UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019

COURSE NAME	:	COMPUTER PROGRAMMING
COURSE CODE	:	BIT 10303
PROGRAMME CODE	:	BIT
EXAMINATION DATE	:	JUNE /JULY 2019
DURATION	:	3 HOURS
INSTRUCTIONS	:	A) ANSWER **ALL** QUESTIONS
		B) PLEASE WRITE YOUR ANSWERS IN THIS QUESTION BOOKLET

THIS QUESTION PAPER CONSISTS OF **ELEVEN (11)** PAGES

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Q1   What is a pointer?

A.   A keyword used to create variables.
B.   A variable that stores address of an instruction.
C.   A variable that stores address of other variable.
D.   All of the above.

(1 mark)

Q2   What is the possible data type of pointer variable?

A.   Integer.
B.   Floating.
C.   Character.
D.   All of the above.

(1 mark)

Q3   Which of the following is equivalent to the statements in **Figure Q3**?

```
char *p;
p = (char*) malloc(100);
```

Figure Q3

A.   `char p = *malloc(100);`
B.   `char *p = (char)malloc(100);`
C.   `char *p = (char*)malloc(100);`
D.   `char p = (char*)(malloc*)(100);`

(1 mark)

Q4   Determine the error for program in **Figure Q4**.

```
int main() {
   int a=10;
   void f();
   a=f();
   printf("%d\n",a)
   return 0; }

void f() {
   printf("Hi"); }
```

Figure Q4

(1 mark)

A.   Error: Not allowed assignment.
B.   Error: Doesn't print anything.
C.   No error.
D.   None of the above.

Q5   Which of the following is correct syntax to send an array as parameter to a function?

A.   `func(array);`
B.   `func(*array);`
C.   `func(array[size]);`
D.   None of the above.

(1 mark)

Q6   What is the output of a program in **Figure Q6**?

```
int x =5;
void f();
int main() {
   int x = 9;
   f();
   printf("%d",x);}

void f() {
   x=4; }
```

Figure Q6

A.   5
B.   4
C.   9
D.   549

(1 mark)

Q7   Which of the following operator is used to access data members of a structure through the pointer variable?

A. $
B.   &
C.   *
D.   ->

(1 mark)

Q8 Which of the following operator is used to get value of an address stored in a pointer variable?

    A. $

    B.   &

    C.   *

    D.   ->

(1 mark)

Q9 Which of the following operator is used to assign address of a variable to pointer variable?

    A. $

    B.   &

    C.   *

    D.   ->

(1 mark)

Q10 Which function is not called in **Figure Q10**?

```
void first()
  { printf("first"); }
void second()
  { first(); }
void third()
  {second(); }
int main()
  { third(); }
```

Figure Q10

    A.   first()

    B.   second()

    C.   third()

    D.   None of the above

(1 mark)

Q11 Which of the following is a correct `prototype function`?

    A.   `void pass(int *fptr, float, char));`

    B.   `void pass(*fptr(int, float, char));`

    C.   `void pass(*fptr);`

    D.   `void pass( );`

(1 mark)

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Q12   What is the meaning of `fopen()` ?

    A.   To create a new file or open an existing file.
    B.   To close file.
    C.   To open a text file in append mode.
    D.   None of the above.

<div align="right">(1 mark)</div>

Q13   What is the meaning of `fclose()` ?

    A.   To create a new file or open an existing file.
    B.   To close file.
    C.   To open a text file in reading mode.
    D.   None of the above.

<div align="right">(1 mark)</div>

Q14   What is the meaning of mode `"r"` in file processing?

    A.   To create a new file or open an existing file.
    B.   To close file.
    C.   To open a text file in reading mode.
    D.   None of the above.

<div align="right">(1 mark)</div>

Q15   What is the meaning of mode `"w"` in file processing?

    A.   To create a new file or open an existing file.
    B.   To close file.
    C.   To open a text file in append mode.
    D.   None of the above.

<div align="right">(1 mark)</div>

Q16   Circle the error for the program in **Figure Q16**.

```c
#include <stdio.h>;

int max(num1, num2);

int main () {

   int a = 100; b = 200; ret;

   ret = max(a, b);
   printf( "Max value is : %d\n", result );

   return ;   }
int max(int, int ) {

   int result;

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

   return result; }
```

Figure Q16

(9 marks)

```
Norman
25
3770
Tasya
30
2500
Suraya
23
3300.00000
```

Figure Q17

Q17   **Figure Q17** shows a file named `Input.txt`, that contains **THREE (3)** records of staff information.

(a)   Write a program to read and display the data from `Input.txt` on output screen.

(14 Marks)

Answer:

(b)   Write code segment to write data from Input.txt into an output file, named Output.txt.

(6 Marks)

Answer:

Q18   Write a function that receives **TWO (2)** integer values as parameters and returns maximum number of the two numbers.

(10 marks)

Answer:

Q19   Write a record of a `staff` using `struct` mechanism. The `staff` record consists of `name`, and `position`, where:
- the `name` consists of the following data: `firstName` and `secondName`.
- the `position` consists of the following data: `staffId`, `department` and `salary`.

(15 marks)

Answer:

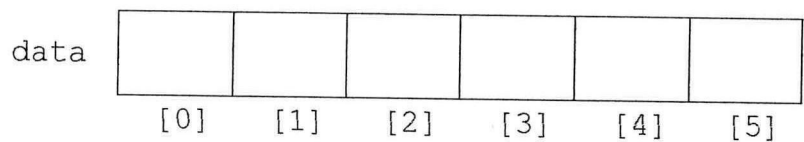**Q20**   Answer **Q20** (a) and **Q20**(b) are based on **Figure Q20**.

```
int data[6] ={ 4, 6, 8, 7, 3, 10 };
```

Figure Q20

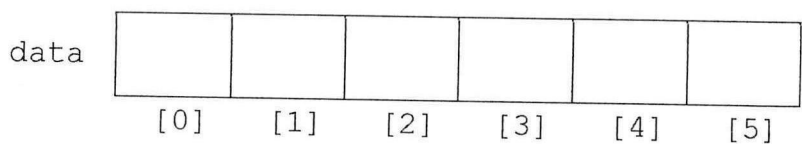(a)   Fill in the array `data` with appropriate values.

(6 marks)

Answer:

data
[0]	[1]	[2]	[3]	[4]	[5]

(b)   Given x = 1 and y = 2, update the values, in array `data` after executing the following statements.

```
data[x + 3] = data[5] ;
data[5]  = data [2 *x] + y;
data[y]  = data [4] + data [2 /y] ;
data[0]  =  x * data [3];
data[y+x]= data (y,x);
```

(15 marks)

Answer:

data
[0]	[1]	[2]	[3]	[4]	[5]

Q21   (a)   Given an array `BIT`, of size 100, that store integer values. Write a code segment to read the data from the array.

(4 marks)

Answer:

(b)   Calculate and display the sum of all values in array BIT.

(6 marks)

Answer:

- END OF QUESTION -

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