



İZMİR UNIVERSITY OF ECONOMICS
Faculty of Engineering

Term : 23-24 Fall
Course : ME 208-2 – Mechanics of Materials
Exam : Quiz 1
Date : 31.10.2023
Duration : 40 min.

Full Name :
Student ID :
Classroom :: **Section** :

Information on exam rules

Electronic devices such as laptops, mobile phones, and smartwatches are generally prohibited in the examination room. However, exceptions can be made for individuals with special needs, provided they have valid medical documentation. Requests for exceptions must be submitted with prior written approval from the academic advisor, and they should include details on the necessary measures to maintain the integrity and security of the examination.

Please refrain from engaging in cheating or any other prohibited activities during the examination. Suspected cheating may result in a score of zero on your exam, and any students found cheating may face disciplinary actions in accordance with law #2547. This includes actions such as using unauthorized electronic devices, communicating with classmates, exchanging exam or formula sheets, or using unauthorized written materials during the exam, all of which qualify as attempted cheating.

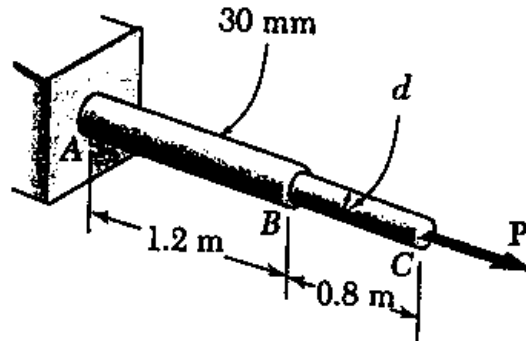
Declaration

I affirm that the activities and assessments completed as part of this examination are entirely my own work and comply with all relevant rules regarding copyright, plagiarism, and cheating. I acknowledge that if there is any question regarding the authenticity of any portion of my assessment, I may be subject to oral examination. The signatory of evidence records may also be contacted, or a disciplinary process may be initiated as per law #2547.

Signature of Student:

Question	1	2	3
Score			
Total			

- 1) Both portions of the rod ABC are made of an aluminum for which $E=73 \text{ GPa}$. Knowing that the diameter of portion BC is $d=20 \text{ mm}$, determine the largest force P that can be applied if $\sigma_{\text{all}}=160 \text{ MPa}$ and corresponding deflection at point C is not to exceed 4 mm .



- 2) In a standard tensile test, a steel rod of 22-mm diameter is subjected to a tension force of 75 kN. Knowing that $\nu = 0.3$ and $E = 200 \text{ GPa}$, determine (a) the elongation of the rod in a 200-mm gage length, (b) the change in diameter of the rod.

