Dr. Saurav

COURSE CODE: 11M1WCE113   MAX. MARKS: **25**

COURSE NAME: Design of Reinforced concrete Structures

COURSE CREDITS: 3   MAX. TIME: **1.5** HRS

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.* **Use of IS CODES is not allowed.**

Q1. A RCC cantilever type retaining wall is having 5.5m tall stem. The wall retains soil level with its top. Soil density is 16000N/m^3 and angle of repose =30°. The safe bearing capacity of soil is 21000 N/m^2. Design the retaining wall and draw the proper reinforcement detailing

[8, CO4].

Q2. What is a retaining wall? How many types of retaining walls are there? Explain the various parts and behaviour of a cantilever retaining wall. What is a shear key? How is it designed?

[6, CO4].

Q3. Design a circular water tank with flexible base for a tank of 100000 liter capacity. The depth of water in the tank is 5m. Use M25/ Fe415 steel. Unit weight of water may be assumed as 9.8kN/m^3. Show complete reinforcement detailing.   [7, CO3].

Q4. What are the methods of design of water tanks? Give the names of various codes used for design of tanks. Explain various kinds of joints used in water tanks.   [4, CO3].