus has been covered
- Any two assignment methods mentioned in the 22OB2.4, if an assignment is project-based then only one assignment for the course shall be planned. The teacher should not conduct two assignments at the end of the semester if two assignments are planned.
- For the course, CIE marks will be based on a scaled-down sum of two tests and other methods of assessment.

Internal Assessment Test question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester-End Examination:

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the course (**duration 03 hours**).

1. The question paper will have ten questions. Each question is set for 20 marks.
2. There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), **should have a mix of topics** under that module.
3. The students have to answer 5 full questions, selecting one full question from each module.
4. Marks scored shall be proportionally reduced to 50 marks

Suggested Learning Resources: Books:

1. Ground water Hydrology, David K Todd & Larry W Maya, Edition 1980, Wiley India Specifications
2. Hydrology, H M Ranganath, Forth edition 1990, New age publications.
3. Rain water Harvesting, P K Singh, and second edition 2009, Macaillan India Ltd.
4. Ground water Prospecting & Management, H P Patra, Second edition 2010, Springer publication.

Web links and Video Lectures (e-Resources):

- NPTEL and YouTube Videos.
<https://www.youtube.com/watch?v=-Rd9LsfOIQY>

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

- Visit to water conservation and harvesting site