



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING
DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2018 – 2nd Year Examination – Semester 3

IT3505 – Web Application Development II

PART 2 – Structured Question Paper

13th May, 2018
(ONE HOUR)

To be completed by the candidate

BIT Examination Index No:

Important Instructions:

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- This paper has **2 questions** and **9 pages**.
- **Answer all questions.** Questions **do not** carry equal marks.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the Examination Hall by a candidate.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.
- Calculators are **not** allowed.

Questions Answered

Indicate by a cross (×), (e.g.

×

) the numbers of the questions answered.

	Question numbers	
To be completed by the candidate by marking a cross (×).	1	2
To be completed by the examiners:		

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(1) a) Explain the functionality of the following JavaScript code.

```
$(document).ready(function() {  
    $("p").click(function() {  
        $(this).css("color", "red");  
    });  
});
```

(10 Marks)

ANSWER IN THIS BOX

Add a function to all paragraphs after the document is loaded,
to change the colour of the paragraph to red when the mouse is clicked over the paragraph

Parts (b) and (c) of this question are based on the following HTML script. Assume that the script is saved with the name “**index.php**” in the “DOCUMENT ROOT” folder of your computer where the Apache webserver runs.

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Record Data </title>
<script src="jquery.js"></script>
</head>
<body>
<h2> Registration Form </h2>
<form id='myForm' action="index.php" method="POST">
  <table border="1">
    <tr>
      <td>Registration number</td>
      <td><input id='regno' type="text" name="rno"></td>
    </tr>
    <tr>
      <td>Name</td>
      <td><input type="text" name="Name"></td>
    </tr>
    <tr>
      <td colspan="2">
        <input type="submit" name="submit" value="Submit">
      </td>
    </tr>
  </table>
</form>
</body>
</html>
```

- b) Draw the layout of the page displayed when the HTML script is rendered.

(20 Marks)

ANSWER IN THIS BOX

Registration Form

Registration number	<input type="text"/>
Name	<input type="text"/>
<input type="submit" value="Submit"/>	

- c) Assume that the following code segment is embedded in the header section of the above HTML script.

```
<script>
$(document).ready(function() {
    $('#myForm').submit(function(e) {
        e.preventDefault();
        if ($('#regno').val()=='') {
            alert("Invalid form data");
        } else {
            alert("Form submitted");
            this.submit();
        }
    });
})
</script>
```

Explain the key parts and the functionality of the above code.

(20 Marks)

ANSWER IN THIS BOX

When the user clicked the submit button, the code will check whether the regno field is blanked or not.

If the regno field is blank

- it issues the message “Invalid form data”
- Blocked the submission

If the regno field is not blank

The page is submitted

- (2) All parts of this question are based on the following MySQL database table “**student**” in a database named ‘**school**’. The id column is the primary key of the table.

student table

id	name	gender	class
95001	Saman	m	2A
95002	Kumar	m	2A
95003	Kamala	f	2D

Consider the following incomplete PHP script coded to retrieve data from the table **student** in the database **school**.

```
<?php
```

```
class School{
    private $link;

    function __construct(){
        $this->link =
            new mysqli('localhost','root','root123','school');
    }

    /* return the name of the student given his/her id
    If the id is not in the table the message 'Student not found'
    Should be returned
    */
    public function getStudent($id){

    }

    /* return the names of all students as an un-orderd HTML list,
    give the class and gender.
    */
    public function getStudentinClass($class,$gender){

    }

}

$student = new School();
?>
```

a)

(i) What is the name of the constructor of the PHP class **School**?

(4 Marks)

ANSWER IN THIS BOX

Name of the constructor - `__construct()`

(ii) Clearly explain the functionality of the constructor.

(6 Marks)

ANSWER IN THIS BOX

Main functionality:

- Open a connection to the database school.
- Assign the connection to a private variable `$link`

- b) Write php code to fill the body of the function **getStudent(\$id)** .

(15 Marks)

ANSWER IN THIS BOX

```
public function getStudent($id){  
  
    $sql = "select name from student where id = '$id'";  
  
    $result = $this->link->query($sql);  
  
    if ($result->num_rows > 0) {  
  
        $row = $result->fetch_assoc();  
  
        return $row["name"];  
  
    }else {  
  
        return 'Student not found';  
  
    }  
  
}
```


- c) Write php code to fill the body of the function `getStudentinClass ($class,$gender)`

(25 Marks)

ANSWER IN THIS BOX

```
public function getStudentinClass($class,$gender){
    $sql = "select name from student where class = '$class' and
gender='$gender'";

    $list = '<ul>';

    $result = $this->link->query($sql);

    while($row = $result->fetch_assoc()){

        $list = $list . "<li>". $row["name"]. "</li>";

    }
    $list = $list . "</ul>";

    return $list;

}
```
