

CONFIDENTIAL



**FINAL EXAMINATION
SEPTEMBER/OCTOBER SEMESTER 2014**

**BACHELOR OF INFORMATION TECHNOLOGY (HONS) IN
SOFTWARE ENGINEERING
BACHELOR OF INFORMATION TECHNOLOGY (HONS) IN
NETWORK TECHNOLOGY
BACHELOR OF COMPUTER SCIENCE (HONS)**

**PROGRAMMING FUNDAMENTAL
(BTT 107)**

(TIME : 3 HOURS)

MATRIC NO. :

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LECTURER : SUHAILA MOHD NORDIN

GENERAL INSTRUCTIONS

1. This question booklet consists of 6 printed pages including this page.
2. Answer **ALL** questions in **SECTION A** and **SECTION C** in the **ANSWER BOOKLET**
3. Answer **ONE(1)** question in **SECTION B** in the **ANSWER BOOKLET**

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INSTRUCTIONS:

TIME: 3 HOURS

SECTION A

(70 MARKS)

There are TWELVE (12) questions in this section. Answer ALL Questions in the Answer Booklet.

1. For each of the following input lines, provide a scanf() statement to read it and declare any variables, arrays or pointer used in the statement.

a) 101.1545633

(2 Marks)

b) 12345678910

(2 Marks)

c) Suhaila Mohd Nordin

(2 Marks)

d) S1

(2 Marks)

2. After this code executes, what will be printed?

```
float num=9 , b;  
b = pow (num, 2); /* From math .h */  
printf ("result =%.1f\n", b+num);
```

(2 Marks)

3. What will be the output if the expressions below are evaluated?

a) $99 \% 3 + 49 \% 7$;

(2 Marks)

b) $15 + 13 * 18 / 2 + 12$;

(2 Marks)

4. Construct a single printf () statement to print the following statement exactly

Reach out for the star
That's our Destination
IUKL BEST

(2 Marks)

5. What is the output after the following program segment is executed?

```
a) for ( int v =6; v>0; v-- )
    printf("%d \t", v);
```

(4 marks)

```
b) int no=0;
    for ( int ctr = 2; ctr <10; ctr+=2)
    printf(" cycle no %d = %d \n",ctr, no++);
```

(4 marks)

6. After this code executes, what will be printed?

```
int n = 0, sum =0;
while (n <= 5) {
    sum += n;
    printf ("sum [%d] = %d\n", n, sum );
    n ++;
}
```

(6 Marks)

7. By referring to the table below; write a program segment using if else to assign grade and quotes according to user selection.

Grade	Quotes
A	Outstanding
B	Good Achievement
C	Good Try Harder
other	In-valid

(8 marks)

8. Use your answer in question 7 to convert the program segment to a switch statement.

(6 marks)

9. Write a **function** that can receive price of an item to calculate discounted price after 20 % discount and return price after discount to the main program.

(6 marks)

10. What is the output if the following statement is executed

```
# include<stdio.h>
int main()
{
    int i , n;

    for (i=0;i<3;i++)
    {
        printf(" \n \n Testing
%d = ", i+1);
        for (n = 6 ; n > 0 ; n-
=2)
            printf("%d  ", n);
    }
}
```

f0747033f4baf61d3396ff902087f91e
ebruary

(6 marks)

11. What is the output from the program segments below?

```
a) int n = 1400;
    int *p = &n;
    printf("%d\t\n", n);
    printf("%d\t", *p-400);
```

(4 marks)

```
b) float m[10]={10.5,12.5,13};
    m[0] = m[1]+m[2]
    printf("%f\t\n", m[0]);
    printf("%f %f \t", m[1], m[2]);
```

(4 marks)

12. Convert the following statement to while loop statement

```
for ( ctr = 0; ctr <10; ctr+=3)
    printf( "    %d\n", ctr);
    printf( "    Thank you");
    printf( "    Please Try again later");
```

(6 marks)

SECTION B

(10 MARKS)

There are THREE (3) questions in this section. Answer ONE(1) question only in the Answer Booklet.

1. Write a function that outputs a right isosceles triangle of height and width n , so $n = 6$ would look like as below

```
*
**
***
****
*****
*****
```

(10 marks)

2. Write a function that outputs a right-side-up triangle of height n and width $2n-1$; the output for $n = 6$ would be:

```
      *
     ***
    *****
   *********
  ***********
 *****
*****
```

(10 marks)

3. Write a full program to produce the following output by using while loop statement.

N	N cube
1	1
2	8
3	27
4	64
5	125
6	216

Note: The value of n assign by user

(10 marks)

SECTION C**(20 MARKS)**

There is ONE (1) question in this section. Answer the Question in the Answer Booklet.

1. Write a program to process a collection of daily temperatures (stored in an array). Your program should be able to receive numbers of days to record from user, counting and display the category of temperature of each day in a report (base on table 1 below). Lastly display the summary of each data by the end of the report. **Report should consist of:** average temperature, number of days for each categories and category of temperature for each data).

Temperature Range	Temperature category
Greater than 85 degrees	Very Hot
60 to 84 degrees	Pleasant day
Less than 60 degrees	Very Cold

Table 1: category of temperature

Note : you are required to use array, looping and if else statement

Sample of output:

```
How many days to record => 5

Please enter 5 days temperature readings

Temperature day [1] = 12
Temperature day [2] = 85
Temperature day [3] = 35
Temperature day [4] = 21
Temperature day [5] = 44

-----
                Daily Temperatures Report
-----
Temperature day [1] = 12 Celcius Very cold
Temperature day [2] = 85 Celcius Very Hot
Temperature day [3] = 35 Celcius Very cold
Temperature day [4] = 21 Celcius Very cold
Temperature day [5] = 44 Celcius Very cold

The average Temp for 5 days = 39 Celcius.
Number of hot days          = 1 day/s
Number of pleasant days    = 0 day/s
Number of cold days        = 4 day/s
```

(20 marks)

***** END OF QUESTIONS *****