رقم الشعبة: ١   رقم التسجيل: الاسم:

Instructions: Time **5** minutes. Closed books and notes. No calculators. Please answer all problems in the space provided. **No questions are allowed.**

Q. You have a two-way set associative cache. Its size is 16 Kbytes and each block is 32 bytes long.

The number of cache blocks is _____ 512 _____

$$= \frac{16 \times 1024 \text{ B}}{32 \text{ B}} = 512 \text{ blocks}$$

The number of cache sets is _____ 256 _____

$$= \frac{512}{2} = 256 \text{ sets}$$

The size of the block offset is _____ 5 _____

$$= \lg_2 32 = 5 \text{ bits}$$

The size of the index is _____ 8 _____

$$= \lg_2 256 = 8 \text{ bits}$$

The size of the tag is _____ 19 _____

$$= 32 - 8 - 5 = 19 \text{ bits}$$

<Good Luck>