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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2014/2015**

COURSE NAME : COMPUTER PROGRAMMING
COURSE CODE : DAM31303
PROGRAMME : 2 DAM
EXAMINATION DATE : JUNE 2015 / JULY 2015
DURATION : 2.5 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF ELEVEN (11) PAGES

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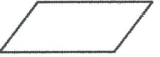

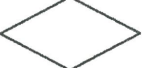
PART A: OBJECTIVE QUESTIONS

- Q1** A _____ is an electronic device, operating under the control of instructions stored in its own memory.
- A. operating system
 - B. computer
 - C. hardware
 - D. software
- Q2** Which of the following is **NOT** types of programming errors?
- A. Logic errors
 - B. Syntax errors
 - C. Runtime errors
 - D. Compiler errors
- Q3** The _____ is **NOT** C program operator.
- A. ||
 - B. !=
 - C. %
 - D. =>
- Q4** Decrement postfix operator for j is _____.
- A. j--
 - B. --j
 - C. j -- 1
 - D. j == 1

Q5 The function _____ is normally written before the main function.

- A. call
- B. reference
- C. definition
- D. prototype

Q6 Choose the correct symbol for flowchart.

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

Q7 “This function allows us to interact with the program that is written to receive input from the user”

The above statement refers to

- A. printf()
- B. main()
- C. scanf()
- D. system()

Q8 The followings are **VALID** declaration of an array:

- i. `float average[10.0];`
- ii. `int lMalaysia[];`
- iii. `int x[];`
- iv. `char grade[10];`

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

Q9 Which of the following is the correct way to set the initial values for an array?

- A. `int no{4} = {1,2,3,4};`
- B. `int no{} = {1,2,3,4};`
- C. `int no[] = {1,2,3,4};`
- D. `int no|4| = {1,2,3,4};`

Q10 It is given: `int exam_score [5] = {86,87,89};`

What is the value of the third (3rd) element?

- A. 86
- B. 87
- C. 89
- D. 0

Q11 Identify the output of the following code snippet.

```
char c1 = 'U', c2 = 'T', c3 = 'H', c4 = 'M';  
printf("%c%c%c", c1, c2, c4);
```

- A. U T H M
- B. UTHM
- C. U T M
- D. UTM

- Q12** If $a = 6$ and $b = 8$, $(5 * b <= 23 - a)$ will be given _____ answer.
- A. 0
 - B. 1
 - C. 0.5
 - D. 20
- Q13** 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, Addition, Division, Subtraction
 - D. Addition, Division, Modulus, Subtraction
- Q14** If the two strings are identical, then `strcmp()` function returns
- A. -1
 - B. 1
 - C. 0
 - D. Yes
- Q15** A pointer is a _____.
- A. a keyword used to create variables
 - B. a variable that stores address of an instruction
 - C. a variable that stores address of other variables
 - D. all of the above
- Q16** The operator used to get value at address stored in a pointer variable is
- A. *
 - B. &
 - C. &&
 - D. ||

Q17 How many elements are there in the following two dimensional array?

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

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

Q18 What is the output of the following code snippet?

```
for (i = 0; i < 15; i++) {  
    if (i % 4 == 1)  
        printf("%d ", i);  
}
```

- A. 1 5 9 13
- B. 1 3 5 7 9 11 13 15
- C. 1 4 8 12
- D. 1 5 9 13 16

Q19 What 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

Q20 _____ are a segment of program by itself that does a specific task.

- A. Arrays
- B. Pointers
- C. Strings
- D. Functions

(20 marks)

PART B: TRUE/FALSE QUESTIONS

- Q21** Program is a set of instructions that tells a computer how to perform a particular task.
- Q22** Assembly language is the only language can be understood directly by the computer.
- Q23** Comment is a text surrounded by /* and */ is ignored by compiler.
- Q24** `(4 != 2) && (5 > 3)`
- Q25** Every `if` statement must have a corresponding `else` statement.
- Q26** It is correct to declare a constant as follows: `#define PI 3.14;`
- Q27** There are **THREE (3)** important aspects in using a function: function declaration, function prototype and function calls.
- Q28** Arrays are data structures that contain data items of the same type.
- Q29** A string can be initialize as follows: `char pet[] = "fish";`
- Q30** `strlen()` is used to compare two strings lexicographically.
- Q31** `break` statement will terminates the loop immediately.
- Q32** `struct account myAccount;`
Based on the above declaration, `myAccount` is the structure name.
- Q33** `%e` is used to output float/double using scientific notation.

- Q34** To access each of the structure elements, the operator dot (.) is used.
- Q35** The escape '\n' means new line.
- Q36** `int **pp;` means pointer to the `int` variable.
- Q37** Structures can combine data of different types and can be referred to using the same name.
- Q38** The value for the `switch` statement can only be of type `int` and `char`.
- Q39** Sequential structure is used to choose the correct statement of action among the various course of action present.
- Q40** $4+2\%3-10*4 = 40$

(20 marks)

PART C STRUCTURE QUESTIONS

Q41 (a) Answer the following questions regarding an array called `table`.

(i) Write the declaration of the array to be an integer array and to have 3 rows and 3 columns. Assume the symbolic constant `SIZE` has been defined to be 3. (4 marks)

(ii) Computes how many elements do array contain. (2 marks)

(b) Write the value of the array elements at the end of the respective segments based on the following program segments.

```
int M[6] = {2,3};
M[2] = M[1] * 3;
M[3] = M[2] * 1;
M[4] = M[0] * 2 * 3;
M[5] = M[4] * 5 - 1;
```

(6 marks)

(c) Solve the output of the following program:

(i)

```
int main(){
    char str[] = "UTHM\0\is Best\0";
    printf("%d\n", strlen());
    return 0;
}
```

(4 marks)

(ii)

```
int main() {
    char str1[] = "Hello";
    char str2[] = "Hello";
    if(str1 == str2)
        printf("Equal\n");
    else
        printf("Unequal\n");
    return 0;
}
```

(4 marks)

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Q42 (a) Given the following declaration:

```
struct customerInfo {  
    char name[25];  
    int customerNo;  
    char telephoneNo[10];  
} customer;
```

Write the statement to access the following structure elements:

(i) name element for a customer (2 marks)

(ii) customerNo element for the customer structure (2 marks)

(iii) telephoneNo element for a customer (2 marks)

(b) Prepare a proper data structure named *StudDetails* to store the following student data:

student's name, student's ID, programme, year of study, marks of academic, marks of curriculum, marks of interpersonal and total marks.

Use the most appropriate data type for each member. (14 marks)

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Q43

```
int value = 36;  
int *ptr;  
ptr = &value;
```



Write value for each of the following based on the above declarations and diagram.

- (a) value (4 marks)
- (b) ptr (4 marks)
- (c) &value (4 marks)
- (d) *ptr (4 marks)
- (e) &ptr (4 marks)

- END OF QUESTION -

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