

MECH307 FINAL EXAM Cover Sheet

NAME: _____

NOTE:

- THE ONLY INFO REQUIRED ON THE SCANTRON SHEET IS YOUR NAME AND YOUR CSU ID # (NOT YOUR SSN). **THERE WILL BE A PENALTY IF THE DOTS FOR YOUR LAST NAME AND CSU ID # ARE NOT CORRECT.**
- CLOSED BOOK, CLOSED NOTES. SOME REFERENCE INFORMATION IS AVAILABLE BELOW.
- **NO ELECTRONIC DEVICES ALLOWED** (CALCULATOR, CELL PHONE, PDA, MUSIC PLAYER, ETC.). THE ONLY AIDS ALLOWED ARE A PENCIL AND AN ERASER.
- DO YOUR WORK ON THE EXAM ONLY (NO SCRATCH PAPER ALLOWED).
- PLEASE REMOVE YOUR HAT OR TURN IT SO YOUR FACE AND EYES ARE VISIBLE.
- "ROAMING EYES" WILL NOT BE TOLERATED.
- READ THE QUESTION AND ALL ANSWERS CAREFULLY AND SELECT THE **BEST ANSWER.**
- ALL QUESTIONS ARE WEIGHTED EQUALLY.
- **NOTE - THE DOTS ON YOUR SCANTRON SHEET INDICATE YOUR OFFICIAL ("FINAL") ANSWERS, SO BE CAREFUL WHEN YOU FILL THEM IN. ALSO, IF YOU WAIT UNTIL THE END TO FILL IN THE DOTS, MAKE SURE YOU ALLOCATE ENOUGH TIME FOR THIS TASK.**

USEFUL EQUATIONS:

Basic Strain Gage Relations:

$$\epsilon_{\text{axial}} = \frac{\Delta L}{L} \quad \sigma_{\text{axial}} = E\epsilon_{\text{axial}} \quad \sigma_{\text{axial}} = F/A$$

$$\nu = -\frac{\epsilon_{\text{transverse}}}{\epsilon_{\text{axial}}} \quad F = \frac{\Delta R/R}{\epsilon_{\text{axial}}}$$