INTI
International College Subang
LAUREATE INTERNATIONAL UNIVERSITIES

FINAL
Examination Paper

(COVER PAGE)

Session	:	**January 2014**
Programme	:	Diploma In Information And Communication Technology (DICTN)
Course	:	**ICT1101 : Program Logic Formulation**
Date of Examination	:	March 14, 2013
Time	:	8:00am – 10:00am Reading Time: Nil
Duration	:	2 Hours
Special Instructions	:	

Section A : Answer **ALL** Multiple Choice questions.

Section B : Answer any **THREE (3)** questions.

IMPORTANT NOTE : THIS PAPER SHOULD NOT BE TAKEN OUT OF THE EXAMINATION HALL

Materials permitted	:	Nil
Materials provided	:	OMR sheets
Examiner (s)	:	**Ms. Robina Tinawin.**
Moderator	:	Dr. Ahmad Suhaimi Baharudin

This paper consists of 9 printed pages, including the cover page.

5. An informal language that has no syntax rules, and is not meant to be compiled or executed is called _____.

A. Faux code
B. Pseudocode
C. Sudocode
D. Flowchart
E. Human language

6 A _____ is a diagram that graphically depicts the steps that take place in a program.

A. Flowchart
B. Step chart
C. Code graph
D. Program graph
E. Line graph

7. A _____ structure can execute a set of statements only under certain circumstances.

A. Sequence
B. Circumstantial
C. Decision
D. Boolean
E. Loop

8. In pseudocode, the IF-THEN statement is an example of a _____.

A. Sequence structure
B. Decision structure
C. Pathway structure
D. Class structure
E. Loop structure

9. AND, OR, and NOT are _____ operators.

A. Relational
B. Logical
C. Conditional
D. Ternary
E. Mathematical

10. A _____-controlled loop repeats a specific number of times.

A. Boolean
B. Condition
C. Decision
D. Count
E. Time

17. The three structures of structured programming are:

A. Sequence, order, and process
B. Selection, loop and iteration
C. Sequence, selection, and loop
D. If, else, and then
E. Algorithm, flowchart, pseudocode

18. If A>B is false, then which of the following is always true?

A. A <= B
B. A < B
C. A = B
D. A >= B
E. None of the above

19. Which of the choices below is equivalent to the following decision?

```
IF X > 10 THEN
    IF Y > 10 THEN
        OUTPUT "X"
    ENDIF
ENDIF
```

A. IF X > 10 OR Y > 10 THEN OUTPUT "X"
B. IF X > 10 AND X > Y THEN OUTPUT "X"
C. IF X > Y THEN OUTPUT "X"
D. IF X > 10 AND Y > 10 THEN OUTPUT "X"
E. None of the above

20. In the following pseudocode, what percentage raise will an employee in Department 8 receive?

```
IF department < 5 THEN
   raise = SMALL_RAISE
ELSE
   IF department  < 14 THEN
      raise = MEDIUM_RAISE
   ELSE
      IF department < 9 then
         raise = BIG_RAISE
      ENDIF
  ENDIF
ENDIF
```

A. SMALL_RAISE
B. MEDIUM_RAISE
C. BIG_RAISE
D. Impossible to tell
E. A, B and C

Question 2:

(a) List the **SIX (6)** steps in general problem solving.

(6 marks)

(b) Evaluate the following equations, given the values **A** = 10, **B** = 8, **C** = 2, **D** = 3. Show the working.

(i) X = A + B / C – D
(ii) X = A + C * (B – D)
(iii) X = (A MOD D) *B / C
(iv) X = D ^ C * B + A
(v) X = (B – D) * C + A

(5 marks)

(c) In *StarBright Bookstore*, customers are categorized as either member or non-member. For members, a discount of 20% is given if the total amount of the product purchased is more than RM400 and only 10% discount if the total purchase is less than RM400. For non-members, a 5% discount is given if the purchase is more than RM400. Otherwise, no discount will be given.

Construct a Problem Analysis Chart (PAC) for the above problem.

(9 marks)

Question 3:

(a) Infinite loop is a sequence of instructions in a computer program that repeated endlessly. Design an algorithm that shows how an infinite loop occur using WHILE/WHILE-END and REPEAT/UNTIL loops.

(6 marks)

(b) Suggest a **name** and appropriate **data type** to represent each of the following data item:

(i) Phone number of a lecturer
(ii) Weight of a horse
(iii) Result of tossing a coin
(iv) Discount rate for books
(v) A waveform that switches between two voltage levels

(5 marks)

Output screen:
Hardware
(lists of hardware will be displayed on the screen)

(i) Construct an IPO for the above problem.

(5 marks)

(ii) Draw a flowchart for the above problem.

(10 marks)

-The End-