1.4.3 The Processor's Instruction Set

Oct/NOV 2009. P31/ P33

5. Describe the fetch/decode/execute/reset cycle when a jump instruction is being processed. **[6]**

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3 (c) A processor will allow the use of a variety of modes of addressing.

Explain these terms, using an example in each case. You may wish to illustrate your answer with a diagram.

(i) Direct addressing **[2]**

(ii) Indirect addressing **[2]**

(iii) Indexed addressing **[2]**

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3 (b) A programmer writing low-level code has the choice of using either machine code or assembly language.

(i) Describe two advantages of using assembly language. **[2]**
(ii) Describe three specific tasks done by the assembler software. **[3]**

(c) A low-level language contains instructions for direct addressing and relative addressing.

Explain these terms. You may wish to illustrate your answers with a diagram.

(i) Direct addressing **[2]**
(ii) Relative addressing **[2]**

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3 (b) A programmer writing low-level code has the choice between machine code and assembly language.

(i) Describe one advantage of using machine code. **[1]**
(ii) Assembly language will require the use of assembler software.
Describe three specific tasks done by the assembler software. **[3]**

(c) A processor will allow the use of a variety of modes of addressing.

Explain these terms, using an example in each case. You may wish to illustrate your answer with a diagram.

(i) Direct addressing **[2]**
(ii) Relative addressing **[2]**

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4 (b) (vii) A programmer makes the statement:

"For this instruction set, some of the instructions do not require an operand"

Circle if this statement is true or false and explain with reference to the instructions given.

True / False **[2]**

1.4.3 The Processor's Instruction Set

Computer Science (9608)

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3 Five modes of addressing and five descriptions are shown below.

Draw a line to connect each mode of addressing to its correct description.

Mode of addressing	Description
direct	the operand is the address of the address of the value to be used
immediate	the operand is the address of the value to be used
indexed	the operand is the offset from the current address where the value to be used is stored
indirect	the operand plus the contents of the index register is the address of the value to be used
relative	the operand is the value to be used

[4]

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5 (c) Describe what happens to the registers when the following instruction is executed:

```
LDD 35
```

[2]