NEW SOUTH WALES TECHNICAL AND FURTHER EDUCATION COMMISSION
STUDENT ASSESSMENT GUIDE - MODULE

Module Name: Microprocessor System Assembly Lang Prog

Module No : 7761J

National Module Code : EA127

Module Purpose:

To provide the student with the knowledge and skills to write effective assembly language programs for a microprocessor based computer system. The subject places an emphasis on the computer system as opposed to learning about a microprocessor in isolation.

Module Assessment:

The assessment for this module is recorded as a Class Mark.

All assessment events used to determine your result will be locally set and locally marked.

Your results will be reported as DISTINCTION, CREDIT, PASS or FAIL.

To receive a particular grade you must get at least the mark shown below:

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     Grade        Class mark
   DISTINCTION       83%
   CREDIT            70%
   PASS              50%
```

All other cases FAIL.

(Grade Code 72)

Assessment Component	Assessment Event Name	Wgt %
CLASS MARK	THEORY TEST 1	20
	THEORY TEST 2	30
	PRACTICAL TEST 1	20
	PRACTICAL TEST 2	30

Assessment Events - Additional Information

Event Name :THEORY TEST 1
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Event Name:      Theory Test 1
Event type:      Theory Test
Timing:          After completion of Topic 3.2
Types of items:  Short answer, multiple choice, calculation, diagrammatic,
                 Programming Segments.
Coverage:        Topics 1, 2, 3.1, 3.2
Duration:        60 minutes
Conditions:      Standard classroom. Closed book. Scientific calculators.
                 Assembly Language Instruction Set, and other appropriate
                 material of this kind.
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Event Name :THEORY TEST 2

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Event Name:     Theory Test 2
Event type:     Theory Test

Timing:         After completion of Topic 5
Types of items: Short answer, multiple choice, calculation, diagrammatic,
                Programming Segments.
Coverage:       Topics 2, 3, 4, 5
Duration:       60 minutes
Conditions:     As for Theory Test 1.


Event Name :PRACTICAL TEST 1
Event Name:     Practical Test 1
Event type:     Practical test.
Timing:         After completion of Topic 3
Coverage:       Topics 1, 2, 3
Duration:       45 minutes
Conditions:     Room with 1 PC per student, assembler program, trace program,
                printer, etc. Students work alone. Students may use texts,
                class notes. The assessment task may be contained within a
                larger project. Documentation is required. Assessor may give
                slightly differing tasks to each student to ensure authenticity


Event Name :PRACTICAL TEST 2
Event Name:     Practical Test 2
Event type:     Practical test.
Timing:         After completion of Topic 5
Coverage:       Topics 1 to 5
Duration:       45 minutes
Conditions:     Room with 1 PC per student, assembler program, trace program,
                printer, etc. Students work alone. Students may use texts,
                class notes. The assessment task may be contained within a
                larger project. Documentation is required. Assessor may give
                slightly differing tasks to each student to ensure authenticity
```

Additional Assessment Information:

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In addition to the assessment outlined above, your teacher may set
other tasks, for example, review questions, practical exercises and
quizzes. These activities will not count towards your final assessment
marks, but they are a vital part of your learning process, and will
provide you with feedback on your understanding of the topics in this
module.

Summary of Content:
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For the chosen CPU and system:
Topic 1:
    Review of microprocessor and microprocessor based system architecture
    1.1 System components, RAM, ROM, I/O, bus architecture, memory map
    1.2 CPU architecture, registers, instruction set, memory access,
        instruction pre-fetch and pipelining, programmer's model
    1.3 System component support and the Interrupt Vector Table
Topic 2:
    Specification and documentation of an assembly language program
    2.1 Program design and documentation
        2.1.a   Flow (N-S) chart
        2.1.b   Trace Table
        2.1.c   Modularity
    2.2 Tracing program variables
        2.2.a   Trace table
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        2.2.b   Single step program execution
        2.2.c   Other debugging tools
Topic 3:
    Encoding routines

        3.1 Common instructions and addressing modes
        3.2 Production of small routines
        3.3 System call interface and system device access, vector table
        3.4 Complex instructions, stack
Topic 4:
    Major system components and programming
        4.1 Pipeline process, system timer, interrupt control, DMA, coprocessor
Topic 5:
    Librarian functions and linking with 3GLs.
        5.1 Separate linking, stack frame
        5.2 Library
        5.3 Linkage of assembler routines to high level language
        5.4 Macros
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Pre-requisites Information :

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PREREQUISITES are subjects which you must have successfully completed before
you are allowed to enrol in this subject.   Most subjects do not have
prerequisites and you may enrol in them without having done any other subjects.
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Prerequisites of this module are :
(only one module group required)

```
8271S    Microprocessor Fundamentals
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More About Assessment:

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For information about assessment in TAFE please see "Every Student's Guide to
Assessment in TAFE NSW" which is available on the TAFE Internet site at:
http://www.tafensw.edu.au/students/guide/assessment_guide.htm.
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