Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **17CE3037** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SLOPE STABILITY AND LANDSLIDES** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Enumerate the types and causes of slope failure. | CO1 | 8 |
| b. | Differentiate the various slope formations with neat sketch. | CO1 | 8 |
| c. | Explain the purpose of stability computation. | CO2 | 4 |
| (OR) | | | | |
| 2. | a. | Write any one case study of slope stabilization Stability. | CO2 | 12 |
| b. | List the applications of slope stability. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Discus in Detail about the method of slices in stability of slopes. | CO6 | 10 |
|  | b. | For the failure surface determine the factor of safety in terms of total stress for the slope given in fig, the unit weight of both soil 1 and 2 is19kN/m3 for soil 1 the relevant shear strength parameter are cu =20kN/m2 Øu’=0° for soil 2 cu =35kN/m2 Øu’=0°  C:\Users\1997\Downloads\IMG_20171005_172014.jpg | CO3 | 10 |
| (OR) | | | | |
| 4. | a. | Explain pore water pressure evaluation. | CO2 | 10 |
|  | b. | Explain the characteristics of c soil and Ø soil. | CO3 | 10 |
|  |  |  |  |  |
| 5. | a. | Briefly explain the Bishops method of irregular slope analysis. | CO4 | 13 |
|  | b. | Explain the term land slide and its causes. | CO6 | 7 |
| (OR) | | | | |  | 10 |
| 6. | a. | Explain Taylor’s stability analysis. | CO3 | 10 |
|  | b. | Describe Swedish slip circle method. | CO4 | 10 |
|  |  |  |  |  |
| 7. |  | A new canal is excavated to a depth of 5 m below the ground level through the soil having the following characteristics c=14kN/m2 Ø’=15° e=0.8and G=2.70 the slope of bank is 1 in 1.calculate the factor of safety with respect to cohesion when the canal runs full. If it is suddenly and completely emptied, what will be the factor of safety? | CO4 | 20 |
| (OR) | | | | |
| 8. | a. | List the different types of soil reinforcement techniques. | CO5 | 10 |
|  | b. | A long natural slope of cohesion less soil is inclined at 12° to the horizontal and .taking Ø’=30° determine the factor of safety of the slope ,if the slope is completely submerged, what will be the change in the factor of safety? | CO5 | 10 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the slides along coastal areas and residual soils. | CO1 | 6 |
|  | b. | Explain the general characteristics of hill side slopes. | CO6 | 7 |
|  | c. | Enumerate landslides and its effect. | CO3 | 3 |
|  | d. | Explain Stability Analysis in the presence of water. | CO4 | 4 |

ALL THE BEST