Jawaban Soal:

Diberikan:

- Memory utama = 4 GB = 2^{32} Byte
- Cache = 1 MB = 2^{20} Byte
- Block size = 16 Byte = 2^4 Byte
- Metode: Direct Mapping

Langkah-langkah mencari jumlah bit untuk:

1. WORD / Offset (W):

Digunakan untuk menunjukkan posisi byte dalam satu block.
Block = 16 Byte = 2^4 →
➡W = 4 bit

2. SLOT / Cache Line (L):

Jumlah line dalam cache = Cache size / block size
= 2^{20} / 2^4 = 2^{16} line
➡ L = 16 bit

3. TAG (T):

Total address = 4 GB = 2^{32} → total address = 32 bit
TAG = Total bit – Line bit – Word bit
= 32 – 16 – 4 = 12 bit
➡T = 12 bit

Jawaban Akhir:

- TAG (T): 12 bit
- SLOT / LINE (L): 16 bit
- WORD (W): 4 bit