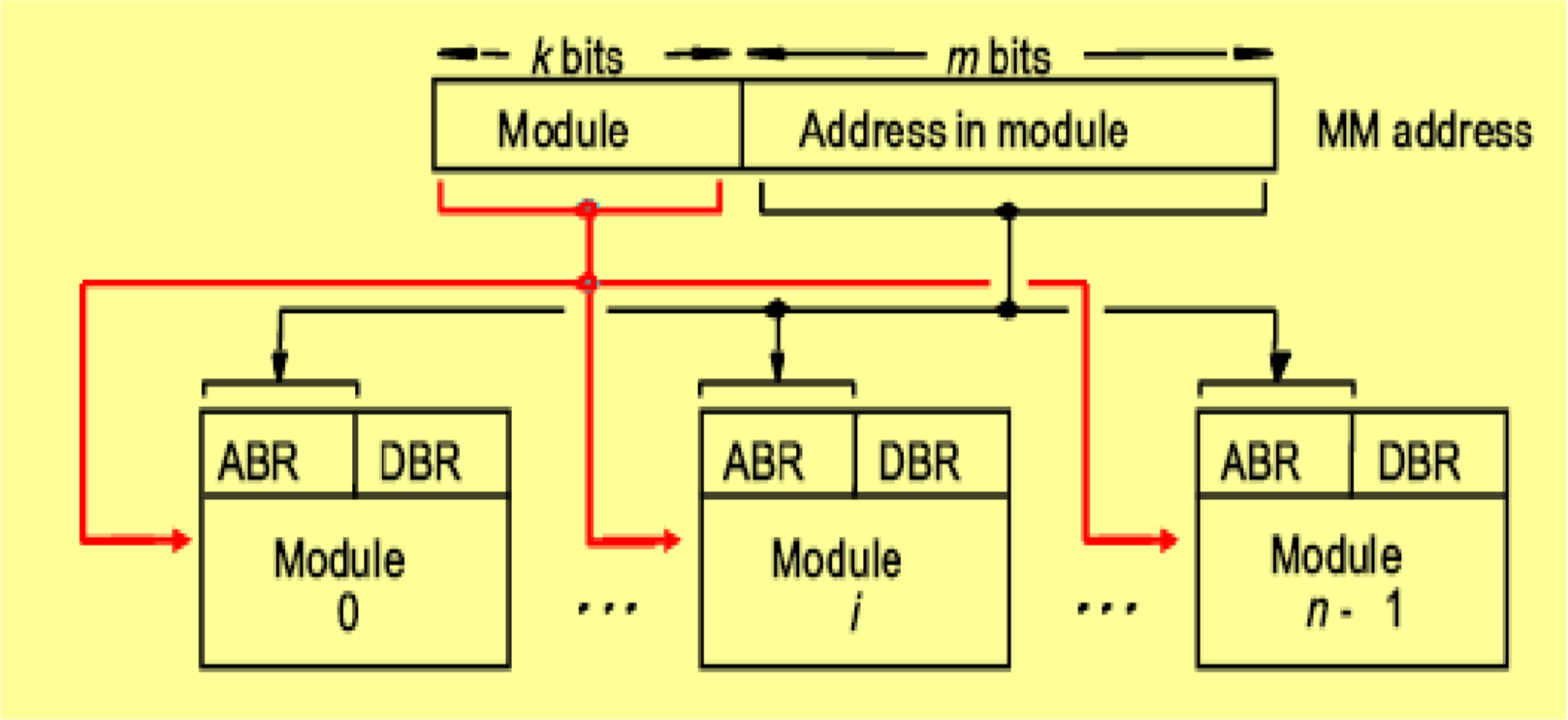
# Memory Interleaving

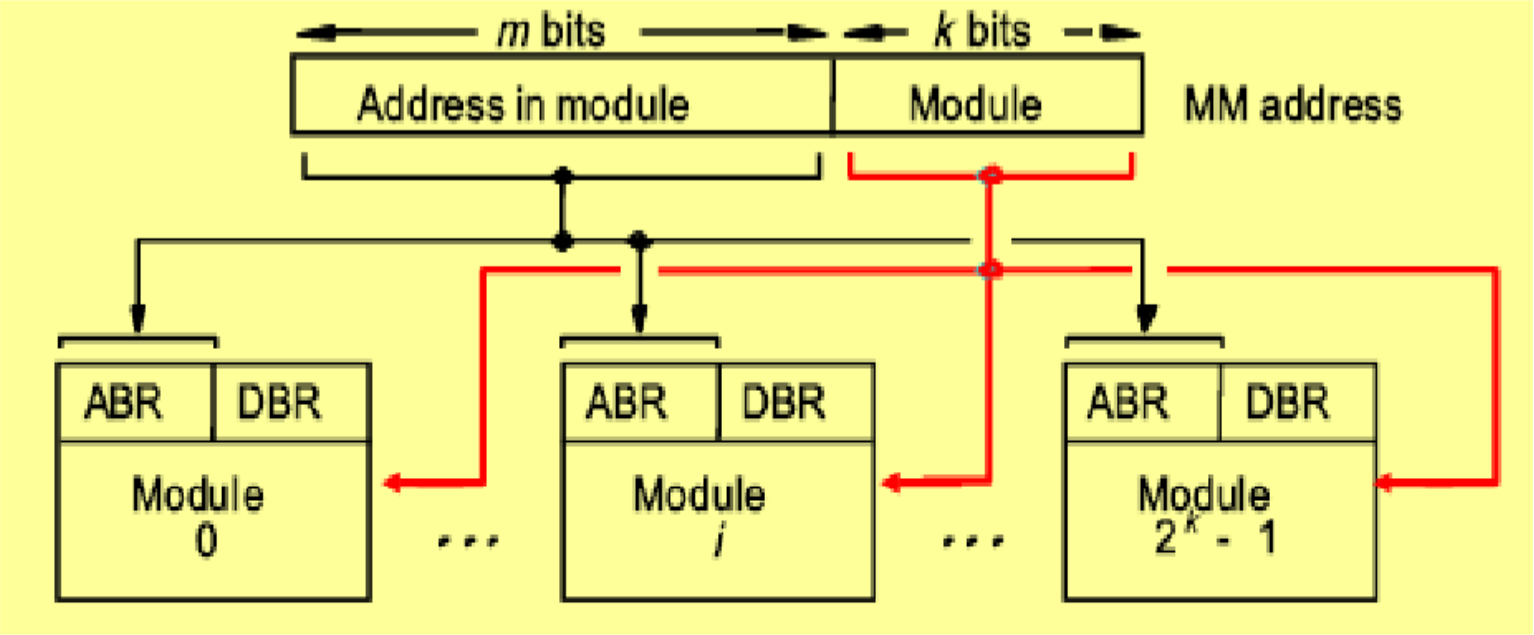
- If the main memory is structured as a collection of physically separate modules, each with its own address buffer register (ABR) and data buffer register (DBR), memory access operations may proceed in more than one module at the same time.
- Hence, aggregate rate of transmission of words to and from the memory can be increased.
- Two methods of distribution of words among modules
  - Consecutive words in a module
  - Consecutive words in consecutive modules

# Consecutive words in a module




- When consecutive locations are accessed, as happens when a block of data is transferred to a cache, only one module is involved.

# Consecutive words in consecutive modules




- This method is called memory interleaving
- Parallel access is possible. Hence, faster
- Higher average utilization of the memory system