**1805E657**     Candidate's Seat No :

B.Arch.-I (Sem.-II) Examination
AR 204 NS Structures-II

Time : 2 Hours]                          May-2017                          [Max. Marks : 50]

Instructions: (1) Attempt all the questions.
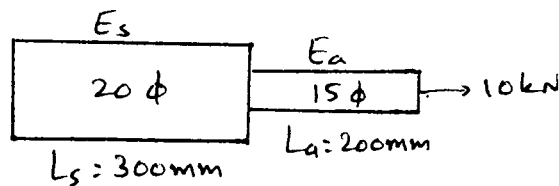              (2) Use of non-programmable calculators only.

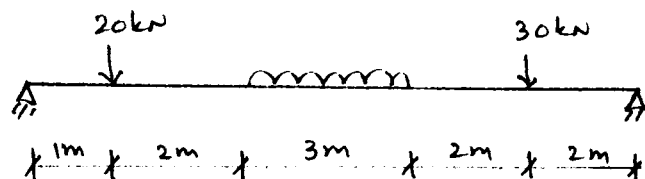| | | |
|---|---|---|
| Q 1 (a) | Explain following terms: (Any Five)<br>1. Shear Force<br>2. Stress<br>3. Volumetric Strain<br>4. Poison's Ratio<br>5. Hooke's Law<br>6. Bending Moment<br>7. Point of contra flexure | 5 |
| Q 1 (b) | Differentiate between centre of gravity and centroid. Explain with an example. | 5 |
| Q 2 | Draw shear force and bending moment of a given beam. Also find the point of contra flexure. | 10 |



| | | |
|---|---|---|
| Q 3 (a) | What is the change in length in the following assembly? Elasticity of steel in 200 GPa and elasticity of aluminium is 70GPa. | 5 |



| | | |
|---|---|---|
| Q 3 (b) | Draw shear force and bending moment of the given beam. | 5 |



| | | |
|---|---|---|
| Q 4 (a) | Explain Moment of inertia. Also Explain perpendicular and parallel axis theorem. | 5 |
| Q 4 (b) | Explain concept of Load bearing vs. Frame structure. | 5 |
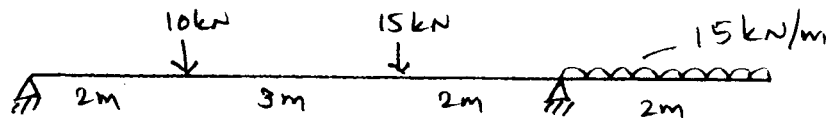
(P.T.O)

**Q 5** Find the centre of gravity of the following object. 10



150 cm

110 cm

25 cm