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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018

COURSE NAME	:	COMPUTER PROGRAMMING
COURSE CODE	:	BIT 10303
PROGRAMME	:	1 BIT
DATE	:	JUNE / JULY 2018
DURATION	:	3 HOURS
INSTRUCTION	:	A) ANSWER **ALL** QUESTIONS. B) PLEASE WRITE YOUR ANSWERS IN THIS QUESTION BOOKLET

THIS QUESTION PAPER CONSISTS OF **NINE (9)** PAGES

Instruction: Answer all questions.

Q1 (a) State the differences between `while` and `do while` loop.

(5 marks)

Answer:

(b) What is the output for **Figure Q1(b)**. Explain the reason.

(5 marks)

```
#include <stdio.h>
main()
{
      int i;
      while (i)
      {
            printf(" Hi \n");
      }
      printf(" Hello\n");
      return 0;
}
```

Figure Q1(b)

Answer:

(c) Write the program code to display the output:

12345
1234
123
12
1

(10 marks)

Answer:

Q2 (a) Define the term recursive.

(5 marks)

Answer:

(b) Identify the error for program in **Figure Q2(b)**. Write the correct program.

(5 marks)

```
#include <stdio.h>
void max(int num1, int num2);
main()
{
      int a=100, b=200, max_val;

      max_val = max(a,b);
      printf("Max value is %d\n", max_val);
      return 0;
}
void max(int num1, int num2);
{     int result;

      if (num1 > num2)
        result = num1;
      else
         result = num2;
}
```

Figure Q2(b)

Answer:

(c) Write a recursive function named as `AddNum(5)` to sum numbers from 1 to 5.
(10 marks)

Answer:

Q3 (a) Describe the differences between `array` and `struct`.

(5 marks)

Answer:

(b) Create a structure to store information about a person: `name`, `citizenship number`, `birth date` and `salary`.

(5 marks)

Answer:

(c) Write a program to find the maximum and minimum number using an array.

(10 marks)

Answer:

Q4 (a) Write a complete program to read data from input file (**Table 1**) and calculate the average marks for each student. Write the output for **Figure Q4(a)** to the output file. (20 marks)

Table 1: Input data

```
Ali Bin Ahmad      50    80    89
Lee Yau Ming       70    40    45
Muthusamy          80    30    56
```

```
Nama             Ujian 1    Ujian 2    Ujian 3    Purata
---------------  ---------  ---------  ---------  ---------
Ali Bin Ahmad    50         80         89
Lee Yau Ming     70         40         45
Muthusamy        80         30         56
```

Figure Q4(a)

Answer:

Q5 (a) Assume `a, b` and c are integer variables with `a = 5` and `b=3`. Determine the value for each of the following statement:

i) c = a * --b

(2 marks)

ii) c = 27 / b++ - 16 % a

(3 marks)

Answer :

(b) Assume `x = 2, y = 5` and `z = 15`. Evaluate each of the following expression:

i) x * z < z / y

(2 marks)

ii) (x > 0) && (y < z) || (z < x)

(3 marks)

Answer :

(c) Write the correct program based on **Figure Q5(c)**.

(5 marks)

```
#include <stdio.h>
main( )
{      int i = 10,  j =  20;
       if (i = 5)  &&  if (j  =  10)
           printf(" Have a Nice Day ");
       return 0;
}
```

Figure Q5(c)

Answer:

(d) Identify the error in **Figure Q5(d)**.For each error, suggest the solution and the output of the program.

(5 marks)

```
#include<stdio.h>
int reverse(int);
int main()
{    int no=5;
     reverse(no);
     return 0;
}
int reverse(int no)
{     if(no == 0)
          return 0;
     else
          printf("%d,", no);
     reverse (no--);}
```

Figure Q5(d)

Answer:

-END OF QUESTION-