Seat No. : _____

N12-104

November-2014

B.Arch./ID/BCT, (Sem. – III)

AR – 303 : Structure – III

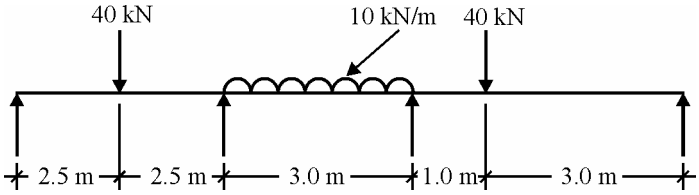
(New Syllabus)

Time : 2 Hours] **[Max. Marks : 50**

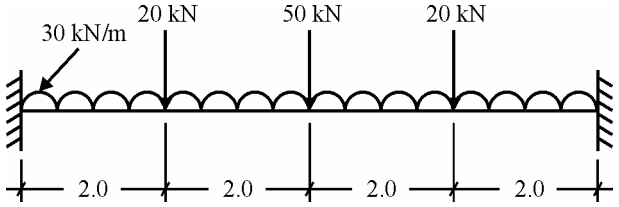
1. (a) Explain Arch and classify them with sketch. **5**

   (b) Explain with neat sketches, advantages and disadvantages of fixed beam, Continuous Beam and Simply Supported Beam. **5**

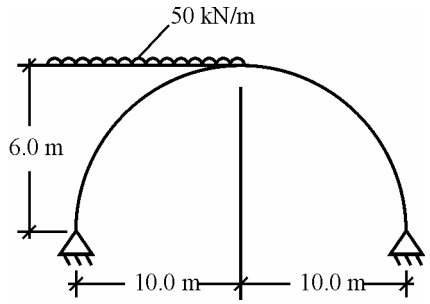
2. (a) Analyse the Beam with Moment Distribution Method. Also draw Shear Force and Bending Moment Diagram. **6**



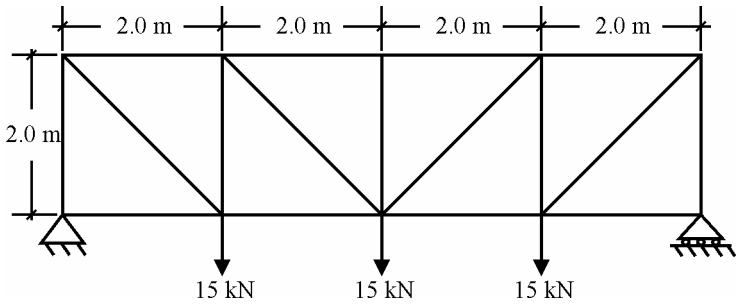
   (b) Give the Fixed End Moments for the following beam : **4**



3. (a) Analyse arch action for the three hinged arch : **5**



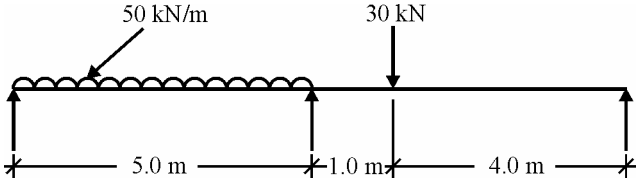
(b) Analyse the truss with the help of method of joints. **5**



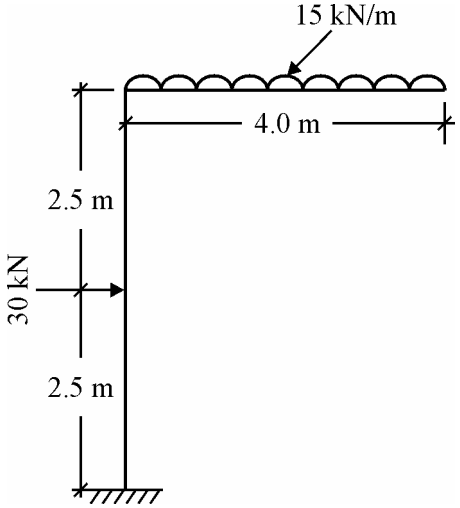
OR

Explain Zero force member in the truss with an example.

4. (a) Analyse beam with Three Moment Theorem. Also draw Shear force and Bending Moment Diagram. **5**



(b) Analyse the given frame in the figure with the help of Moment Distribution Method. Also draw Shear Force Diagram. **5**



5. (a) Derive the equation for fixed end moments for following conditions : **5**
   (1) Point Load at centre
   (2) Uniformly Distributed Load

   (b) (1) Explain Clapeyron's Theorem and its limitations. **5**
   (2) Define following terms :
      (a) Perfect truss
      (b) Distribution factor