Shivaji University, Kolhapur

B. A. / B. A. B. Ed. Part – II

Geography

Semester IV

VSC II: Water Survey and Mapping (Practical)

Name of the Programme	:	B. A. / B. A. B. Ed. (Geography)
Class	:	B. A. / B. A. B. Ed. Part – II
Year of Implementation	**:**	Revised Syllabus will be implemented from June, 2025 onwards.
Semester	:	IV
Name of the vertical Group	:	VSC
Course Code	:	**BAU0325VSP322D02**
Course Title	:	**Water Survey and Mapping (Practical)**
Total Credits	:	02
Workload	:	2 credit (2*30 Hours = 60 Hours)
Duration	:	The course shall be a full time course
Medium of Instruction	:	Marathi/English
Eligibility of Admission	:	As per the criteria prescribed by the University
Examination Pattern	**:**	Practical for 50 Marks, The pattern of examination will be Semester End Examination with Assessment/Evaluation.

Preamble

his syllabus on Water Survey and Mapping aims to provide students with an in-depth understanding of water resources, their management, and the challenges associated with water scarcity, pollution, and quality. It covers both theoretical knowledge and practical skills, focusing on water resource assessment, pollution mapping, and effective solutions such as rainwater harvesting. Through practical exercises and case studies, students will gain hands-on experience in water resource management, which will be crucial in addressing the growing global concerns of water sustainability. The course encourages the development of analytical skills required to assess water quality and manage resources in local and regional contexts.

General Objectives of the Course

1. To understand the different types of water resources and their distribution.
2. To explore the causes, effects, and mitigation strategies related to water pollution.
3. To learn practical methods of surveying and mapping water resources and pollution sources.

4. To study water scarcity, rainwater harvesting techniques, and assess water quality through practical analysis.

Course Outcomes

1. Water Resources Knowledge: Students will describe different types of water resources and their significance locally and globally.
2. Practical Survey Skills: Students will gain hands-on experience in water surveys, mapping sources, and pollution identification using Google Earth and mobile apps.
3. Water Harvesting Techniques: Students will apply their knowledge for rainwater harvesting to overcome on water scarcity.
4. Water Analysis Techniques: The students will get practical knowledge of water

Scheme of Teaching and Examination:

(The Scheme of teaching and examination should be given as applicable to the course / paper concerned)

B. A. / B. A. B. Ed. Part –II

Sr. No.	Subjects/Course & Credit	Practical Hours per week				Examination scheme (Marks)		
		L	T	P	Total	Practical	Term Work	Total (Semester)
1	Water Survey and Mapping - 2	04	---	04	04	50	---	50

Scheme of Examination:

- The examination shall be conducted at the end of each Semester.
- The Practical paper shall carry 50 marks.
- The evaluation of the performance of the student in practical papers shall be on the basis of semester practical examination of 50 marks.
- Question Paper will be set in the view of the / in accordance with the entire syllabus and preferably covering each Module of syllabi.

Standard of Passing:

(As prescribed under rules & regulation for each diploma / degree / program)

Nature of Question Paper and Scheme of Marking:

(As per rules & regulation of Shivaji University)

Modules: Water Survey and Mapping				
Module No.		**Sub-module**	**No. of hours & Marks**	**No of Credits**
I	**Water Survey and Mapping**	1.1 Introduction and types of water resources 1.2 Local Water Demand: Population, Agriculture and Industry **Practical Exercises:** 1. Public Perception of Water: a) Availability b) Accessibility c) Adequacy d) Quality 2. Water Utilization Survey of Local Area 3. Water source mapping by Google Earth / Mobile 4. Mapping of Water Pollution Sources	**30 (20)**	**01**
II	**Water Resource Management**	2.1 Water Scarcity – Concept, Causes, and effects 2.2 Rainwater harvesting – Concept and its types **Practical Exercises:** 1. Water Recharge: Well and Bore Well 2. Measurement of Rooftop Water Harvesting 3. Water Scarcity Index 4. Water Pollution Index 5. Water Analysis: pH, EC and TDS	**30 (20)**	**01**
III		**Journal & Viva Voce**	**(10)**	

Note :

1. Figures in the bracket indicate weightage of marks to concern module.
2. Use of stencils, log tables, computer and calculator is allowed.

2. Journal should be completed and duly certified by practical in-charge and Head of the Department.

Suggested Reading:

1. Agarwal, V. K. (2014). *Water pollution: Causes, effects and cont)ol* (3rd ed.). APH Publishing.
2. American Water Works Association. (2011). *Water quality and treatment: A handbook on drinking water* (6th ed.). McGraw-Hill.
3. Biswas, A. K., & Mishra, S. K. (2013). *Water quality monitoring and management*. Springer.
4. Bureau of Indian Standards. (2012). *IS 10500: 2012 – Drinking water specification*. Bureau of Indian Standards.
5. Central Pollution Control Board. (2020). *National water quality monitoring program (NWQMP) annual report*. Central Pollution Control Board.
6. Central Pollution Control Board. (2021). *Annual water quality report*. Central Pollution Control Board.
7. Dara, S. S. (2015). Environmental chemistry of water. S. Chand Publishing.
8. Government of India. (1974). *Water (Prevention and Control of Pollution) Act*. Government of India.
9. Ministry of Jal Shakti, Government of India. (2020). *Water quality status in India*. Government of India.
10. World Health Organization. (2017). *Guidelines for drinking-water quality* (4th ed.). World Health Organization.