FINAL
ALTERNATIVE ASSESSMENT

(COVER PAGE)

Session	:	**August 2020**
Programme	:	Diploma in Information Technology (DITN) Diploma in Communication and Information Technology (DICTN)
Course	:	**ICT1103: Structured Programming**
Date of Examination	:	December 12, 2020 (Saturday)
Time	:	4.00pm – 6.30pm Reading Time : Nil
Duration	:	2 Hours 30 Minutes

Note: **30 minutes is added into the duration of the examination to factor in any connectivity matters and for you to scan and upload your scripts.**

Special Instructions :

This paper consists of **TWO (2)** sections. Answer **ALL** questions in **Section A** and **Section B**.

Materials permitted :

NIL

Materials provided :

NIL

Examiner(s)	:	**Nor Athira Azlan**, Siti Hajar and Lai Kim Min
Moderator	:	Nursyarizan Mohd Akhbar

*This paper consists of **4** printed pages, including the cover page*

INTI INTERNATIONAL UNIVERSITY & COLLEGES

DIPLOMA IN INFORMATION TECHNOLOGY (DITN)
DIPLOMA IN COMMUNICATION AND INFORMATION TECHNOLOGY (DICTN)
ICT1103: STRUCTURED PROGRAMMING
FINAL ALTERNATIVE ASSESSMENT: AUGUST 2020 SESSION

SECTION A (60 marks)
Instruction: This section consists of **FOUR (4)** questions. Answer **ALL** the questions in the foolscap paper. All questions carry equal marks.

Question 1

(i) Declare variables `employee_name, job_title` and `employee_monthly_salary` with an appropriate data type.

(3 marks)

(ii) Write C++ statement(s) that prompts the user to input an employee name, job title and employee monthly salary and store them in the declared variables in (i). Then, write a C++ statement that calculates the employee annual salary and store the result in a variable employee_ annual_salary.

(6 marks)

(iii) Print the following paragraph and insert the appropriate variable name:

Enter your name: John Doe
Enter your job title: Analyst Programmer
Enter your monthly salary (RM): 4000

This month, we are welcoming **John Doe** to the Tecways Technologies Sdn Bhd. He/she works as **Analyst Programmer** and his/her annual salary is **RM4000**.

Write the C++ statements to produce the above output using your answer in (i) and (ii).

(6 marks)

(Total: 15 marks)

Question 2

(i) Declare **FOUR (4)** integer variables.

(4 marks)

(ii) Write C++ statement(s) that accepts FOUR (4) integer values and store them in the declared variables in (i).

(5 marks)

(iii) Find the multiplication of the first and the second integers and the difference between the fourth and the third integer. Display both results.

(6 marks)

(Total: 15 marks)

Question 3

Write C++ statements to handle such scenarios.

(i) 86400 products are produced in one day in factory X. If the number of products entered by the user is greater than or equal to 86400, the program should display the number of days taken to produce the products.

(5 marks)

(ii) 3600 products are produced in an hour. If the number of products entered by the user is less than 86400, but is greater than or equal to 3600, the program should display the number of hours taken to produce the products.

(5 marks)

(iii) 60 products are produced in a minute. If the number of number of products entered by the user is less than 3600, but is greater than or equal to 60, the program should display the number of minutes taken to produce the products.

(5 marks)

(Total: 15 marks)

Question 4

(i) Declare and initialize an array variable that hold the values of 1, 2, 3, 4 and 5.

(3 marks)

(ii) By using a for loop, print the elements of the array (i) in reverse order. Add value 1 to each element in the output.

(5 marks)

(iii) Find the largest and smallest element in the array.

(5 marks)

(Total: 15 marks)

SECTION B (40 marks)
Instruction: This section consists of **TWO (2)** questions. Answer **ALL** the questions in the foolscap paper. All questions carry equal marks

Question 1

Jonathan is an online seller. He bought item and markup the price to get the profit. Help Jonathan by writing a program that asks the user to enter an item cost and a markup percentage. It should then display the item's retail price.

Example:
- If an item cost is 10.00 and its markup percentage is 100%, then the item's retail price is 20.00.
- If an item's wholesale cost is 7.00 and its markup percentage is 50%, then the item's retail price is 10.50.

The program should have a function named `calcRetailPrice` that receives the cost and the markup percentage as arguments and returns the retail price of the item.

(20 marks)

(Total: 20 marks)

Question 2

(a) Define the following structures:

(i) A structure called `ProductType` that stores the following details:

- type: store 3 characters type such as “CDR”
- num: a 3-digit integer number

(ii) A structure called `Item` that stores the following details:

- code: as type of `ProductType` above
- desc: store alphanumeric values
- price: a floating point number
- qty: an integer that reflects the quantity on hand

(iii) Declare an array called `itemList` of type `Item` that can store up to 100 `Item` records.

(20 marks)

(Total: 20 marks)

~THE END~