UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2021/2022

COURSE NAME   :   WEB DEVELOPMENT

COURSE CODE   :   BIC 21203

PROGRAMME CODE   :   BIW / BIM

EXAMINATION DATE   :   JULY 2022

DURATION   :   3 HOURS

INSTRUCTION   :   1.   ANSWER ALL QUESTIONS

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

                                   3.   STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK.

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

Q1   (a)   Identify the results of the following program in **Figure Q1(a)**.

(5 marks)

```php
<?php
$n = 5;
echo "n = " . $n . "<br>";
$count = 1;
for ($i = $n; $i > 0; $i--)
{
   for ($j = $i; $j < $n + 1; $j++)
    {
       printf("%4s", $count);
       $count++;
    }
     echo "<br>";
    }
?>
```

Figure Q1(a)

(b)   Examine the program code provided in **Figure Q1(b).** Write a program trace that explains what each line of the program does. Identify the result that is returned by the program.

(15 marks)

```php
1   <?php
2   function daysofweek($number){
3   $weeknames=array("Monday","Tuesday","Wednesday","Thursday",
4   "Friday","Saturday","Sunday");
5   return($weeknames[$number]);
6   };
7   ?>
8   <html>
9   <head>
10  <title>Days of week</title>
11  </head>
12  <body>
13  <h1>Days of week</h1>
14  <?php $dayno=4; ?>
15  <p>Today is <?php print daysofweek($dayno); ?>
16  </p>
17  </body>
18  </html>
```

Figure Q1(b)

Q2   Answer **Q2(a)-Q2(i)** in PHP code to generate a bar chart of new Covid-19 cases based on data in **Table Q2** using GD Library. You may refer the output as shown in **Figure Q2**.

Table Q2. Number of new Covid-19 cases

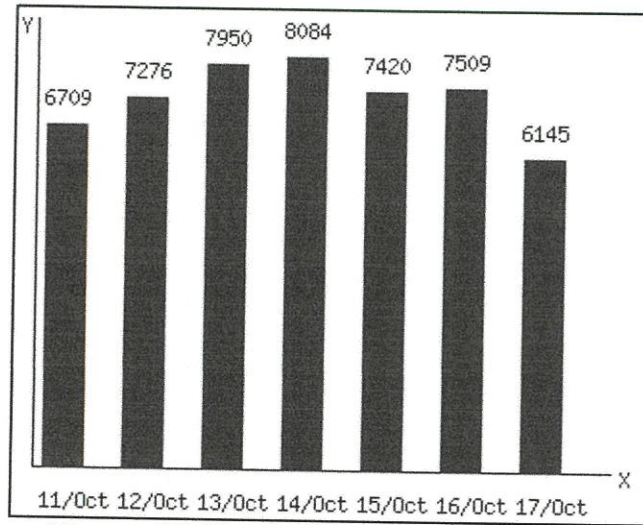| Date	11/Oct	12/Oct	13/Oct	14/Oct	15/Oct	16/Oct	17/Oct
New Cases	6709	7276	7950	8084	7420	7509	6145

Figure Q2. Number of new Covid-19 cases

(a)   Set the output of the image to *jpeg* format.

(1 mark)

(b)   Write **TWO (2)** arrays to initialize the data for Date and the Number of New Cases.

(2 marks)

(c)   Use *imagecreate* function to setup the image canvas with 255 (height) and 320 (width) in size.

(1 mark)

(d)   Use *imagecolorallocate* function to set the canvas background color to white.

(1 mark)
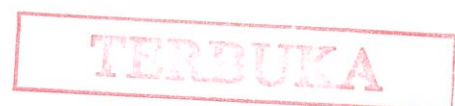
(e)   Draw black lines for the X and Y axis of the bar chart using the following start and end coordinates:
X: (10, 230), (300, 230)
Y: (10, 5), (10, 230)

(2 marks)

(f)   Initialize the fill color for all graph bar to blue.

(1 mark)

(g)   Initialize the first graph bar location to (15, 230), the bar width to 20 and max bar height to 10000.

(4 marks)

(h)   Use `for` loop to populate each bar.

(4 marks)

(i)   Put label for X axis as the Date, and for Y axis is the number of New Cases (stacked on top of each bar, respectively).

(4 marks)

Q3   Answer **Q3(a)-Q3(d)** in PHP code, considering the following steps.

(a)   A block of codes to make a connection to a MySQL database named db_MY using PHP Data Objects (PDO).

(2 marks)

(b)   A block of codes in a form to key in a Malaysian IC Number.

(3 marks)

(c)   A block of codes to extract **THREE (3)** information from the entered Malaysian IC Number in **Q3(b)**; date of birth, gender and place of birth. Categorize the place of birth into two; Malaysia or Overseas.

(10 marks)

(d)   A block of codes which includes an SQL statement to save the Malaysian IC Number, Birth Date, Gender, Birth Place in a table named MyData in db_MY.

(5 marks)

Q4   (a)   List **TWO (2)** threats affecting web security.

(2 marks)

(b)   Explain **THREE (3)** ways to ensure the logo or any branding images are protected.

(3 marks)

(c)   List **FIVE (5)** methods to avoid any intrusions to a company's website.

(5 marks)

(d)   Explain what SQL injection is. By giving an example, explain how to prevent SQL injection.

(10 marks)

- END OF QUESTIONS –

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