Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2018/2019

COURSE NAME	: COMPUTER PROGRAMMING
COURSE CODE	: BIT 10303
PROGRAMME CODE	: BIT
EXAMINATION DATE	: DECEMBER 2018 / JANUARY 2019
DURATION	: 3 HOURS
INSTRUCTION	: A) ANSWER **ALL** QUESTIONS
	B) PLEASE WRITE YOUR ANSWER IN THIS QUESTION BOOKLET

THIS QUESTION PAPER CONSISTS OF **TEN (10)** PAGES

Q1 (a) State each of the following identifier is **VALID** or **INVALID**.

(i) `Double`

Answer: _____

(ii) `_MissionImpossible6`

Answer: _____

(iii) `fsktm.`

Answer: _____

(iv) `price*items`

Answer: _____

(4 marks)

(b) State each of the following statement is **TRUE** or **FALSE**.

(i) `j++` is similar to `j = j + 1`

Answer: _____

(ii) The placeholder for a string data type is `%c`.

Answer: _____

(iii) The process of correcting errors is called compiling.

Answer: _____

(iv) `iPointer = &i`, mean that `iPointer` get address of `i`.

Answer: _____

(4 marks)

Q2 Write a single statement for the following nature language statements.

(a) Assign value `0.70` to the variable `discount`.

(2 marks)

Answer: _____

(b) Declare a function `field` that receives two integers' `height` and `width`, and returns an integer `area`.

(2 marks)

Answer: _____

(c) Read an integer number from the keyboard and store it in the variable `HouseNum`. Assume that the variable has been declared.

(2 marks)

Answer: _____

(d) Multiply `25` to the variable `price` by using `*=` operator.

(2 marks)

Answer: _____

Q3 Determine the output/s of the following code segments.

```
#include<stdio.h>

#include<conio.h>

void main()
{
clrscr();
int sum = 5;
int num;
  for (num = 3; num<19; num += 3)
   {
     sum+= num;
     printf ("%d \t",sum);
   }
     printf ("\n %d",num );
   getch();
  }
```

(8 marks)

Answer:

Q4 Answer the following questions based on the given case study.

As a Software Engineer in Sound Department, you have requested to develop C program in order to associate noise loudness measured in decibel with the effect of noise. The following table as shown in **Table Q4** shows the relationship between noise levels and human perceptions of noises.

Table Q4

Loudness in Decibels (db)	Perception
50 or lower	Quiet
51 to 70	Intrusive
71 to 90	Annoying
91 to 110	Very annoying
above 110	Uncomfortable

(a) Write a pseudo-code to perform the detection of noise categories as stated in **Table Q4** using the `if` statement and relational operator >.

(10 marks)

Answer:

(b) Write a complete program using C Programming Language to apply detection of noise categories.

(15 marks)

Answer:

Q5 Write suitable C statement for miles-to-kilometres conversion program in **Figure Q5**, so that it includes a function that displays instructions to its user.

```
/*
 * Converts distances from miles to kilometers.
 */

#include <stdio.h>           /* printf, scanf definitions */
#define KMS_PER_MILE 1.609   /* conversion constant       */

/* function prototypes */
void instruct(void);

int main(void)
{
   double miles,    /* distance in miles                  */
          kms;      /* equivalent distance in kilometers */

   /* Display instructions. */

   _____________________________________________

   /* Get the distance in miles. */
   printf("Enter the distance in miles> ");
   scanf("%lf", &miles);

   /* Convert the distance to kilometers. */
   kms = KMS_PER_MILE * miles;

   /* Display the distance in kilometers. */
   printf("\nThat equals %f kilometers.\n", kms);

   return (0);
}

/*
 * Instruct users about the program.
 */
   _____________________________________________

   _____________________________________________

   _____________________________________________

   _____________________________________________
```

Figure Q5

(7 marks)

Answer:

```
/*
 * Converts distances from miles to kilometers.
 */

#include <stdio.h>           /* printf, scanf definitions */
#define KMS_PER_MILE 1.609   /* conversion constant       */

/* function prototypes */
void instruct(void);

int main(void)
{
   double miles,    /* distance in miles                 */
          kms;      /* equivalent distance in kilometers */

   /* Display instructions. */
```

Answer:

_____

```
   /* Get the distance in miles. */
   printf("Enter the distance in miles> ");
   scanf("%lf", &miles);

   /* Convert the distance to kilometers. */
   kms = KMS_PER_MILE * miles;

   /* Display the distance in kilometers. */
   printf("\nThat equals %f kilometers.\n", kms);

   return (0);
}

/*
 * Instruct users about the program.
 */
```

Answer:

_____

_____

_____

_____

Figure Q5

Q6 (a) Based on **Figure Q6(a)**, develop a program by using `while` loop.

```
Output:
0       1
1       2
2       4
3       8
4       16
5       32
6       64
```

Figure Q6(a)

(12 marks)

Answer:

(b) Write a program to store an input list of ten integers in an array; then display a table similar to the following, showing each data value and what percentage each value is of the total of all ten values as shown in **Figure Q6(b)**.

```
Output:
   n          percent of total
---------------------------------
   8          4.00
   12         6.00
   18         9.00
   25         12.50
   24         12.00
   30         15.00
   28         12.50
   22         11.00
   23         11.50
   9          5.00
```

Figure Q6(b)

(22 marks)

Answer:

- END OF QUESTION-