



# **UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

## **FINAL EXAMINATION SEMESTER I SESSION 2010/2011**

**COURSE NAME** : PRINSIP PENGATURCARAAN  
**COURSE CODE** : DAT 10603  
**PROGRAMME** : 1 DIT  
**EXAMINATION DATE** : NOVEMBER/DECEMBER 2010  
**DURATION** : 2 1/2 HOURS  
**INSTRUCTIONS** : ANSWER ALL QUESTIONS

**THIS QUESTION PAPER CONSISTS OF SIX (6) PAGES**

- Q1**
- (a) Discuss **three** differences between application software and system software. (6 marks)
  - (b) Discuss **two** differences between high level and low level language. (4 marks)
  - (c) Supercomputer is one of the categories of a computer. List **four** of the category and briefly state each of them. (4 marks)
  - (d) List **six** components of computer organization and explain each of them. (6 marks)

**Q2** Write a C statement to accomplish each of the following;

- (a) Declare the variables **y**, **theidentifier**, **g345**, and **numbers** to be of type **integer**. (6 marks)
- (b) Prompt the user to enter an **integer** and end the prompt message with letter **Q** in both upper case or lower case. (4 marks)
- (c) Read an **integer** from a keyboard and store the value entered in an integer variable **x**. (4 marks)
- (d) Make comment statements for a program to accomplish the following objectives;
  - (i) Compute a product of five integers contained in variable **m**, **n**, **k**, **a** and **r** and then assign the result to the variable **mark**. (2 marks)
  - (ii) State a program that will compute the total of three integers. (2 marks)

- Q3** (a) Write a **scanf** or **printf** statements for prompting the user to input value of two variables then display the **sum**. Use **m** and **n** as the initialized integer variables. (4 marks)

- (b) A program in C contains the following variable declaration;

```
int x = 12345;
int y = 5678;
```

Show the output resulting from each of the following **printf** statements;

- (i) `printf("%d %d %d", x, y);` (2 marks)

- (ii) `printf("%2d %3d", x, y);` (2 marks)

- (c) A C program contains the following statements;

```
#include<stdio.h>
int r, s, t, u;
```

Write a **printf** function for each of the following groups of variables or expressions:

- (i) **r**, **s**, **t**, and **u** with a minimum field of four characters per quantity. (4 marks)

- (ii) **(r+s)** and **(t-u)** with a minimum field of three characters per quantity. (4 marks)

- (d) A program in C contains the following statements;

```
#include<stdio.h>
#include<conio.h>
void main() {
    char name[30];
    printf("Enter your name >> ");
    gets (name); // read string
    printf("\n Happy Birthday to you ");
    puts("\n Its your Big Day today !!");
    getch();
}
```

What is the program output? Assuming that the input string is your first name.

(4 marks)

- Q4** (a) Write a C program that resulting an output of printing integer from 1 to 100 with incremental value of 1. Choose the **while** statement in program. Take **x** as the variable. The output should display the following result:

```
1 2 3 4 ... 99 100
```

(6 marks)

- (b) Evaluate the following C program and then write the output.

```
//block statements
#include<stdio.h>
void main() {
    int y=1;
    Do{
        printf("%d",x++);
    } while (x < 10)
}
```

(4 marks)

- (c) Write a program using **control** statements to accept an **integer** input as long as the value between 0 to 100. And the number of input should be not more then 60. Display the output of all the value entered.

(6 marks)

- (d) Write a program using **if-else** statements. The program accept an integer value then evaluate and identify it as either odd or even number. Display the output result as

**“YOU HAVE ENTERED EVEN NUMBER”** or  
**“YOU HAVE ENTERED ODD NUMBER”**.

(4 marks)

Q5 a) The following program is part of the snippet of the whole program.

```

/* Defining an using function to add digits of a number */
#include<stdio.h>
int sum_digit(int number)          /* function prototype*/

main(){
    int p,s;
    scanf("%d",&p);
    s = sum_digit(p);
    printf("Sum of digits of %d is %d\n",p,s);
}

/*Function defining of the sum digits*/

int sum_digit(int n){
..... //initialized variables for sum and digit
..... // check if the number is greater then zero
..... // assign n variable to minus n
..... // while n is not equal to zero,
           then start while body statement
..... // assign n to n modulus 10 to get the remainder
..... // the value of digit then added to the variable sum
..... //assign n with n over 10
..... // end body statements
return (sum);
}

```

Read and understand the program and complete the missing statements according to the comments given.

(8 marks)

- b) The following snippet is a function which raises a double to the power of an unsigned variable, and returns the result.

```
double power(double val, unsigned pow)
{
    double ret_val = 1.0;
    unsigned i;

    for(i = 0; i < pow; i++)
        ret_val *= val;

    return(ret_val);
}
```

Complete the program by adding the main function. Display the result as of the following form.

```
Enter numbers: XX
The result is XXX
```

(8 marks)

- c) Write a main function program that accepting a key press before terminating a program and displaying "BYE! See You Again" before quitting the program.

(4 marks)