

MEMORANDUM

27 AUGUST 2014

TEST 3

INTERNET PROGRAMMING IRP321C

SECTION 1**(15 MARKS)****True/False***Indicate whether the sentence or statement is true or false.***TRUE/FALSE**

- | | | |
|------------|--------|--------------|
| 1. ANS: F | PTS: 1 | REF: 209 |
| 2. ANS: T | PTS: 1 | REF: 127 |
| 3. ANS: T | PTS: 1 | REF: 156 |
| 4. ANS: F | PTS: 1 | REF: 214 |
| 5. ANS: F | PTS: 1 | REF: 134 |
| 6. ANS: F | PTS: 1 | REF: 134 |
| 7. ANS: F | PTS: 1 | REF: 192 |
| 8. ANS: T | PTS: 1 | REF: 152 |
| 9. ANS: T | PTS: 1 | REF: 192 |
| 10. ANS: F | PTS: 1 | REF: 199 |
| 11. ANS: T | PTS: 1 | REF: 128 |
| 12. ANS: T | PTS: 1 | REF: 147-148 |
| 13. ANS: F | PTS: 1 | REF: 154 |
| 14. ANS: F | PTS: 1 | REF: 204 |
| 15. ANS: T | PTS: 1 | REF: 161 |

SECTION 2**(15 MARKS)****Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

MULTIPLE CHOICE

16. ANS: A	PTS: 1	REF: 192
17. ANS: D	PTS: 1	REF: 213
18. ANS: B	PTS: 1	REF: 134
19. ANS: A	PTS: 1	REF: 165
20. ANS: B	PTS: 1	REF: 197
21. ANS: B	PTS: 1	REF: 169
22. ANS: A	PTS: 1	REF: 190
23. ANS: B	PTS: 1	REF: 212
24. ANS: D	PTS: 1	REF: 214
25. ANS: B	PTS: 1	REF: 164
26. ANS: C	PTS: 1	REF: 129
27. ANS: C	PTS: 1	REF: 206
28. ANS: D	PTS: 1	REF: 138
29. ANS: A	PTS: 1	REF: 135
30. ANS: C	PTS: 1	REF: 206

SECTION 3**(10 MARKS)****Complete the following statements**

Fill in the missing word that best completes the statement.

COMPLETION

31. ANS: or
PTS: 1 REF: 169
32. ANS:
period
(.)
.

- PTS: 1 REF: 162
33. ANS: name/value
- PTS: 1 REF: 192
34. ANS: \n
- PTS: 1 REF: 129
35. ANS:
x and y
x y
- PTS: 1 REF: 214
36. ANS: addslashes()
- PTS: 1 REF: 197
37. ANS: key
- PTS: 1 REF: 189
38. ANS:
one-way
one way
- PTS: 1 REF: 138
39. ANS: debugging
- PTS: 1 REF: 193
40. ANS: range indicator
- PTS: 1 REF: 168

SECTION 4 STRING MANIPULATION (25 MARKS)

Comment on the following statements using guidelines:

- State whether the syntax is correct.

- State the output for each of the following statements.
- Write or rewrite the following statements by correcting the syntax IF any error(s) found.
- Motivate your answer.

4.1 Given: `$Speaker = "Dr Nelson Mandela";`

Output: "One Rainbow Nation is our goal!" exclaimed Dr Nelson Mandela

`echo '<p> "One Rainbow Nation is our goal!." exclaimed $Speaker.</p>';` (2)

✓ **Double quotes confusing**

`echo "<p> \"✓ One Rainbow Nation is our goal!\" ✓ exclaimed $Speaker </p>";`
or

`echo '<p> "One Rainbow Nation is our goal!." exclaimed '. $Speaker.'</p>';`

4.2 Given: `$Email = "proxy@gov.za";` (3)

If (`strpos($Email, 'p') != FALSE`)

`echo "<p>The e-mail address contains an p character.</p>";`

`else echo "<p>The e-mail address does not contain an p character,</p>";`

The strict equal will never ✓ work in all cases. The `!=FALSE` will actually check if the position ✓ is equal to the actual value of FALSE. So in this case the syntax is valid. The position of p is 0 and FALSE is 0 and hence:

The e-mail address does not contain an p character.</p>";

To determine whether the `strpos()` function (and other string functions) actually returns a Boolean FALSE value and not a 0 representing the first character in a string, you must use the strict equal operator ✓ (`===`) or the strict not equal operator (`!==`). The following example uses the `strpos()` function and the strict not equal operator to determine whether the `$Email` variable contains an @ character:

4.3 Study the PCRE tables in the Appendix. Given the following PCRE (Perl Compatible Regular Expression) functions answer the following questions:

- 4.3.1 Given the following code for \$PresidentsArray. Write the shortest possible code available in PHP to create a variable \$Presidents containing all values within the array separated by a comma "," and display the variable \$Presidents on screen. (3)

```
$PresidentsArray = array("George Washington", "John Adams", "Thomas Jefferson", "James Madison", "James Monroe");
```

```
$Presidents = implode(✓, "✓", $PresidentsArray✓);✓  
echo $Presidents; ✓
```

- 4.3.2 State the output for each of the following PHP code "echo" statements. Motivate your answer. (4)

```
$Currency="$123.45";  
echo preg_match('/^\$/', $Currency); returns a 1 ✓✓
```

```
echo preg_match("/^\\$/", $Currency); returns a 1 ✓✓
```

- 4.3.3 State the output for the following PHP code "echo" statements. Motivate your answer. (3)

```
$URL = "http://www.dongosselin.com";  
preg_match("/$https?/", $URL); returns a 0
```

Although the ? indicates that the s is optional ✓ the \$ indicates that the string should be at end, which it is not. ✓

4.4 Evaluate the following preg_match expression. Formulate the rules by which email addresses will be acceptable for the “preg_match” below.

4.4.1 Motivate your answer by giving unique examples of all VALID email addresses to support the rules (as taken from the given list). (10)

```
if (preg_match("/^[a-z-]+(\.[w-]+)*@" . "[w-]+(\.[w-]+)*(\.[a-z]{2,})$/", $address)==1)
echo "<p>".$address." The e-mail address is in a VALID format.</p>";
else
echo "<p>".$address." The e-mail address is in an INVALID format.</p>";
```

List of email addresses to choose from:

```
$email = array( "jsmith123@EXAMPLE.org",      "-245hjh@example.org",
                "_34343hyyy@mail.EXAMPLE.org",  "34343hyyy@mail.example.org",
                "john.smith.mail@example.SS-SS.org", "john.smith@example.org",
                "john.smith@example.com",        "jsmith123@mail.example.org");
```

- start with EITHER underscore or minus (-) followed by (lower case)alpha numeric characters (any combination thereof due to the + ✓
- Optional period(.) follows previous. ✓
- Also optional (*) lower case letters with numbers (alpha-numeric) ✓
- The followed by a period (.) ✓

The e-mail address jsmith123@EXAMPLE.org is NOT in a valid format.

The e-mail address -245hjh@example.org is NOT in a valid format.

The e-mail address _34343hyyy@mail.EXAMPLE.org is NOT in a valid format.

The e-mail address 34343hyyy@mail.example.org is NOT in a valid format.

The e-mail address john.smith.mail@example.SS-SS.org is in a valid format.

The e-mail address john.smith@example.org is in a valid format.

The e-mail address john.smith@example.com is in a valid format.

The e-mail address jsmith123@mail.example.org is NOT in a valid format.

SECTION 5

(25 MARKS)

Study the following html code-snippet regarding a form capturing personal data. Please answer the following questions.

Please plan your coding before writing the code to ensure neatness!

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title><My Questionnaire Page></title>
<meta http-equiv="content-type" content="text/html; charset=iso-8859-1" />
</head>
<body>
<h1>Please complete the answers</h1>

    <form method='post' action='ProcessForm.php'>

        <p>Please state your NAME: <input type='text' name='name' /><p>
        <p>Please state your SURNAME: <input type='text' name='surname' /><p>
        <p>Please state your TOWN : <input type='text' name='town' /><p>
        <input type='submit' name='submit' Value='submit' />
    </form>
```

5.1 Write PHP code for the ProcessForm script to accomplish the output below. (5)

ProcessForm.php

```
<body>
```

```
<?php
```

Obtain the values from the html page and display the following welcome note to the user.

Example of output:

Hi *Siyabulela Hlope*, we welcome you from *Cape Town*!

```
If (is_array($_POST['name'])) ✓
```

```
{
```

```
$Name = $_POST['name']; ✓
```

```
$Surname = $_POST['surname']; ✓
```

```
$Town = $_POST['town']; ✓
```

```
If (is_array($PersData))
```

```
{
```

```
echo "<p> Hi ". $Name ✓$ Surname. ✓" we welcome you from ".$Town </p>"; ✓
```

```
$Index = 0;
```

```
?>
```

```
</body>
```

```
</html>
```

Define the term "sticky form"? _____ (2)

A better option would be to redisplay the form with the controls set to the values that the user entered the last time the form was submitted. As a result, the user only has to enter data for fields that were left empty or did not contain a valid response. ✓ The user does not have to retype data that was entered correctly the first time. ✓ This type of form is often called a ~~sticky form~~.

5.2 Rewrite the specific portions of code that needs attention to make it a sticky form. (10)

If the form section is encapsulated within a function with those variables as parameters, the \$persData[0] etc will be accessible to the script.

```
<?php
```

```
function displayRequired($fieldName) {
```

```
    echo "The field \"$fieldName\" is required.<br />\n";
```

```
}
```

```
function validateInput($data, $fieldName) {
```

```
    global $errorCount;
```

```
    if (empty($data)) {
```

```
        displayRequired($fieldName);
```



```

    ++$errorCount;
    $retval = "";
} else { // Only clean up the input if it isn't empty
    $retval = trim($data);
    $retval = stripslashes($retval);
}
return($retval);
}
function redisplayForm($firstName, $lastName) {
?>

```

```

<p>Please state your NAME: <input type='text' name='name' value=✓ "<? php ✓ echo $Name; ?>
✓ /><p>
<p>Please state your SURNAME: <input type='text' name=' surname' value=✓ "<?php ✓ echo
✓ $Surname; ?>/><p> ✓
<p>Please state your TOWN : <input type='text' name='town' value=✓ "<?php ✓ echo ✓ $Town;
?>/><p>
<input type='submit' name='submit' Value='submit' />

```

A general term used within PHP is to create an **All-in-One form**. What is your understanding of such a form?

(2)

~~All-in-One form~~ — a single script ✓ used to display a Web form and process its data. When the user clicks the submit button, the script submits the form data to the current script. You then use validation code ✓ to determine if data exists when the page is first displayed, and to ensure that the user has completed all the required form fields and has entered valid responses.

5.3 Rewrite the script above to make it an All-in-One form. Use the \$_SCRIPT autoglobal (10)

If the \$_POST['Submit'] ✓ variable is set (declared and initialized), ✓ the script will check to see if all required fields are completed ✓ and all responses are valid. If the \$_POST['Submit'] variable has not been declared and initialized, the Web form will be displayed. ✓

```
if (isset✓ ($_POST['Submit'])) ✓ {
    // Validate the data✓
}
```

The action parameter must be set to call the same script name✓ OR

You could also use action= "<?php echo \$_SERVER ["SCRIPT_NAME"]; ?>" ✓✓ in the preceding <form> tag. The \$_SERVER["SCRIPT_NAME"] element contains the name of the current script.

SECTION 6

(10 MARKS)

6.1 The _____ is the key control provided by the Visual Developer when creating an AJAX-enabled webform.(1)

Scriptmanager✓

6.2 The _____ is the most important component of an AJAX application, which was first introduced by Microsoft into Outlook Web Access 2000 and later into Internet Explorer 5.0. (1)

XMLHttpRequest✓

6.3 When adding a Timer to your web application, the whole page will flicker, each time e.g. the Timer ticks and updates the page with e.g. displaying the date and time and **every** second. How will you solve this phenomenon, so that AJAX will only address that label where the output is displayed? Hint: Explain in detail. (6)

The Timer control's interval property must be set to 1000 in order to display every second. ✓

The Timer must now also be linked to the Update Panel. ✓

The code e.g. lblTime.Text = DateTime.Now.ToString() must be moved into the Timer event handler. ✓

The UpdatePanelTrigger Collection Editor must be set to accommodate the Member AsyncPostBack: Timer1.Tick ✓ and the corresponding behavior must be set to ControllID = Timer1 ✓ and the EventName = Tick ✓

6.4 Simple Access Object (SOAP) is a _____ using XML. (1)

Web service message format ✓

- 6.5 The Web Services Description Language (WSDL). Study the diagram depicting the WSDL components. These components are described by the elements of a WSDL document.

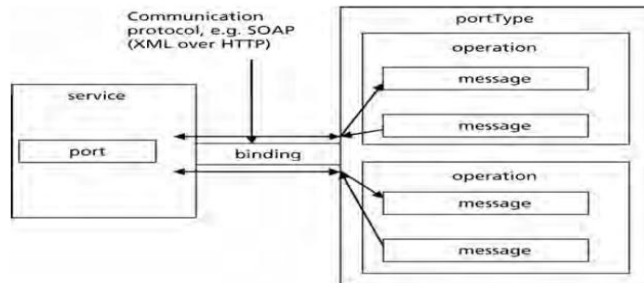


Figure 4.12. Components of a WSDL document

6.5.1 State these elements of an WSDL document.

(3)

WSDL portType ✓

The binding. ✓

The service ✓

Rough Work

```

<body>
<?php
function displayRequired($fieldName) {
    echo "The field \"\$fieldName\" is required.<br />\n";
}
function validateInput($data, $fieldName) {
    global $errorCount;
    if (empty($data)) {
        displayRequired($fieldName);
        ++$errorCount;
        $retval = "";
    } else { // Only clean up the input if it isn't empty
        $retval = trim($data);
        $retval = stripslashes($retval);
    }
    return($retval);
}
function redisplayForm($firstName, $lastName) {
?>
<h2 style = "text-align:center">Scholarship Form</h2>
<form name="scholarship" action="process_Scholarship.php"
    method = "post">
<p>First Name: <input type="text" name="fName" value="<?php
echo $firstName; ?>" /></p>
<p>Last Name: <input type="text" name="lName" value="<?php
echo $lastName; ?>" /></p>
<p><input type="reset" value="Clear Form" />&nbsp;
&nbsp;<input type="submit" name="Submit" value="Send Form"
/>
</form>
<?php
}

$errorCount = 0;
$firstName = validateInput($_POST['fName'], "First name");
$lastName = validateInput($_POST['lName'], "Last name");

```

```
if ($errorCount>0) {  
    echo "Please re-enter the information below.<br />\n";  
    redisplayForm($firstName, $lastName);  
}  
else  
    echo "Thank you for filling out the scholarship form,  
    ".$firstName." ".$lastName . ".  
?  
>  
</body>  
</html>  
nts, $Quarts, $Gallons); ✓✓
```