

M.E. First Semester (Civil Engg. (Geotechnical Engg.)) (Full Time) (C.G.S. - New)
13045 : Construction Methods in Geotechnical Engineering : 1 SFGE 4

P. Pages : 1

Time : Three Hours



AU - 3476

Max. Marks : 80

- Notes :
1. All question carry equal marks.
 2. Due credit will be given to neatness and adequate Dimensions.
 3. Assume suitable data wherever necessary.
 4. Diagrams and chemical equations should be given wherever necessary.
 5. Pertain the construction lines.
 6. Illustrate your answer necessary with the help of neat sketches.
 7. Discuss the reaction, mechanism wherever necessary.
 8. Solve **any five** questions.
 9. Use of pen Blue/Black ink/refill only for writing book.

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| 1. | a) | Explain with the help of neat sketches the Electro-osmosis method of dewatering. State its advantage and disadvantage. | 8 |
| | b) | State the advantages and disadvantages of precast piles. | 8 |
| 2. | a) | How the coffer dam are classified? What are the different types of coffer dam according to a material of construction. | 8 |
| | b) | Discuss the various difficulties that a site engineer may come across during cofferdam construction. | 8 |
| 3. | a) | What is the difference between cofferdam and caissons? | 8 |
| | b) | Explain in brief the construction procedure of driven cast in-situ concrete piles. | 8 |
| 4. | a) | What are the two main types of sheet pile cofferdam? Discuss in details. | 8 |
| | b) | Explain the following operation in the construction of open caissons, Dredging, jetting and sinking. | 8 |
| 5. | a) | Explain in detail the procedure of blast hole. Design with neat sketch. | 8 |
| | b) | Explain the design criteria for blasting of rock. Also state the mechanism of explosive fracturing of rocks. | 8 |
| 6. | a) | Draw a neat sketch showing components of a typical full-face tunnel boring machine and explain its working. | 8 |
| | b) | What is the shield tunneling method? What are the precautions to be taken in tunneling operations in soft rocks. Discuss in details. | 8 |
