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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
(ONLINE)  
SEMESTER I  
SESSION 2020/2021**

COURSE NAME : COMPUTER PROGRAMMING  
COURSE CODE : DAC 11102  
PROGRAMME CODE : DAA  
EXAMINATION DATE : JANUARY / FEBRUARY 2021  
DURATION : 3 HOURS  
INSTRUCTION : PART A: ANSWER ALL  
QUESTION.  
PART B: ANSWER **TWO (2)**  
QUESTIONS ONLY

THIS QUESTIONS PAPER CONSISTS OF **FIFTEEN (15)** PAGES

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**PART A (40 marks)**

**Q1** “Software refers to a program or set of instructions that instruct a computer to perform some task”

There are **two (2)** types of software which is systems software and hardware software.

[1 mark]

- A. True
- B. False

**Q2** Identify whether the following statement is **TRUE** or **FALSE**.

$z \neq y$  same with  $(z > y \parallel z < y)$

[1 mark]

- A. True
- B. False

**Q3** `00010010010001`

The instruction above refers to the type of programming language which is \_\_\_\_\_ language.

[1 mark]

- A. English
- B. Machine
- C. Assembly
- D. High-level

**Q4** C program can be classified as a

[1 mark]

- A. Assembly level
- B. Machine level
- C. High level
- D. Low level

**Q5** All C program must has a statement of

[1 mark]


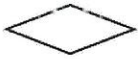

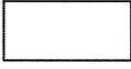
- A. `start()`
- B. `system()`
- C. `printf()`
- D. `main()`

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- Q6** Choose the correct statements about function in C language [1 mark]
- A Every Function has a return type
  - B A Function is a group of c statements which can be reused any number of times
  - C Every Function may no may not return a value
  - D All the above

- Q7** Choose the correct statements about array in C program [1 mark]
- A The number of subscripts determines the dimension of the array
  - B All the elements of the array should of the same data type and storage class
  - C The array elements need not be of the same storage class
  - D In an array definition, the subscript can be any expression yielding a non-zero integer value

- Q8** Choose the correct diagram for drawing flow chart. [1 mark]

	<b>Symbol</b>	<b>Meaning</b>
a		Flow lines
b		End
c		Connector
d		Decision

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**Q9** Match the following statement (QA – QE) to the correct answer (A1-A5).  
 [Write the matching answer. For example, QA-A1]

QA	<code>#include&lt;stdio.h&gt;</code>	Function prototype	A1
QB	<code>printf("Hello World");</code>	C statement	A2
QC	<code>%lf</code>	Declaration of variables	A3
QD	<code>int tambah(satu,dua)</code>	Placeholder	A4
QE	<code>int x,y,total;</code>	Directive C-Library	A5

[5 marks]

**Q10** Given `int x = 1, y =5, and z = 7`. Solve the corresponding arithmetic problems as according to C language.

$$(x + y) + y - z * (z \% y)$$

[2 marks]

- A. 3
- B. -3
- C. 4
- D. -4

**Q11** Determine the output of the following program.

```
#include <stdio.h>
int main()
{
    int var = 6;
    while (var >=5)
    {
        printf("%d", var);
        var++;
    }
    return 0;
}
```

[3 marks]



- A 1
- B 5
- C 6
- D Infinite loop

Q12 Determine the output of the following program.

```
#include<stdio.h>
int main()
{
    int num=5;

    if ( num%2 == 0 )
        printf("%d is an even number", num);
    else
        printf("%d is an odd number", num);

    return 0;
}
```

[3 marks]

Q13 Determine the output of the following program if user key-in : 5 800 12

```
#include<stdio.h>
main()
{
    int num1, num2, num3;

    printf("\nEnter value of num1, num2 & num3:");
    scanf("%d%d%d",&num1,&num2,&num3);

    if((num1>num2) && (num1>num3))
        printf("\n Number 1 is greater");
    else if ((num2>num3) && (num2>num1))
        printf("\n Number 2 is greater");
    else
        printf("\n Number 3 is greater");

    return 0;
}
```

[3 marks]

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- Q14 Determine the output of the following program.  
Input: : ini nalaos bawaj upmam adna

```
#include <stdio.h>
void reverseSentence();
int main()
{
    printf("Enter a sentence: ");
    reverseSentence();
    return 0;
}

void reverseSentence()
{
    char c;
    scanf("%c", &c);
    if (c != '\n') {
        reverseSentence();
        printf("%c", c);
    }
}
```

[3 marks]

- Q15 Determine the output of the following program.  
#include<stdio.h>

```
main()
{
    int i;
    int arr[6] = {10,20,30,40,50,60};

    for (i=0;i<5;i++)
    {
        printf("value of arr[%d] is %d \n", i, arr[i]);
    }
}
```

[3 marks]

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- Q16 Understand the following C program and write the CORRECT syntax label in (a) to (e).

```
#include<stdio.h>

int main()
{
    int i, (a);

    int arr[2][2] = {10,20,30,40};

    for (i=0;i<(b);i++)
    {
        for (j=0;j<(c);j++)
        {
            //display the array
            printf("value of arr (d) : %d\n",i,j,arr (e) );
        }
    }
}
```

[5 marks]

- Q17 Understand the following C program and write the CORRECT syntax label in (a) to (c).

```
#include <stdio.h>
(a)

main()
{
    (b)
    return 0;
}

(c)
{
    printf("Hi ALL\n");
    printf("Camne final cprogramming?\n");
    printf("Ada ok kaa? =)");
}
```

[5 marks]

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## PART B 60 Marks

Answer TWO questions only.

Q1 (a) Determine the output for the following program;

i. Given input : 987

```
#include <stdio.h>
int main()
{
    char c;
    printf("Enter a character: ");
    scanf("%c", &c);

    if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))
        printf("%c is an alphabet.", c);
    else
        printf("%c is not an alphabet.", c);

    return 0;
}
```

[2 marks]

ii. Given input : 7

```
#include<stdio.h>
main()
{
    int i;
    for (i=1;i<=8;i=i+1)
    {
        printf("%d\n",i);
    }
}
```

[3 marks]

(b) i. By using for statement, write a simple C program that will display the following output.

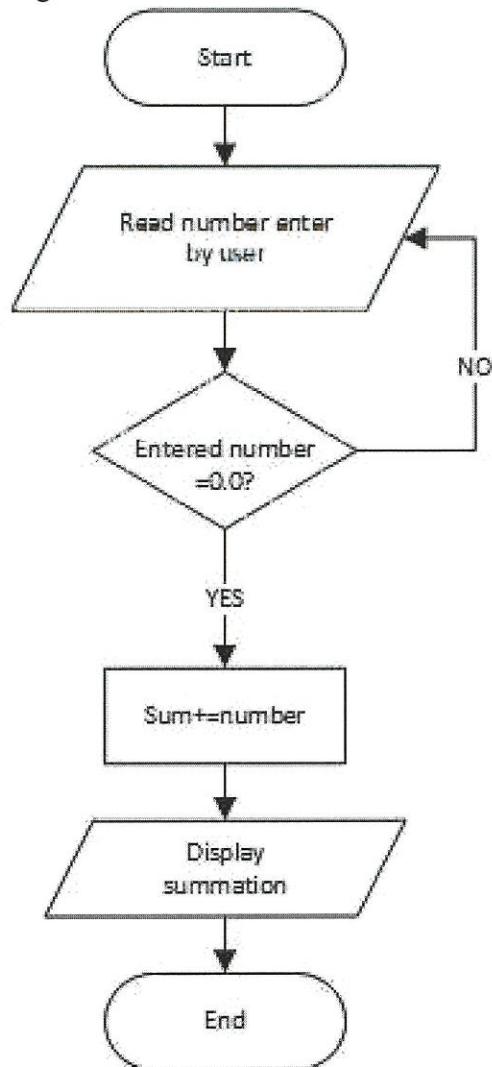
1
2 3
4 5 6
7 8 9 10

[5 marks]

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- ii. The **Figure 1(b-ii)** shows a flowchart represent a program to add numbers given by user until the user enter zero. Construct the C program by using do-while statement.



**Figure 1(b-ii)**

[5 marks]

- (c) You as a junior C programmer has been assigned to write a source code for a restaurant’s menu kiosk that allow user to choose their menu and print out the meal tickets before proceeding to cashier. The menu selection as in **Table 1(c)**. You are required to;

**Table 1(c)**

No.	Meal	Price (RM)
1	Mee Hailam	6.50
2	Nasi Goreng Ayam	8.50
3	Crispy Chicken Chop	10.00
4	Spagetthi Bolognese	12.00

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i. Write down the pseudocode [5 marks]

ii. Sketch the flow chart. [5 marks]

iii. Develop the C program by using any selection statement. [5 marks]

Q2 (a) Determine the output for the following program.

i. Input : 196453

```
#include<stdio.h>

int sum_of_digits(int n)
{
    int sum = 0;
    while (n != 0)
    {
        sum = sum + n % 10;
        n = n/10;
    }
    return sum;
}

int main()
{
    int n;
    printf("\nEnter a number : ");
    scanf("%d",&n);
    printf("\nSum of digits of %d is %d\n", n,sum_of_digits(n));
    return 0;
}
```

[2 marks]

ii. Input : 12 0

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```
#include <stdio.h>
int power(int n1, int n2);
main()
{
    int base, a, result;
    printf("Enter base number: ");
    scanf("%d", &base);
    printf("Enter power number(positive integer): ");
    scanf("%d", &a);
    result = power(base, a);
    printf("%d^%d = %d", base, a, result);
    return 0;
}

int power(int base, int a)
{
    if (a != 0)
        return (base * power(base, a - 1));
    else
        return 1;
}
```

[3 marks]

- (b) i. By using user defined function, write a simple program that will display the following output.

Enter num 1 : 12 Enter num 2 : 36  Total = 48
--------------------------------------------------------

[5 marks]

- ii. Based on the flowchart shown in **Figure 2(b-ii)**, write a simple program using user defined function that allow user to choose either to display student's name or mark. Use your own assumption for student's name and mark.

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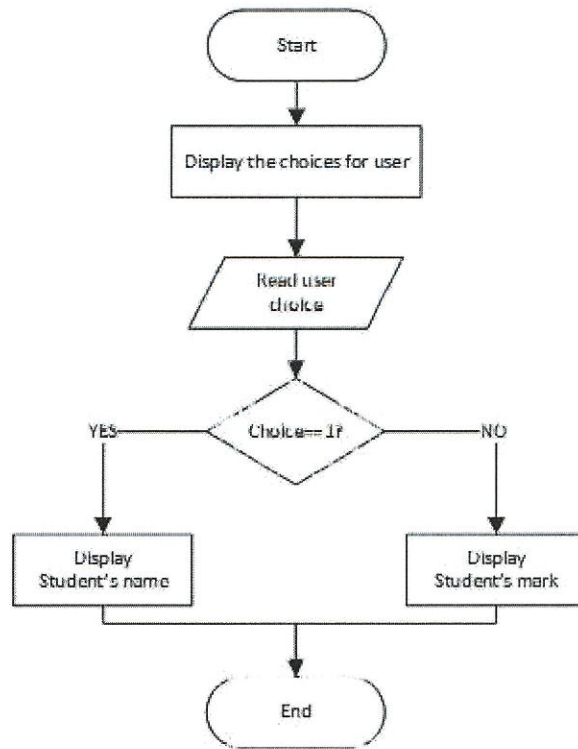


Figure 2(b-ii)

[5 marks]

- (c) An intern is required to compute 50 areas as shown in **Figure 2(c)**. She is intended to develop a C program that allow her to key-in the values of b and h and which later display the area. You are required to;

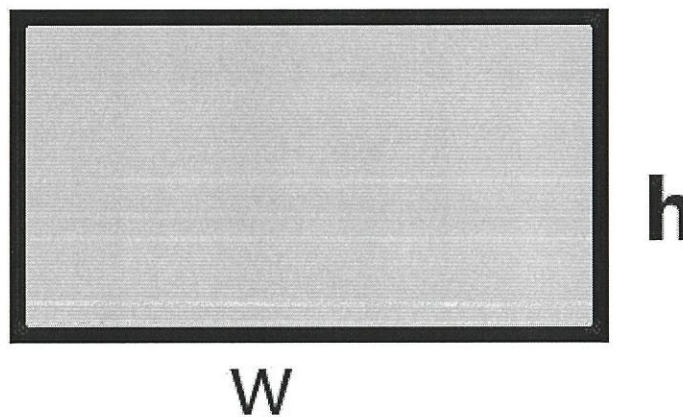


Figure 2(c)

- i. Write down the pseudocode.

[5 marks]

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ii. Sketch the flow chart. [5 marks]

iii. Develop the C program by applying user defined function. [5 marks]

Q3 (a) Determine the output of the following program

i. Input : 12 13 14 15 16

```
#include <stdio.h>
int main()
{
    int avg = 0, sum = 0, x=0;
    int num[5];

    for (x=0; x<5;x++)
    {
        printf("Enter number %d \n", (x+1));
        scanf("%d", &num[x]);
    }
    for (x=0; x<4;x++)
    {
        sum = sum+num[x];
    }

    avg = sum/4;
    printf("Average of entered number is: %d", avg);
    return 0;
}
```

[2 marks]

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ii. `#include <stdio.h>`

```
int main()
{
    int array[10] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 0};
    int loop, answer;

    answer = array[0];

    for(loop = 1; loop < 10; loop++) {
        if( answer < array[loop] )
            answer = array[loop];
    }

    printf("The answer is %d", answer);

    return 0;
}
```

[3 marks]

(b) By using array function, write a simple program that will display the following output.

i.

Ali	75
Ong	80
Josilva	95

[5 marks]

ii.

The entered marks are
1 = 23
2 = 14
3 = 13

[5 marks]

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- (c) An teacher wants to record and display the students' name together with the mark as shown in Table 3(c).

**Table 3(c)**

Students Name	Mark
Farah	58
Jamil	95
Basri	45
Ahmad	100

- i. Write down the pseudocode [5 marks]
- ii. Sketch the flow chart. [5 marks]
- iii. Develop the C program by applying array. [5 marks]

**-END OF QUESTIONS-**

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