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7. Discuss the role of engineering geology in civil engineering projects. How does the understanding of geological processes and materials contribute to the planning, design, and construction of infrastructure such as roads, bridges, and dams?
8. Describe a case history of any recent major structure failure with a geological perspective.

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 2930

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Unique Paper Code : 32191601

Name of the Paper : Engineering Geology

Name of the Course : **B.Sc. (Hons.) Geology
(CBCS)**

Semester : VI

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions.
3. **All** questions carry equal marks.

1. Write short notes on any **three** of the following :

(i) Los Angeles Abrasion Test

P.T.O.

- (ii) Arch dam
 - (iii) Rock mass and intact rock
 - (iv) Curtain grouting
 - (v) Shotcrete
2. (a) Which type of dam structure is most suitable in a high-seismic zone and why?
- (b) 'The uplift pressure reduces the stability of a dam'. Comment with a suitable diagram.
- (c) Why, in general, the joint sets are evenly spaced in a given lithology? Discuss briefly with suitable diagrams.
3. (a) With suitable illustrations, briefly describe different parts of a dam.
- (b) How aerial photography techniques are helpful in site investigation?

4. (a) What do you understand by the Uniaxial Compressive Strength of rocks? How is it determined in the laboratory?
- (b) Comment on the durability property of a rock. Which test is used to determine the durability of a rock? Comment using a suitable diagram.
5. (a) A dam is acted by several forces which try to reduce the stability of a dam. Using suitable sketches, briefly discuss such forces that influence the design of a dam.
- (b) What are the different types of support systems that are required during the construction of a tunnel? Briefly discuss any three.
6. (a) What are the geometrical properties of a joint? Briefly describe any four geometrical properties of a joint with suitable diagrams.
- (b) Comment on the importance and limitations of using RQD as a geological parameter for a jointed rock.