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

**II Mid Term examination**

**Session: 2017-18 Set-B**

**VI Semester CIVIL Branch**

**Subject :-TOS II (6CE1A)**

Time: 2 hrs. M.M.:20

**Instruction for students:**

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

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

1.Derive the general cable theorem.

Or

1.Derive the expression for horizontal reaction & shape of the cable for a uniformly loaded cable.

2.Explain following in detail.

a. Principal centroidal axes b. Location of NA

Or

2. Determine the shear center of C-section shown in fig.1 with its location.

3.A flexible suspension cable of weight ¾ N/m hangs between two vertical walls 60m apart, the left hand end being attached to the wall at point 10m below the right hand end. A concentrated load of 100N is attached to the cable in such a manner that the point of attachment of the load is 20m horizontally from the left hand wall & 5m below the left hand support. Find the maximum resultant cable tension. The cable weight may be taken as UDL.

OR

3.Draw the BMD & ‘ILD for horizontal reaction H’ for a two hinged stiffening girder.

4.Explain flexibility & stiffness. What is flexibility matrix & stiffness matrix?

Or

4.Explain force & displacement method.