Q1) For the following structures, determine the total degree of static indeterminacy.

Q2) For given structures, plot the axial force; shear force and bending moment diagrams for the whole structure. Clearly indicate your sign convention and show all critical values on the diagrams.
Q3) Calculate the horizontal displacement at E for given plane trusses. All members have the same EA.

Q4) Given structures have the same $EI$ for all members. Calculate the displacement and rotation at roller supports by assuming that all members are axially rigid.

Q5) For given structure, calculate the displacement and rotation at roller support by assuming that members AB, BC, CD, DE, EF, FG, GH, HI are axially rigid frame members with constant $EI$, and BH is truss member with $EA$. Take $EI = 4EA$ in magnitude.