



**K. K. Wagh Institute of Engineering Education & Research, Nashik**  
(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:IV
Class:SY	Program:B.Tech
Branch Code:CIV	Pattern:2022
Name of Course:Earth Sciences	Course Code:CIV222015
Max. Marks:60	Duration:2.30 Hrs.

**Instructions:** Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 02 pages.
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

**Marks CO**

**Question No. 1**

- 1 Explain the processes involved in the formation of sedimentary rocks. (6) CO1, CO3

**Question No. 2**

- 2 Describe how geological faults form and explain the different types of faults. (6) CO2, CO3

**Question No. 3**

- 3.a) Define endogenic processes in geology and give two examples. (6) CO2, CO3

**OR**

- 3.b) Explain the processes of erosion, transportation, and deposition by glaciers. (6) CO2, CO3

- 3.c) Define the term "geological mapping" and its importance. (5) CO2, CO3

**OR**

- 3.d) Compare the characteristics of sedimentary and metamorphic rocks. (5) CO2, CO3

- 3.e) Define stratigraphy and explain its relevance in understanding Earth's history. (5) CO2, CO3

**OR**

- 3.f) Describe the causes and effects of volcanic eruptions. (5) CO2, CO3

**Question No. 4**

- 4.a) Differentiate between geological mapping and remote sensing techniques. (6) CO4, CO5

**OR**

- 4.b) Explain the importance of core sampling in geological investigations. (6) CO4, CO5
- 4.c) Define artificial groundwater recharge and its benefits. (5) CO4, CO5

**OR**

- 4.d) What are the factors affecting the recharge rate of aquifers? (5) CO4, CO5
- 4.e) Describe the geological impact of mining activities. (5) CO4, CO5

**OR**

- 4.f) Compare confined and unconfined aquifers in terms of characteristics and management. (5) CO4, CO5

**Question No. 5**

- 5.a) How do geological factors affect site selection for construction projects? (6) CO2, CO4, CO5

**OR**

- 5.b) Discuss the importance of geological assessments in disaster risk reduction. (6) CO2, CO4, CO5
- 5.c) Define site-specific geological assessments in civil engineering. (5) CO2, CO4, CO5

**OR**

- 5.d) Explain the significance of selecting appropriate materials for construction durability. (5) CO2, CO4, CO5
- 5.e) How does groundwater affect slope stability in construction sites? (5) CO2, CO4, CO5

**OR**

- 5.f) Discuss the significance of geological hazard assessments in urban planning. (5) CO2, CO4, CO5

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