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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Sixth Semester, B.E. - Civil Engineering

Semester End Examination; June/July - 2015

Earth and Earth Retaining Structures

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer any **FIVE** full questions, selecting at least **TWO** full questions from **each part**.*

PART - A

1. a. What is Earth dam? Write a critical note on earth dam with neat sketch. 10

   b. Explain the method of constructing the flow net in a non homogeneous soil mass. 10

2 a. What are the causes of failure in Earth dam? Explain briefly the failure mode of earth dam with neat sketches. 10

   b. What sis seepage in Earth dam? What are the specific reasons for seepage occurs and how seepage control in earth dam. 10

3 a. Explain the design principles of cantilever retaining wall subjected to factor of safety against sliding and overturning. 10

   b. With neat sketches explain the mode of failure of retaining wall. 10

4 a. What are the types of sheet pile walls? Explain briefly. 10

   b. Explain cantilever sheet pile in cohesion less soil. 10

PART - B

5 a. Explain the anchored sheet pile with free earth support in granular soil. 10

   b. Discuss the anchored sheet pile with fixed earth support method. 10

6. a. Explain how lateral earth pressure developed against braced cuts. 10

   b. Discuss the construction process of rockfill dams. 10

7 a. What are the types of rockfill dams? Explain any two. 10

   b. Enumerate the advantages and disadvantages or rockfill dams. 10

8 a. What is Coffer dam? Mention the different types of Coffer dams and explain the design criteria of cellular Coffer dam on soil. 10

   b. Explain;

   i) Maximum pressure transmitted to deep layer of soil by Coffer dam subjected to lateral force. 10

   ii) Cellular Coffer dams founded on Sand bed.

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