**Rajasthan Institute of Engg. & Tech. Jaipur**

**University Roll No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**B. Tech. IV Year VIII Semester (II Mid Term 2017-18)**

**Branch: - CIVIL ENGINEERING SET-B**

**Subject: - ADVANCED FOUNDATION ENGINEERING**

**Time: -2 Hrs. [Maximum Marks: 20]**

**Instruction for students:**

**1. No provision for supplementary answer book.**

**2. Attempt all questions. 3. All question carry equal marks.**

1. Explain the types of piles on the basis of load transfer method with neat diagrams

OR

1. A 12m long concrete pile 400mm dia has been driven into a granular soil having Φ=350,γ=22kN/m3 & γsat=25kN/m3.Depth of water table is 2m below ground surface.Determine safe load carrying capacity of pile when FOS=3,Nq=42.

2. Explain following

a. Fender pile b. Tension pile c. under-reamed pile OR

2. Determine safe load carrying capacity of double under reamed pile of 400 mm dia & 5m length in clayey soil having average cohesion of 70kN/m2.

3.How you can identify expansive soil. Describe different tests for identification.

OR

3. Define collapsible soil & methods of identification of collapsible soil.

4.Explain the components of well foundation with suitable diagrams.

OR

4.A raft foundation of 14mX20m is resting in clay having cu=150kN/m2 & γ =20kN/m3. A loading of 150 kN/m2 is applied at the base of raft.Determine the depth at which raft be placed so as to get a factor of safety of 2.5 against shear.