DIRECTIONS: Choose the letter that corresponds to the best answer for each question. Write answers on the answer sheet.

1) Stress is defined as
   A) the concentration of external forces.
   B) the concentration of internal forces.
   C) a balanced pair of forces causing rotation.
   D) none of the above.

2) The units of stress are
   (A) length/time (m/s).
   (B) mass/time (g/s).
   (C) force/area (N/m²).
   (D) mass/length (kg/m).

3) Strain is defined as
   A) the relative change in size and shape of a material resulting from the application of stress.
   B) the ratio of stress to tension.
   C) the tendency of particles of a material to be pulled apart.
   D) none of the above.

4) The units of strain are
   (A) distance/time (m/s).
   (B) length/length (in/in).
   (C) force/area (N/m²).
   (D) mass/length (kg/m).

5) The difference between elastic and plastic behavior in materials is
   A) elastic materials will return to the original size while plastic materials never return to the original size when the stress is removed.
   B) plastic materials will return to the original size while elastic materials never return to the original size when the stress is removed.
   C) elastic materials are made of rubber while plastic materials are made of plastic.
   D) none of the above.

6) The modulus of elasticity indicates
   A) the amount of rubber in the material.
   B) area of the material.
   C) the strength of the material.
   D) none of the above.

7) The three basic states of stress are
   A) tension, compression, and shear.
   B) tension, force, mass.
   C) compression, pressure, area.
   D) none of the above.

8) The middle third rule requires
   A) that the load must be applied to the middle third of the member for the member to stay in compression.
   B) that the member must be thinnest in the middle third of the member.
   C) that the member must be the thickest in the middle third of the member.
   D) A and B.