

CONFIDENTIAL



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2015/2016**

COURSE NAME : COMPUTER PROGRAMMING
COURSE CODE : DAB 10702
PROGRAMME : 1 DAB
EXAMINATION DATE : DECEMBER 2015/JANUARY 2016
DURATION : 2 HOURS
**INSTRUCTION : A) ANSWER ALL QUESTIONS.
B) ANSWER ONE (1) QUESTION
ONLY.**

THIS QUESTION PAPER CONSISTS OF SEVEN (7) PAGES

CONFIDENTIAL

SECTION A

Q1 Draw and name the **four (4)** basic symbols of flowchart. (4 marks)

Q2 State the **three (3)** types of programming errors and gives a brief explanation for each of the type. (6 marks)

Q3 Write a full C programming code that will produce output as per below :
**An Introduction
to
Computer Programming** (5 marks)

Q4 State the appropriate data type for the value below:
(a) 5032
(b) N
(c) true
(d) 3.412
(e) 0.00323421 (5 marks)

Q5 Identify the errors in each of following statements and rewrite the correct answer.

(a)

```
x=1;
while (x<=10);
    x++;
}
```

- (b)

```
switch(n)
{
    case 1:
        printf("The number is 1\n");
    case 2:
        printf("The number is 2\n");
        break;
    default:
        printf("The number is not 1 or 2\n");
        break;
}
```
- (c) The following code should print the values 1 to 10

```
n=1;
while (n<10)
    printf("%d",n++);
```
- (d)

```
if (age>=65);
    printf("Age is greater than or equal to 65\n");
else
    printf("Age is less than 65\n");
```
- (4 marks)

Q6 Write the suitable C statement expression for each condition.

Example : x equal to 0 answer : (x==0)

- (a) x greater than or equal to y
- (b) x not equal to 0
- (c) x or y equal to 0
- (d) x and y less than 0
- (e) x not greater than or equal to 0

(10 marks)

Q7 Write the declaration of array for each of the following:

- (a) An array called `Month` for 12 numbers of data type `int`.
- (b) An array called `Student_Name` for a sequence of 100 characters.
- (c) A multidimensional array called `Signal_Data` that has 5 rows and 4 columns to be of data type `integer`.
- (d) A string called `Name` with initial string is `UTHM`.
- (e) An array called `month` that initialize string `January` until `Disember`.

(10 marks)

Q8 Name and brief three types of string function in `string.h` library

(6 marks)

Q9 Write the output generated by the C programming code below.

```
#include <stdio.h>
#define SIZE 10

main()
{
    int n[SIZE]={9,3,5,7,1,9,3,5,7,1};
    int i, j;

    printf("%8s%13s%17s\n", "No", "Value", "Charts");
    for (i=0; i<= SIZE - 1; i++)
    {
        printf("%7d%13d          ", i, n[i]);
        for (j=1; j <= n[i]; j++)
            printf("%c", '*');
        printf("\n");
    }
    return 0;
}
```

(10 marks)

Q10 Given $i=1, j=2, k=3$ and $m=9$. Write the output for following statements. Each line not relates each other.

- (a) `printf("%d", i--);`
- (b) `printf("%d", --i);`
- (c) `printf("%d", m%j);`
- (d) `printf("%d", ++i+k);`
- (e) `printf("%d", k*m*++j);`

(5 marks)

Q11 Explain briefly the difference between array and structs with example.

(5marks)

Q12 From the flow chart in Figure Q12, select suitable types of selection structure and write the full C program.

(5marks)

SECTION B

Q13 (a) Develop and write full C programming code for calculate the Body Mass Index (BMI) that read the weight (kg) and height (m) from user. Then display whether it is underweight, normal, overweight or obese. Use the equation and table below.

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$

BMI (kg/m ²)	Categories
< 18.5	Underweight
18.5 – 24.9	Good
25.0 – 29.9	Overweight
30.0 +	Obese

(15 marks)

- (b) Write the function prototype for each following:
 - (i) Function `hypotenuse` that takes two floating point, `side1` and `side2`, and return a floating point result.
 - (ii) Function `smallest` that takes integer `x, y, z` and return an integer.
 - (iii) Function `instruction` that does not receive any arguments and does not return a value.
 - (iv) Function `intToFloat` that takes an integer argument, `number` and returns a floating point result.
 - (v) Function `celcius` that takes a floating point, `temp` and does not returns a value.

(10 marks)

- Q14** (a) Develop and write full C programming code for calculate the area and volume of box as in Figure **Q14(a)**. The C programme should have function called `AREA` to calculate the area, `VOLUME` for calculate volume and `DISPLAY` for display the result. Ask the input from user.

(15 marks)

- (b) By using two types of looping statement. Write **two (2)** different types of full C programming code to generate the output below.

```
5 seconds
4 seconds
3 seconds
2 seconds
1 seconds
```

(10 marks)

- END OF QUESTION -

FINAL EXAMINATION

SEMESTER/SESSION: SEM I/ 2015/2016
COURSE NAME : COMPUTER PROGRAMMING

PROGRAMME : 1 DAB
COURSE CODE: DAB10702

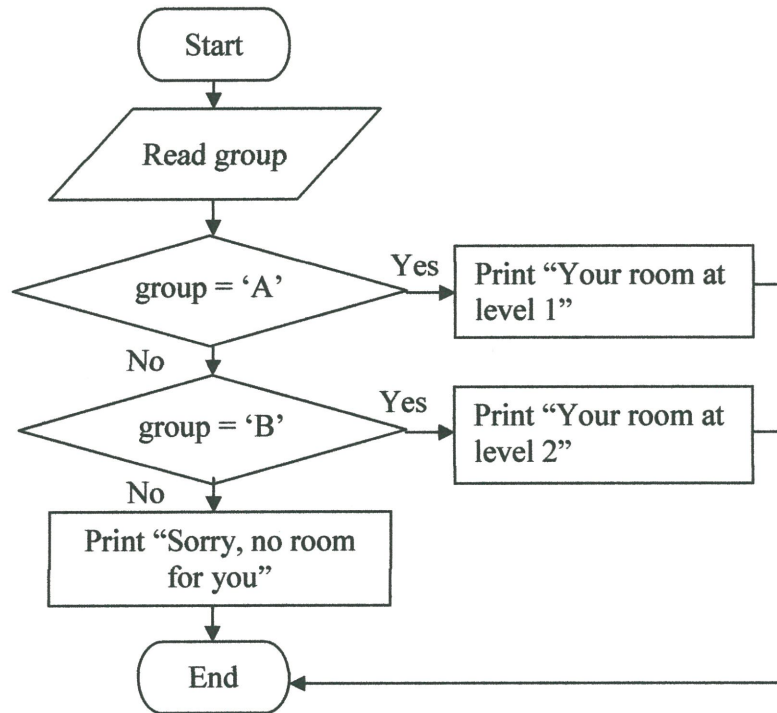


FIGURE Q12

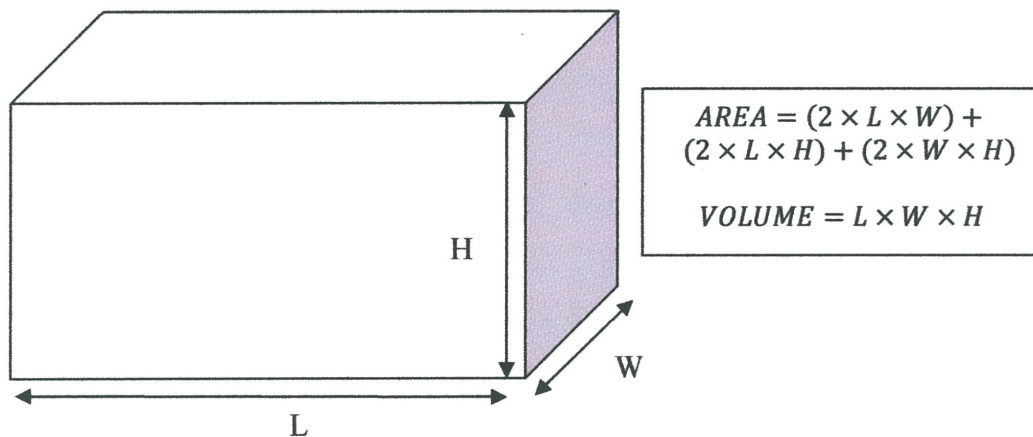


FIGURE Q14(a)