CLASS: MTECH   SEMESTER : III
BRANCH: CIVIL   SESSION : MO/19

SUBJECT: CE562 STABILITY ANALYSIS OF SLOPES

TIME: 3 HOURS   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)   What are the aims of Stability analysis?   [5]
Q.1(b)   Discuss natural slopes and their stability.   [5]

Q.2(a)   Discuss Felinius method with illustrations.   [5]
Q.2(b)   Discuss Bishop's simplified method in details.   [5]

Q.3(a)   Discuss stability analysis of internal dump.   [5]
Q.3(b)   Discuss disadvantages of opencast mining.   [5]

Q.4(a)   Determine the disturbing force of following earthen dam without seismicity force. [5]
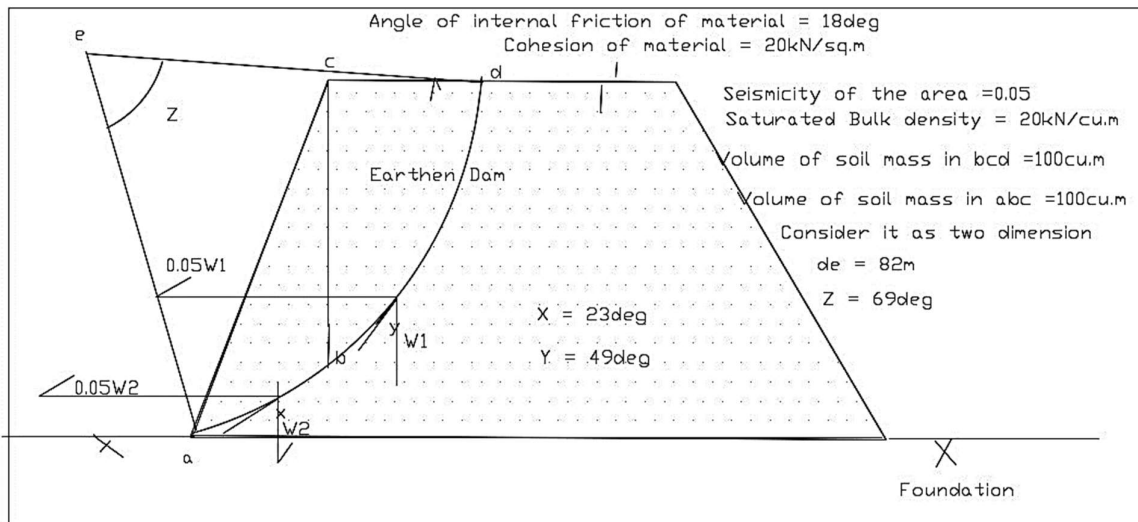

Angle of internal friction of material = 18deg
Cohesion of material = 20kN/sq.m

Seismicity of the area =0.05
Saturated Bulk density = 20kN/cu.m
Volume of soil mass in bcd =100cu.m
Volume of soil mass in abc =100cu.m
Consider it as two dimension
de = 82m
Z = 69deg
X = 23deg
Y = 49deg

Fig1   Stability of Earthen Dam

Q.4(b)   Determine the factor of safety of the above without seismicity.   [5]

Q.5(a)   Determine the disturbing force of following earthen dam with seismicity force.   [5]
Q.5(b)   Determine the factor of safety of the above with seismicity.   [5]