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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019**

COURSE NAME : COMPUTER PROGRAMMING
COURSE CODE : DAM31303
PROGRAMME : DAM
EXAMINATION DATE : JUNE / JULY 2019
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

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PART A: OBJECTIVE QUESTIONS

Q1 Which of the following is a logical AND operator.

- A. !
- B. &&
- C. ||
- D. &

(1 mark)

Q2 In mathematics and computer programming, which is the correct order of mathematical operators ?

- A. division, Multiplication, Addition, Subtraction
- B. addition, Subtraction, Multiplication, Division
- C. multiplication, Division, Addition, Subtraction
- D. addition, Division, Modulus, Subtraction

(1 mark)

Q3 Choose the correct output of the following program.

```
#include<stdio.h>

main()
{
    int a[] = {10, 20, 30};

    printf("%d", *a+1);
}
```

- A. 10
- B. 20
- C. 11
- D. 21

(1 mark)

Q4 In the given below code, the P2 is.

```
Typedef int *ptr;
```

```
ptr p1, p2;
```

- A. integer
- B. integer pointer
- C. both, Integer & Integer pointer
- D. none of above

(1 mark)

Q5 Choose the correct output of the following program.

```
#include<stdio.h>

main()
{
    char s[20] = "Hello\0Hi";

    printf("%d %d", strlen(s), sizeof(s));
}
```

- A. 5 9
- B. 7 20
- C. 5 20
- D. 8 20

(1 mark)

Q6 Select the correct output of the code below.

```
#include<stdio.h>

main()
{
    for()printf("Hello");
}
```

- A. Infinite loop
- B. Prints "Hello" once.
- C. No output
- D. Compile error

(1 mark)

Q7 Determine how many times the program below will print "UTHM".

```
#include<stdio.h>

int main ()
{
    int x;

    for(x=-1; x<=20; x++)int i;
    {
        if(x < 10)
            continue;
        else
            break;
        printf("UTHM");
    }
}
```

- A. unlimited times
- B. 21 times
- C. 0 times
- D. 20 times

(1 mark)

Q8 Select the correct output of the code below.

```
#include<stdio.h>

main()
{
    int a = 5, b = 3, c = 4;

    printf("a = %d, b = %d\n", a, b, c);
}
```

- A. a=5, b=3
- B. a=5, b=3, c=0
- C. a=5, b=3, 0
- D. compile error

(1 mark)

Q9 Choose the function that is most appropriate for reading in a multi-word string.

- A. strnset()
- B. scanf()
- C. strchr()
- D. gets()

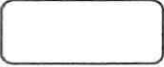
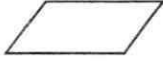

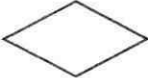
(1 mark)

Q10 If $a = 6$ and $b = 8$, $(5 * b \leq 23 - a)$ will be given _____ answer.

- A. 0
- B. 1
- C. 0.5
- D. 20

(1 mark)

Q11 Choose the correct symbol for flowchart.

	Symbol	Meaning
A.		Process
B.		Input/Output
C.		Start/End
D.		Process

(1 mark)

Q12 Determine how many elements are there in the following two dimensional array.

```
int table[3][5];
```

- A. 3
- B. 5
- C. 8
- D. 15

(1 mark)

Q13 Choose the correct output of the following program.

```
#include<stdio.h>
void f(int a[])
{
    int i;

    for(i=0; i<3; i++)
        a[i]++;
}
main()
{
    int i,a[] = {10, 20, 30};

    f(a);
    for(i=0; i<3; ++i)
    {
        printf("%d ",a[i]);
    }
}
```

- A. 10 20 30
- B. 11 21 31
- C. Compile error
- D. Runtime error

(1 mark)

Q14 The followings are **VALID** declaration of an array:

- float average[10.0];
- int 5Malaysia[];
- int x[];
- char grade[10];

- A. i, ii
- B. iii, iv
- C. i, ii, iii
- D. All of the above

(1 mark)

Q15 In the standard library of C programming language, which of the following header file is designed for basic mathematical operations..

- A. math.h
- B. conio.h
- C. dos.h
- D. stdio.h

(1 mark)

Q16 Select the correct output of the following program.

```
#include<stdio.h>
main()
{
    char s[] = "Fine";
    *s = 'N';

    printf("%s", s);
}
```

- A. Fine
- B. Nine
- C. Compile error
- D. Runtime error

(1 mark)

Q17 Choose the correct output of the following program.

```
#include<stdio.h>
main ()
{
    int a=1, b=2, *p=&a, *q=&b, *r=p;
    p = q; q = r;
    printf("%d %d %d %d\n",a,b,*p,*q);
}
```

- A. 1 2 2 1
- B. 2 1 2 1
- C. 1 2 1 2
- D. Compile error

(1 mark)

Q18 In the given below statement, what does the “arr” indicate.

```
char *arr[30];
```

- A. arr is a array of function
- B. arr is a array of 30 characters
- C. arr is a pointer to an array
- D. arr is a array of 30 character pointers

(1 mark)

Q19 Which will be the output of the following c code?

```
#include<stdio.h>
#define x 5+2
int main(){
    int i = x*x*x;
    printf("%d", i);
    return 0;
}
```

- A. 343
- B. 27
- C. 133
- D. None of the above

(1 mark)

Q20 Select is the correct output of the following program.

```
#include<stdio.h>
main()
{
    int a[3] = {2,1};
    printf("%d", a[a[1]]);
}
```

- A. 0
- B. 1
- C. 2
- D. 3

(1 mark)

PART B: TRUE/FALSE QUESTIONS

Answer the question whether the output is true or false. If false, state the correct answer.

No	Expression	Output	TRUE/FALSE
Q21	<pre>#include<stdio.h> int main() { int a = 10, b = 25; a = b++ + a++; b = ++b + ++a; printf("%d %d n", a, b); }</pre>	36 64	(2 marks)
Q22	<pre>#include <stdio.h> main() { int a,b,c,d,e; a = 8; b = 12; c = 10; d = a*b*c; e = (d + 165) / 166; printf("e=%d\n", e); return 0; }</pre>	e=6	(2 marks)
Q23	<pre>int main() { char arr[7]="Network"; printf("%s", arr); return 0; }</pre>	Network	(2 marks)

<p>Q24</p>	<pre>#include <stdio.h> main() { int v,w,x,y,z; v = 5; w = 12; x = 8; y = v*w; z = x + y * v / 4 % 2; printf("z=%d\n", z); return 0; }</pre>	<p>z=8</p>	<p>(2 marks)</p>
<p>Q25</p>	<pre>int main() { int x = 7538; printf("%d %d\n", x % 100, x / 10); }</pre>	<p>38753</p>	<p>(2 marks)</p>
<p>Q26</p>	<pre>#include<stdio.h> main() { int y = 100; int x = y % 7; printf("%d\n", x); return 0; }</pre>	<p>x = 3</p>	<p>(2 marks)</p>
<p>Q27</p>	<pre>int main () { int x = 20, y = 35; x = y++ + x++; y = ++y + ++x; printf ("%d %d n", x, y); }</pre>	<p>56 94</p>	<p>(2 marks)</p>

<p>Q28</p>	<pre>#include<stdio.h> main() { int x = 3; x += 2; x =+ 2; printf("x = %d", x); }</pre>	<p>x=7</p>	<p>(2 marks)</p>
<p>Q29</p>	<pre>#include<stdio.h> main() { int I = 1; while(i++<=5) printf("%d ",i++); }</pre>	<p>1 3 5</p>	<p>(2 marks)</p>
<p>Q30</p>	<pre>int main () { int x = 24, y = 39, z = 45; z = x + y; y = z - y; x = z - y; printf ("n%d %d %d", x, y, z); }</pre>	<p>39 24 63</p>	<p>(2 marks)</p>

PART C: PARTIAL PROGRAMMING

- Q31 (a) Identify **five (5)** syntax errors in this program. Circle and rewrite the coding of the program.

```

\\Program to calculate summation and subtraction of two
integer
#include <stdio.h>
main()
(
int a = 6, b = 4, c;
c = a+b

printf ("Summation of %d and %d is %d",a,b,c);
printf ("\nSubtraction of %d and %d is %f",a,b,a-b);

return 0;
}

```

(5 marks)

- (b) Calculate and identify the value for each of the expressions below:

```

#include <stdio.h>
main()
{
    int x = 16, y = 4, z = -3;
    x+= y++ - 10;
    y-= x%3;
    z*=x/2;
    printf("x = %d , y = %d , z = %d",x,y,z);
}

```

(6 marks)

- (c) Identify the output of the code statement below:

```

#include <stdio.h>
main()
{
    float p = 23.4567;
    float q = 12.1212;
    float r = 7.8901;

    printf("p = %.2f , q = %.2f , r = %.2f",p,q,r);
}

```

(3 marks)

- (d) Compile and display the output of this program.

```
#include<stdio.h>
main()
{
    int k = 87;
    printf("%d\n", k);
    printf("%d\n", --k);
    printf("%d\n", ++k);
    k++;
    printf("%d\n", k+5);
    printf("%d\n", k--);
    printf("%d\n", k++);
    return 0;
}
```

(6 marks)

- (e) Develop a C program for this output:

```
My name is Abu bin Ayob.
I am 21 years old.
```

Declare Abu bin Ayob using variable **Nama** and state in output using placeholder %s. Declare 21 using variable **Age** and state in output using placeholder %d.

(5 marks)

- (f) Write a program to print number from 1 to 5 using **for statement**. The output program should be same as below.

```
12345
```

(5 marks)

PART D: PROGRAMMING

Q32 Mr Ameer is a licensed money changer. He had RM10 000 in his pocket and want to convert this money to several currencies which are Indonesian Rupiah (IDR), Singapore Dollar (SGD) and India Rupee (INR). Current engage rate is shown in Table Q32. Using C programming:

- i. List all the input?
(2 marks)
- ii. list all the outputs.
(2 marks)
- iii. write pseudocode to develops program to convert MYR to several currencies such as IDR, SGD and INR.
(5 marks)
- iv. develop program to convert MYR to several currencies such as IDR, SGD and INR using C programming.
(6 marks)

Table Q32: Current exchange rate

1 MYR	0.33 SGD
1 MYR	3,452.60 IDR
1 MYR	16.93 INR

Q33 MHA Engineering SDN. BHD rewarded their employee in term of salary increment annually based on status of employment and years of service.

Table Q33 showed how the company calculate their salary increment every year.

Table Q33: Percentage salary increment

Employee status	Years of Service	Percent raise
Fulltime (F)	Less than 3 years	7.0
Fulltime (F)	More than 3 years	8.5
Part time (P)	Less than 3 years	3.0
Part time (P)	More than 3 years	5.0

Based on this situation, develop a program using C programming that computes the new salary increments for MHA Engineering staffs.

Notes: Use only *switch* statement for employee status selection.

(15 marks)

- END OF QUESTION -