

2. Exam question

You have a 4-way set associative cache which has a total of 4096 bytes and a cache line of 128 bytes?

Q.1. ...

(a) What's the total block size?

(b) What's the number of cache lines?

(c) Number of sets in cache?

(d) What is the word offset (in bits)?

(e) What is the set offset (in bits)?

Answer(s):

a)  $128 \text{ bytes} = 721$

b)  $4096 / 128 = 32 \text{ lines}$

c)  $\frac{32}{4} = 8 \text{ sets}$

d)  $\log_2 8 = 3 \text{ bits}$

e)  $\log_2 128 = 7 \text{ bits}$