

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATATION SEMESTER II SESSION 2021/2022

COURSE NAME

: DOTNET PROGRAMMING

COURSE CODE

: BIE 33103

PROGRAMME CODE

: BIW/BIP

EXAMINATION DATE

: JULY 2022

DURATION

: 3 HOURS

INSTRUCTIONS

: 1. ANSWER ALL OUESTIONS

2. THIS FINAL EXAMINATION IS AN **ONLINE** ASSESSMENT AND CONDUCTED VIA **CLOSE**

BOOK

3. STUDENTS ARE **PROHIBITED**

TO CONSULT THEIR OWN

MATERIAL OR ANY EXTERNAL

RESOURCES DURING THE

EXAMINATION CONDUCTED

VIA CLOSE BOOK

THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

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TERBUKA

Q1	(a)	Tibonacci sequence is a series of numbers $(0, 1, 1, 2, 3,)$ in which the next er is found by adding up the two numbers before it, for example the 2 is found ding the two numbers before it $(1+1)$, and the 3 by adding $(1+2)$.		
		(i)	Write a <body></body> code segment to produce the result shown in Figure Q1(i).	
			Enter number of elements: Generate Fibonacci	
			Figure Q1(i)	
			(2 marks)	
		(ii)	Write the C# code behind segment to accept user input from the textbox as the amount of elements for the Fibonacci sequence, create a function to recursively derive the Fibonacci sequence up to the specified amount, and display the sequence after user clicks the "Generate Fibonacci" button based on Figure Q1(i) .	
			(5 marks)	
		(iii)	Write a function in C# code behind to recursively obtain the n th Fibonacci element, with n representing the number that the user inputs using Figure Q1(ii) as a guide.	
			Get specific element in Fibonacci sequence: Submit	
			Figure Q1(ii)	
			(3 marks)	
	(b) Write a C# code behind to produce a diamond shape made of the * symbol w number of rows determined by user input, after the user clicks the "Diamond" as in the Figure Q1(iii) . Consider the following:			
			The textbox ID is Num_RowsThe button ID is Diamond	
			Enter number of rows: Diamond	
			Figure Q1(iii)	
			(10 marks)	

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Q2 Write a complete C# code behind segment based on the description in Figure Q2.

Freddy Waffle Shop wants to create a web application to create bills for customer orders. The app produces a form that requests user to enter customer name and their order; if either the customer name or the order isn't specified, an error message will display. Customers can choose to order either chocolate, strawberry or kaya waffles, each of them costing RM2.50, and specify the amount of waffles. Afterwards, user will click the Calculate button, which displays the total price the customer needs to pay. If the total price is RM7.50 and above, there will be a 10% discount applied.

Figure Q2

(14 marks)

- Q3 (a) Threads are units of processes that are responsible for the application code execution. By setting different execution paths or threads, complicated and time consuming operations can be multi-tasked or given priorities, with each thread performing a particular job.
 - (i) Write the output for the program as in Figure Q3(i).

```
using System;
using System. Threading;
namespace 03a
    public partial class Thread1 : System.Web.UI.Page
        public void Proc_Thread(){
            for(int i = 0; i <= 6; i++) {
   if (i % 2 == 0) {
                    Response.Write("This is even = " + i + "</br>");
                    Response.Write("This is odd </br>");
                 Thread.Sleep(1000);
            1
        Oreferences
        protected void Page_Load(object sender, EventArgs e){
            Thread thr1 = new Thread(Proc_Thread);
            thr1.Start();
            Response.Write("Start the count</br>");
            for (int a = 1; a < 5; a++)
                Response.Write("Going On</br>");
            thr1.Join();
```

Figure Q3(i)

(5 marks)

3



(ii) Explain the process that occurs when the code is executed as in Figure Q3(ii).

```
using System;
using System. Threading;
namespace Q3a_
    public partial class Thread2 : System.Web.UI.Page
        bool stopped = false;
        protected void Page_Load(object sender, EventArgs e)
            Thread thr1 = new Thread(new ThreadStart(() =>
                while (!stopped){
                    Response.Write("Running...");
                    Thread.Sleep(1000);}
            }));
            Thread thr2 = new Thread(ProcThread2);
            thr1.Start();
            thr2.Start();
            thr2.IsBackground = true;
            thr1.Join();
        1 reference
        public void ProcThread2(){
                Response.Write("I am number 1");
        protected void Button1_Click(object sender, EventArgs e)
            stopped = true;
            Response.Write("stop");
    1
· man
```

Figure Q3(ii)

(5 marks)

(b) Write the C# code segment to save a user's input into a database as in **Figure Q3(iii)**. Assume that **Table Q3(b)** has been created in the database.

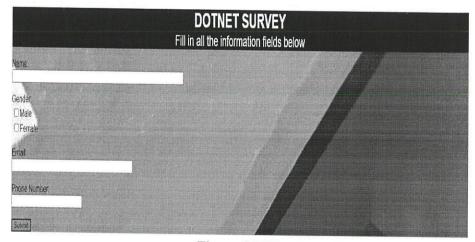


Figure Q3(iii)

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Table Q3(b)

ColumnName	DataType	
name	varchar (30)	
gender	tinyint (1)	
email	varchar (50)	
phone_no	varchar (15)	

(20 marks)

- Write ASP code segment in the <form> </form> to produce the output in Figure Q4. Consider the following information:
 - The list for room types are Regular, Family, Luxury, and Suite
 - For the validation expression for feedback ID, the total characters allowed for it is six, with the first two characters being a letter between a to z, and the rest are integers (0-9)
 - Use the validation expression " $\w+([-+.']\w+)*@\w+([-.]\w+)*\.\w+([-..]\w+)*$ " to validate email address pattern
 - Use the validation expression "\(^[0-9]{10}\$)|(^\+[0-9]{2}\s+[0-9]{2}[0-9]{8}\$)|(^[0-9]{3}-[0-9]{4}-[0-9]{4}\$)" to validate phone number

Customer Fee	dback	TO THE STATE OF TH		
Feedback ID:		Must enter feedback ID	Invalid feedback ID	
Room Type	Regular ▼			
E-mail:	************************************	Must enter e-mail	Invalid e-mail format	
Phone Number:		Must enter phone number Invalid phone number		
	┌ Excellent			
0 . 0	┌ Good			
Customer Satisfaction:	┌ Bad			
	┌ Horrible			

Figure Q4

(16 marks)

- END OF QUESTIONS -

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