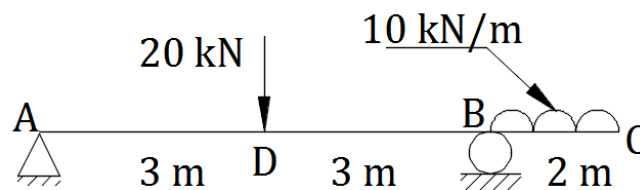


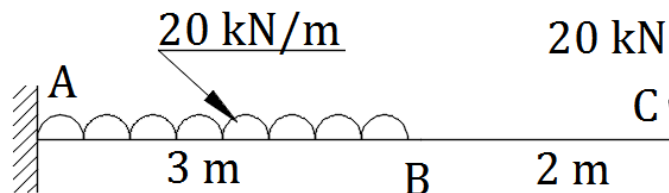


SHANTILAL SHAH ENGINEERING COLLEGE, BHAVNAGAR  
APPLIED MECHANICS DEPARTMENT

Assignment No:	03	<b>Application of Fundamentals of Statics</b>	
Date:	25/09/2018		
Sub Code	2130003		Title of Subject
#	Questions		
1	Discuss the various types of supports, beams, and load acting on the beam with symbolic sketches		
2	Derive the relation between SF and BM in a beam subjected to general loading.		
3	Explain the sign convention taken to compute shear force (SF) and bending moment (BM).		
4	Find the reactions at supports for a beam loaded as shown in <b>FIGURE - 1</b> .		
5	Draws shear force and bending moment diagrams for beam shown in <b>FIGURE - 2</b> . Giving values at all important points		



**Figure - 1**



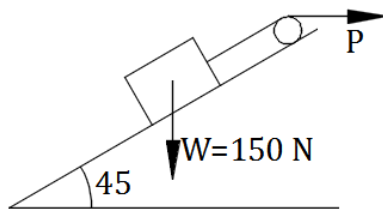
**Figure - 2**



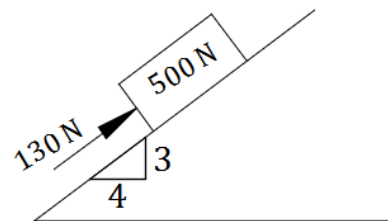
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APPLIED MECHANICS DEPARTMENT

Assignment No:	04	<b>Friction</b>	
Date:	25/09/2018		
Sub Code	2130003		Title of Subject

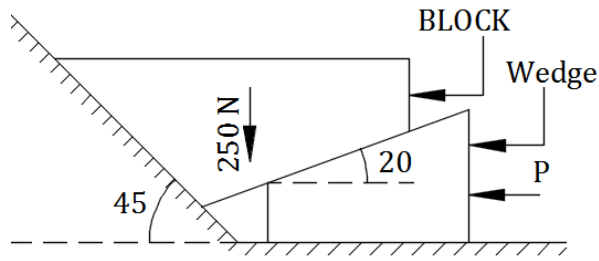
#	Questions
1	Define Friction, Coefficient of friction and angle of repose.
2	Equilibrium of block is maintained by a pull $P$ as shown in <b>Figure - 1</b> . The coefficient of friction between block and surface is 0.3. Determine the values of $P$ for which the block remains in equilibrium.
3	A 130 N force acts as shown in <b>Figure - 2</b> on a 500 N block placed on an inclined plane. The static and kinetic coefficients of friction between the block and the plane are 0.20 and 0.30 respectively. Determine whether the block is in equilibrium, and find the value of the friction force.
4	A block weighing 250 N rest against wall as shown in <b>Figure - 3</b> . A wedge is placed under it. Find out minimum force 'P' required to lift the block. The coefficient of friction at all contacting surfaces is 0.25. Neglect self weight of wedge.
5	A uniform ladder AB weighing 250 N and 4 m long, is supported by vertical wall at top end B and by horizontal floor at bottom end A as shown in <b>Figure - 4</b> . A man weighing 500 N stood at the top of the ladder. Determine minimum angle $\theta$ of ladder AB with floor for the stability of ladder. Take co-efficient of friction between ladder and wall as $1/3$ and between ladder and floor as $1/4$ .



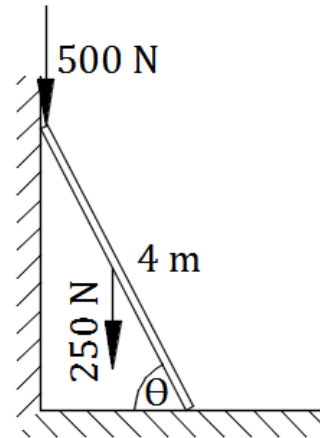
**Figure - 1**



**Figure - 2**



**Figure - 3**



**Figure - 4**

**Submission Schedule**

Assignment-3 and Assignment-4	Div.-B Date 25/09/2018
Assignment-3 and Assignment-4	Div.-A Date 26/09/2018