**Rajasthan Institute of Engineering & Technology,Jaipur**

**II Mid Term examination**

 **Session: 2017-18 Set-A**

**VI Semester & CIVIL Branch**

**Subject: - GE-II**

**Code: - 6CE2A**

Time: 2 hrs. M.M.:20

Q.1Explain following:-

 (a) Ultimate bearing capacity (b) Gross safe bearing capacity

 (c) Factor of safety wrt shear strength (d) Allowable soil pressure

 **OR**

Q.1 What are different types of slope failure? Explain each in detail?

Q.2 Derive an expression for the factor of safety of an infinite slope in a **cohesionless** soil?

 **OR**

Q.2 Describe the Rankine’s theory of earth pressure with all assumption for **cohesionless** soil?

Q.3 A retaining wall 7m high with its back face smooth and vertical. It retains sand with its surface horizontal. Using Rankine theory determine active earth pressure at the base of backfill when

(a) It is dry (b) Saturated end (c) Submerged with water table at surface. Take unit weight= 18 kN/$m^{3}$ , ɸ =30⁰ and saturated unit weight =21kN/$m^{3}$.

 **OR**

Q.3 A slope to constructed at an angle of 30⁰ with horizontal. Determine the safe height of slope at a factor of safety of 1.5 properties of soil are c=15kN/$m^{2}$,ɸ=20⁰,¥=19kN/$m^{3}$.Take stability no. as 0.045.

Q.4Explain the stability analysis of finite slope by friction circle method?

 **OR**

Q.4 Discuss effect of water table on bearing capacity of soil?