Government College Of Engineering, Aurangabad

(An Autonomous Institute Of Government Of Maharashtra)

M.E.(Structural Engg.) EXAMINATION

End Semester Examination 2016 ,Semester-1

AM 542 : ADVANCED STRUCTURAL ANALYSIS

Time:- Three Hours '30 NOV 2016 Maximum Marks :-60

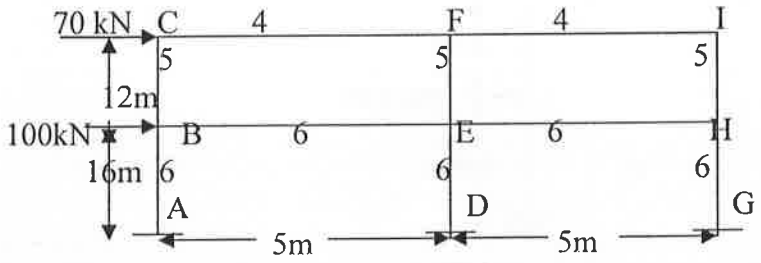
"Verify the course code and check whether you have got the correct question paper "

N. B. :-

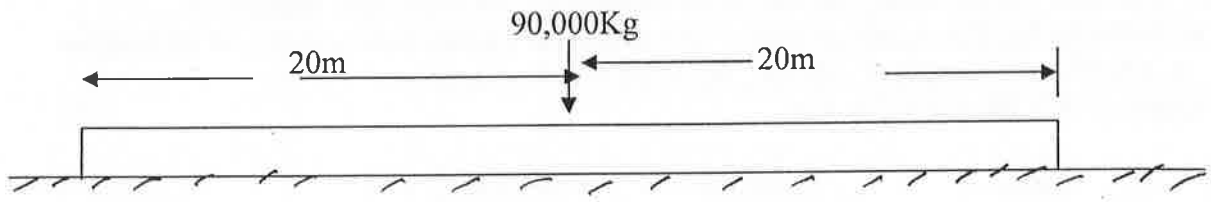
1.All Questions are compulsory
2 Figures to the right indicates full marks
3. Assume suitable data if necessary and state it clearly
4. Use of non- programmable calculator is allowed.

Q1. a) State and Explain Principle of multiple. When it is applicable? (03)

b) Analyse the following frame Fig. by Substitute frame Method.. (12)

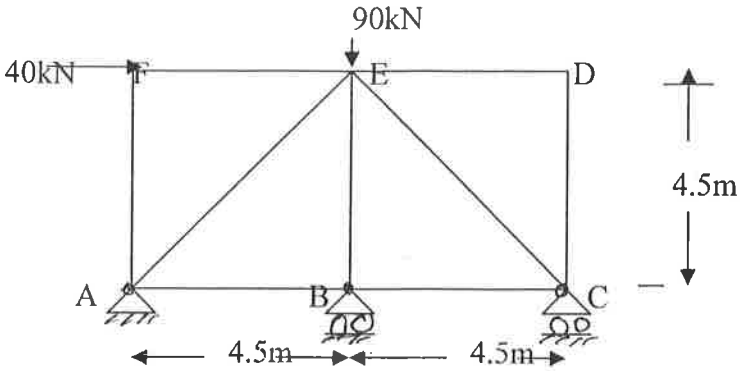


Q 2.a) Find the foundation pressure for the beam shown in fig.2. Take ß= 0.35 The loading is per m width of the beam. (8)



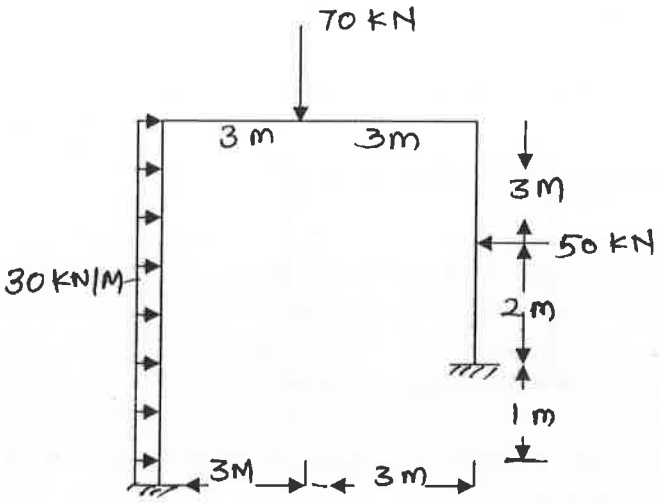
b) Find the equation for deflection, foundation pressure, slope, bending moment and shear force for a semi infinite beam on elastic foundation , simply supported at one end and subjected to u.d.l. over entire span. (7)

Q 3. Analyse the truss supported as shown in fig. by Flexibility Method if support B sinks by 5 mm Take E = 210GPa and cross sectional area of each member =625mm^2. (15)



OR

Analyse the frame as shown in fig. by stiffness method and draw bending moment diagram..



Q.4 Compute the secondary stresses in all members of the truss with rigid joints as shown in fig. The sectional area of all members is 14,000 mm^2 and M.I. of all member is 6 x10^8 mm^4. Length of AB, BC, DE and EF is 5 m. and length of AD, BE and CF is 4 m. (15)