

METU

Department of Computer Engineering

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**CENG 223—Discrete Computational Structures**

**FINAL**

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15 minutes

**Q-4) {10 points}** A connected simple graph  $G = (V, E)$  has an edge  $e$ , with endpoints  $a$  and  $b$ , which occurs in every spanning tree of  $G$ . Draw an example for  $G$  such that the following conditions are also satisfied:

- $\deg(a) = 2, \deg(b) = 3$
- $G$  contains a simple circuit

Explain your reasoning briefly.