4. (a) Interrupts and memory mapping are common mechanisms for I/O.
    i. Explain the operation of interrupt-driven I/O. [5]
    ii. Compare the advantages and disadvantages of memory mapped I/O and interrupt-driven I/O. [5]

   (b) Microprocessors function on the basis of a set of interacting components.
    i. Give a detailed account of the fetch-decode-execute cycle. Your answer should give details of the specific microprocessor components involved. [8]
    ii. Using a suitable example, explain how the condition code register (CCR) is used to bring about change in control flow during program execution. [4]
    iii. Distinguish between micro-operations and macro-instructions. [3]