# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

## FINAL EXAMINATION

## SEMESTER II

## SESSION 2009/2010

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|---|---|---|
| SUBJECT NAME | : | COMPUTER PROGRAMMING |
| SUBJECT CODE | : | BTI 1022 |
| COURSE | : | 2 BDD |
| EXAMINATION DATE | : | APRIL/MAY 2010 |
| DURATION | : | 2 HOURS |
| INSTRUCTION | : | ANSWER **ALL** QUESTIONS. |

THIS PAPER CONTAINS OF SEVEN (7) PAGES

**SECTION A**

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

**Q1** C programs are converted into machines language with the help of an editor.

**Q2** Blank spaces may be inserted between two words in a C statement.

**Q3** Algorithm is the steps required to solve a problem.

**Q4** Keywords can be used as variable names.

**Q5** Variable names can contain a digit.

**Q6** Examples of input devices are monitors, printers and speakers.

**Q7** C is a type of Low-level Programming Languages.

**Q8** `#include <studio.h>` is a precompiler directives.

**Q9** Standard input stream is called `stdout` and is normally connected to the keyboard.

**Q10** The `gets()` function reads a string entered from the keyboard.

(10 marks)

**SECTION B**

Instruction: Answer **ALL** the questions.

**Q11** Discuss the meaning of each of the following objects:

(a) Comment in Program

(b) `scanf`

(c) Data type

(d) Variable

(e) Constant

(10 marks)

**Q12** (a) Define the format and function of the below statement:

(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)

**Q13** Complete the table below:

**Table Q13**

| a | b | c | Expression | True/False | Value (0/1) |
|---|---|---|---|---|---|
| 6 | 1 | -2 | a > b + c | | |
| 6 | 6 | 6 | a >= 3 * b - c | | |
| 7 | 2 | 4 | b + a % c > 5 | | |
| 1 | 1 | 5 | a != b | | |
| 4 | 7 | 7 | c >= b | | |

(10 marks)

**Q14** What will be the output for the following code?

(a) User enter **a=100.**

```
#include<stdio.h>
#include<conio.h>
   int main(void)
   {
            int a,b,c,d;
            printf("Enter a digit number : ");
            scanf("%d",&a);
            b=a/5;
            c=a%5;
            d=b+c;
            printf("sum of the individual digits of given numbers is %d", d);
getch();
return 0;
   }
```

**FIGURE Q14 (a)**

(3 marks)

(b) x=1;

```
#include<stdio.h>
#include<conio.h>
int main(void)
{
    int x=1;
    do{
        printf("%d", x++);
        }
            while (x<5);
      getch();
      return 0;
      }
```

**FIGURE Q14 (b)**

(3 marks)

(c)

```
#include <stdio.h>
#include<conio.h>
int main (void)
{
      int a=400, b=800,c=2;
      if (a!=b)
            b=500;
      else if(a==b)
            c=200;
      else
            a=100;
            printf("\n a=%d\n b=%d\n c=%d\n",a,b,c);
getch ();
return 0;
}
```

**FIGURE Q14 (c)**

(4 marks)

## SECTION C

Instruction: Answer **ALL** questions.

**Q15** Identify **FIVE (5)** errors in each of the following program and rewrite the correct code.

(a)

```
#include <stdio.h>
#include<conio.H>

int main(void
{
int miles, yards;
float kilometers;
Miles=26;
yard=385
kilometers=1.609*(miles+yards/1760.0);
printf("\n A marathon is %f kms", kilometers);
getch();
```

(5 marks)

(b)

```
#include<stdio.h>

int main(void)
 {
int a,b;
a = 10;
b = a++;
printf("%f\n",a);
printf("%d\n",&b);
Getch();
Return 0;
   }
```

**FIGURE Q15 (b)**

(5 Marks)

**Q16** (a) List **TWO (2)** different between `do-while` structure and `while` structure.

(4 Marks)

(b) Given:

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

**FIGURE Q16 (b)**

(i) How many times the `Good Luck` will be printed out in the screen?

(2 Marks)

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

(4 Marks)

**Q17** Write a program based on the following table by using `if-else` control structure.

The pH value is a measure of the acidity of a solution. A user needs to enter the pH number by using `scanf`. The program will display the category of pH based on the range that has been entered. If a user enters unrelated pH number, the program will display **`Please Enter the Correct pH.`**

**Table 1:** pH Table

| pH Range | Category |
|---|---|
| 0 - 3 | Strong Acids |
| 4 - 6 | Weak Acids |
| 7 | Neutral |

(10 marks)