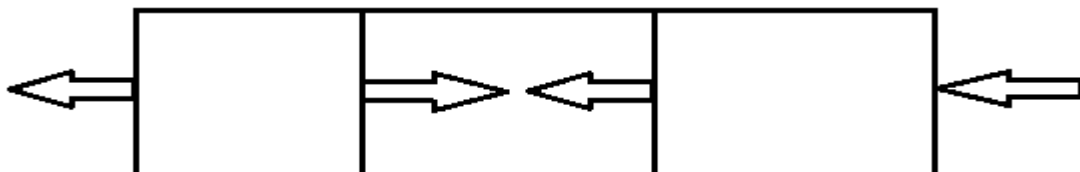
 <b>VITS, BHOPAL</b>		<b>VAISHNAVI INSTITUTE OF TECHNOLOGY &amp; SCIENCE</b> <b>DEPT NAME: CIVIL ENGINEERING</b>  <u><b>LIST OF ASSIGNMENTS</b></u>	<b>FORM NO</b>	<b>VITS/A/16</b>
<b>BRANCH</b>	<b>CE</b>		<b>REV. NO</b>	<b>0</b>
<b>SEMESTER</b>	<b>III</b>		<b>REV. DT</b>	<b>0</b>
<b>NAME OF FACULTY: SONALI SONI</b> <b>SUBJECT CODE: Strength of Materials (CE304)</b>				

#### ASSIGNMENT-I

1. What Is Simple Stress And Strains? Various Types of Stress and Strains?
2. Concept of Elastic Body Stress And Strain? What Is Hooke's Law and Three Constants (E, C & K)?
3. A Hollow Cast Iron Cylinder 4m. Long, 300mm. Outer Dia. And Thickness Of Metal 50mm. Is Subjected To A Central Load On The Top When Standing Straight. The Stress Produced Is  $75,000 \text{kn/M}^2$  Assume Young's Modulus For Cast Iron As  $1.5 \times 10^8 \text{Kn/M}^2$  And Find –
  - i) Magnitude of load
  - ii) Longitudinal strain produced
  - iii) Total decrease in length.
4. A brass bar having cross sectional area of  $1000 \text{mm}^2$ . Is subjected to an axial force shown in diagram. Find the total elongation of the bar. Modulus of elasticity of brass =  $100 \text{GN/M}^2$



5. What is poisson's ratio? Relationship b/w E & C and E & K.
6. The following data relate to a bar subjected to a tensile test, diameter of a bar,  $d = 30 \text{mm}$ ., tensile load,  $P = 54 \text{KN}$   
 Gauge Length,  $l = 300 \text{mm}$ .  
 Extension of a bar,  $\delta l = 0.112 \text{mm}$ .  
 Change in diameter,  $\delta d = 0.0036 \text{mm}$ .  
 Calculate:
  - i) Poisson's ratio
  - ii) The value of three modulus.