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SRINIX COLLEGE OF ENGINEERING

1st INTERNAL EXAMINATION-2019-20

Subject-**ADCS**

Semester- 7th

Branch-**CIVIL**

Full Mark-**50**

Time-**2Hrs**

ANSWER ALL QUESTION (PART A)

[2x10=20]

1. What are the controlling parameters of minor, moderate and severe earthquake?
2. What is fatigue?
3. What do you mean by Bauschinger's effect?
4. What is pinching-in effect?
5. What are the significance of ductility?
6. What are the requirements upon which structural ductility depend?
7. Define cantilever and counterfort retaining wall.
8. What are the factors governing the depth of foundation?
9. Draw the pressure distribution diagram of sandy and clayey soil.
10. Why Shear key is provided in retaining wall?

ANSWER ANY THREE QUESTIONS (PART B)

[6x3=18]

1. What is ductility? Write different types of ductility. What are the factors affecting the ductility? Derive the expression for ductility of beam.
2. Describe the cyclic behaviour of plain concrete under repeated reversal loading.
3. Describe the stability requirements of a retaining wall.
4. Describe the cyclic behaviour of reinforcing steel under repeated reversal loading.

ANSWER ANY ONE (PART C)**[12x1=12]**

1. Determine the dimensions of T-shaped retaining wall for a height of 4m above the ground level. The top of the earth retained is surcharged at 20° with horizontal. The angle of repose of the earth is 35° and the density is 19 kN/m^3 . The safe bearing capacity of the soil is 80 kN/m^3 and coefficient of friction between concrete and soil is 0.55.
2. The plan and elevation of a three storey RCC school building is shown in Fig. The building is located in seismic zone 5. The type of soil encountered is medium stiff and it is proposed to design the building with a special moment resisting frame. The intensity of DL is 10 kN/m^3 and the floors are to cater to an IL of 3 kN/m^3 . Determine the design seismic loads on the structure by static analysis.

