

## Semester Lecture Plan

**Name of the college:** Government College of Arts, Science & Commerce, Sanquelim, Goa-India

**Name of Faculty:** Shritesh Mhapsekar

**Subject:** Geology

**Paper code:** GEO-321 (VET), Hydrogeology

**Program/Course:** TY B.Sc.

**Division:**

**Academic year:** 2025- 2026

**Semester:** V

**Total Lectures:** 30

### Course Objectives:

1. Describe the occurrence and movement of freshwater on Earth.CL2
2. Illustrate the occurrence of groundwater and its flow. CL2
3. Discuss water quality parameters and standards. CL2

### Course Learning Outcome:

- 1.Measure the various components of the hydrological cycle. CL3
2. Recognize types of aquifers and infer groundwater flow direction. CL3
3. Prepare and interpret stream hydrographs. CL5
4. Assess groundwater quality. CL5

| Month     | Lectures<br>From: To: |               | No. of<br>lectures<br>allotted | Topic, Subtopic to be<br>covered                     | Learning<br>outcome | ICT Tools | Reference<br>books                                                                                                    |
|-----------|-----------------------|---------------|--------------------------------|------------------------------------------------------|---------------------|-----------|-----------------------------------------------------------------------------------------------------------------------|
| July 2025 | June 30, 2025         | July 06, 2025 | 1                              | Introduction                                         |                     |           | Davis, S.N. and<br>De Weist,<br>R.J.M. (1966).<br>Hydrogeology,<br>John Wiley &<br>Sons Inc., N.Y.<br>2. Fetter, C.W. |
|           | July 07, 2025<br>to   | July 13, 2025 | 1                              | Groundwater level<br>measurement;<br>Preparation and |                     |           |                                                                                                                       |

|                |                    |                    |   |                                                                             |  |  |                                                                |
|----------------|--------------------|--------------------|---|-----------------------------------------------------------------------------|--|--|----------------------------------------------------------------|
|                |                    |                    |   | analysis of hydrographs                                                     |  |  | (2001). Applied Hydrogeology, Prentice Hall Inc., N.J., U.S.A. |
|                | July 14, 2025 to   | July 20, 2025      | 1 | Groundwater level measurement; Preparation and analysis of hydrographs      |  |  |                                                                |
|                | July 21, 2025 to   | July 27, 2025      | 1 | Groundwater level measurement; Preparation and analysis of hydrographs      |  |  |                                                                |
|                | July 28, 2025 to   | August 03, 2025    | 1 | Groundwater level measurement; Preparation and analysis of hydrographs      |  |  |                                                                |
| August 2025    | August 04, 2025    | August 10, 2025    | 1 | Preparation and interpretation of water level contour maps (flow-nets)      |  |  |                                                                |
|                |                    |                    | 1 | Preparation and interpretation of water level contour maps (flow-nets)      |  |  |                                                                |
|                | August 11, 2025    | August 17, 2025    | 1 | Preparation and interpretation of water level contour maps (flow-nets)      |  |  |                                                                |
|                | August 18, 2025    | August 24, 2025    | 1 | Preparation and interpretation of water level contour maps (flow-nets)      |  |  |                                                                |
|                | August 25, 2025    | August 31, 2025    | 1 | Graphical representation of chemical quality data and water classification. |  |  |                                                                |
| September 2025 | September 01, 2025 | September 07, 2025 | 1 | Graphical representation of chemical quality data                           |  |  |                                                                |

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|              |                    |                    |   |                                                                             |
|--------------|--------------------|--------------------|---|-----------------------------------------------------------------------------|
|              |                    |                    |   | and water classification.                                                   |
|              |                    | 1                  |   | Graphical representation of chemical quality data and water classification. |
|              | September 08, 2025 | September 14, 2025 |   |                                                                             |
|              |                    |                    | 1 | Graphical representation of chemical quality data and water classification. |
|              | September 15, 2025 | September 21, 2025 |   |                                                                             |
|              |                    |                    | 1 | Graphical representation of chemical quality data and water classification. |
|              | September 22, 2025 | September 28, 2025 |   |                                                                             |
|              |                    |                    | 1 | Graphical representation of chemical quality data and water classification. |
|              | September 29, 2025 | October 05, 2025   |   |                                                                             |
|              | October 06, 2025   | October 12, 2025   | 1 | Revision                                                                    |
| October 2025 | October 13, 2025   | October 19, 2025   | 1 | Revision                                                                    |

\*Note: Data filled in the above form is sample data.

