

BE(Cheical +MBA) & BE(FT) 4th Semester

STRENGTH OF MATERIALS

Time : one hour

Max. Marks: 20

Note: All questions are compulsory

Q1 Answer the following briefly;

(i) What is pure bending?

(ii) How the primary and secondary strains are related?

(iii) What do you mean by composite beam?

(iv) What is the different between continuous beam and cantilever? (1x4=4)

Q2 Derive the relations for stresses on oblique plane in Bi-axial stress system. In a strained material 80 MN/m^2 (Tensile) and 60 MN/m^2 (Compressive) stresses are acting at a point. There is a plane which is inclined at 30° to the line of action of tensile stress. Determine the normal, shear and resultant stress on this plane. (8)

Q3 Name the different types of beams? Draw the Shearing force and Bending Moment diagrams for a beam AB, 10 m long and simply supported at its ends. It carries a UDL of 30 kN-m over AC and a point load at D, 2 m from end B as shown below; (8)

