UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2009/2010

SUBJECT NAME   : COMPUTER PROGRAMMING

SUBJECT CODE   : DTJ 2143

COURSE   : 1 DFT/1 DFA/3 DDT

EXAMINATION DATE   : APRIL/MAY

DURATION   : 3 HOURS

INSTRUCTION   : ANSWER **ALL** QUESTIONS.

THIS QUESTION PAPER CONSISTS OF ELEVEN (11) PAGES

PART A

State whether each of the following is **TRUE** or **FALSE**.

Q1   The following statement is a form of comments that can be used in C programming:
`/*Welcome to Programming C*/`

Q2   In C all the variables should be declared before it can be used.

Q3   In input operations, bytes flow from main memory to a device.

Q4   C considers the variables `studentName` and `StUdentNAme` to be identical.

Q5   The operator '= =' is used for assignment purposes whereas the operator '=' is used to check for equality.

Q6   Iterational (repetitive) control structures are used to repeat certain statements for a specified number of times.

Q7   The `stdio.h` file is needed for C program which is needed to use `printf` and `scanf`.

Q8   The `do while` loop is tested at the end of the loop and `while` loop is tested before entering into the loop.

Q9   A function can return more than one value.

Q10   Variable names can contain a digit.

(10 marks)

PART B

Instruction: Choose the **BEST** answer.

Q11   Which of the following in NOT a data type in C?

A. int
B. float
C. bool
D. char

Q12   Given:

```
for (x=0,y=1; x<y; x++)
        printf("%d %d", x,y) ;
```

What is the output for loop statement?

A. 0 1
B. 1 1
C. 0 0
D. None of the above

Q13   All of the following are valid identifiers (variable name) EXCEPT

A. _hour
B. HOUR
C. Hour1
D. 7hour

Q14   What would be the output of the following statement?

```
Printf("%6d",1234);
```

A. ⁓1234
B. 1234.0
C. 1234.000000
D. ERROR

Q15 Given:

```
/* a program demonstrates C assignment operator */
   int x = 10 ;
   int y = x ;
   printf(« y = %d\n »,y) ;
    /* demonstrate += operator */
   y += 10;
   printf("y += 10;y = %d\n",y);
   /* demonstrate -= operator */
   y -=5 ;
   printf(« y -=5 ;y = %d\n »,y) ;
   /* demonstrate *= operator */
   y *=4;
   printf("y *=4;y = %d\n",y);
   /* demonstrate /= operator */
   y /=2 ;
   printf(« y /=2 ;y = %d\n »,y) ;
```

What will be the output?

A. y = 10
   y += 10; y = 20
   y -=5; y = 15
   y *=4; y = 60
   y /=2; y = 30

B. y = 10.000000
   y += 10; y = 20.000000
   y -=5; y = 15.000000
   y *=4; y = 60.000000
   y /=2; y = 30.000000

C. y = 10
   y += 10; y = 20
   y -=5; y = 25
   y *=4; y = 100
   y /=2; y = 50

D. y = 10.000000
   y += 10; y = 20.000000
   y -=5; y = 25.000000
   y *=4; y = 100.000000
   y /=2; y = 50.000000

Q16 Given:

```
int iNum = 2;
switch(iNum) {
      default:
            printf("INVALID");
      case 1:
            printf("ONE");
      case 2:
            printf("TWO");
            break;
      case 3:
            printf("THREE");
}
```

What is the output?

A. INVALID
B. ONE
C. TWO
D. THREE

Q17 Given:

```
#include <stdio.h>
#include<conio.h>
int main (void)
{
    int a=500, b=300, c;
    if (a>400)
      b=500;
      c=100;
    printf(„\n b=%d\n c=%d\n",b,c);
getch ();
return 0;
}
```

What will be the output?

A. b=300
   c=100
B. b=400
   c=100
C. b=500
   c=100
D. ERROR

Q18   Given:

```
#include<stdio.h>
#include<conio.h>
main()
{
    int x = 10;
    int y = 0;
    printf("x = %d\n",x);
    y = ++x;
    printf(« y = %d\n »,y) ;
     y = x-- ;
     printf(« y = %d\n »,y) ;
  getch();
return 0;
}
```

What will be the output?

A. x=10
    y=10
    y=9

B. x= 10
    y=11
    y=11

C. x=10
    y=1
    y=0

D. x=10
    y=11
    y=10

Q19   Control structure consists of all these EXCEPT

A. Sequential
B. Link
C. Looping
D. Selectional

Q20 Given:

```
int grad  = 10;
int grade=100;
printf(" Enter grade: %d", grade);
```

What is the output?

A. 100
B. 100.000000
C. 10
D. 10.000000

(20 marks)

PART C

Answer **ALL** questions.

Q21   (a)   List **TWO** (2) rules for forming variables.

(2 marks)

(b)   Write a C statement that declares an `int` variable name `numberOfpeople?`

(1 marks)

(c)   Write a C statement that declares and initializes a `string` variable named `studentName` with the string size 15 and assign *'AHMAD* to `studentName`.

(2 marks)

(d)   State whether each of the following variable is **TRUE** or **FALSE**.

(10 marks)

(i)   `STUDENT_AGE`

(ii)   `void`

(iii)   `Item_10`

(iv)   `int`

(v)   `123kos`

(vi)   `'17thRow'`

(vii)   `$ringgit`

(viii) `printf`

(ix)   `num_of_characters`

(x)   `bil#7`

(xi)   `007_bilik`

Q22 (a) Write a complete coding by using `scanf` or `printf` statement for this situation:

Suppose that **m** and **n** are integer variables. Prompt the user for input values of these two variables, and then display their sum.

(5 marks)

(b) What is the output for the following statements?

```
printf("Computer Programming");
printf("\nis");
printf(" \nmy");
printf("\n\t\tfavorite");
printf("\nsubject");
```

(5marks)

(c) Find **FIVE** (5) errors in the following program and rewrite the correct code.

```
#include<stdo.h>
main();
{
int x,y;
x=10;
y=x++;
printf("%f",x);
printf("%d",&y)
}
```

(5 marks)

Q23 (a) Define the format and function of the statement below;

(i) `getc()` and `putc()`

(ii) `getchar()` and `putchar()`

(iii) `getch()` and `putch()`

(iv) `gets()` and `puts()`

(8 marks)

(b) State **ONE** (1) advantage of using `gets()` / `puts()` instead of using `printf()` / `scanf()`?

(2 marks)

Q24 (a) Choose any **TWO** (2) of the following control structure and draw flowchart to describe the flow:

(i) `if` statement

(ii) `do-while` statement

(iii) `for` statement

(4 marks)

(b) List **TWO** (2) different between `do-while` structure and `while` structure.

(4 marks)

(c) Given;

```
int counter=0;
do
{
    printf("Final Exam\n");
    counter++;
}
    while (counter<=9);
```

(i) How many times the `Final Exam` will be printed out in the screen?

(2 marks)

(ii) Change the above coding by using `for` structure.

(5 marks)

Q25 (a) Write the output for the following coding:

```
int mark1,mark2,sum,average;
mark1=89.9;
mark2=90.3;
sum=mark1+mark2;
average=sum/2;
printf("Your average mark is
%d",average);
```

(4 marks)

(b) Write the output for the following coding:

```
float mark1,mark2,sum,average;
mark1=80.2;
mark2=90.6;
sum=mark1+mark2;
average=sum/2;
printf("Your average mark is
%.2f",average);
```

(4 marks)

(c) What will be the output if the input is 'R':

```
char selection;
switch (selection){
        case 'B':
        case 'b':
            printf("BLUE\n");
        case 'R':
        case 'r':
            printf("RED\n");
        case 'Y':
        case 'y':
            printf("YELLOW\n");
        default:
            printf("Wrong choice");
            }
```

(4 marks)

(d) Write the output for the following coding:

```
int iCount;
 for (iCount=1;iCount <= 10; iCount++)
{
    if (iCount % 2 == 0) {
        continue;
    }
    printf("%d\n",iCount);
```

(3 marks)