**Annexure No. SA/14**

**School of Aeronautics (Neemrana)**

**I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan**

**INTERNAL ASSESSMENT EXAMINATION THEORY**

**Examination:** IAE-1 **Date:** 28/10/18

**Subject:** Aircraft Structure-II **Batch:** 10 & 11

**Faculty Name:** Mr. Bipin Dwivedi **Semester:** VI

**(Attempt any four questions. All questions carry equal marks.)**

**Total No. of Questions: 06** **Total Marks: 30**

1. Find the moment of inertia about the principle axis for the given section in the figure



1. Derive the position of the principal axis from the centroidal axis $\overbar{X}$ and $\overbar{Y}$ for an unsymmetrical section.
2. Derive the relation $\frac{M}{I}=\frac{σ}{Y}=\frac{E}{R}$ for symmetric bending where, M is bending moment, I is moment of inertia, σ is bending stress, Y is the position of stress from centroidal axis and E is Young’s Modulus
3. Find the position of principal axis from centroidal axis $\overbar{X}$ and $\overbar{Y}$ for the given fig.



1. Find the position of neutral axis from principal axis for unsymmetrical section.
2. Calculate the bending stress at a given point A for the section shown in the figure.



**THE END OF THE QUESTION PAPER**