



## UNIVERSITY OF GHANA

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### B.SC INFORMATION TECHNOLOGY, SECOND SEMESTER EXAMINATIONS: 2014/2015

CSIT 206: APPLIED IT PROGRAMMING (3 Credits)

#### INSTRUCTION:


*ANSWER ALL QUESTIONS IN SECTIONS A AND B AND ANY OTHER TWO QUESTIONS FROM SECTION C.*

#### TIME ALLOWED:

*TWO AND A HALF (2½) HOURS*

#### SECTION A [30 MARKS]

1. Which is the correct way to link to an external stylesheet from a web page
  - A. `<link re = "stylesheet" type = "text/css" src = "styles.css" />`
  - B. `<link rel = "stylesheet" type = "text/css" href = "styles.css" />`
  - C. `<style href = "styles.css" type = "text/ess" />`
  - D. `<style div{color: blue;} </style>`
2. JavaScript is generally used as
  - A. a client-side scripting language
  - B. a server-side scripting language
  - C. an application development language
  - D. an embedded language for mobile devices
3. Which JavaScript function is used to open a small window for user input
  - A. `alert()`
  - B. `prompt()`
  - C. `document. write()`
  - D. `init()`
4. Which property of a page element (eg a div) is used by JavaScript to alter the content of a page after it has loaded
  - A. value

- 
- B. text
  - C. firstChild
  - D. innerHTML

5. The JavaScript method used to obtain a reference to an element that has its id attribute set is
  - A. getElementById()
  - B. element.getId()
  - C. document.getElementById()
  - D. getElementsByTagName()
6. To maintain state in a web application values can be set in
  - A. \$\_SESSION
  - B. \$\_REQUEST
  - C. \$\_GLOBALS
  - D. \$\_POST
7. A form has a text field: `<input type="text" name="phone" />` When the form is submitted to a processing script, the text in this field can be found as the value of the variable
  - A. \$\_SESSIONrname1
  - B. \$\_POSTrphone'}
  - C. \$name
  - D. \$phone
8. Inside which HTML element do we put the JavaScript?
  - A. `<script>`
  - B. `<js>`
  - C. `<javascript>`
  - D. `<scripting>`
9. Where is the correct place to insert a JavaScript?
  - A. The `<body>` section
  - B. Both the `<head>` section and the `<body>` section are correct
  - C. The `<head>` section
  - D. None of the above.
10. What is the correct way to write a JavaScript array?
  - A. `var txt = new Array("tim","kim","jim")`
  - B. `var txt ---- new Array:1=("tim")2=("kim")3=("jim")`
  - C. `var txt = new Array(1:"tim",2:"kim",3:"jim")`
  - D. `var txt = new Array="tim","kim","jim"`
11. The computer program that is responsible for accepting HTTP requests from clients, and serving them responses is:
  - A. Server.
  - B. Web Server.
  - C. Web Application.
  - D. Website.

12. In HTML, <em> is used to identify
- A. A small text.
  - B. A strong character.
  - C. An emphasized image.
  - D. None of the above.
13. Which of the following is an attribute for the form tag:
- A. action
  - B. input
  - C. select
  - D. All of the above.
14. Where in the HTML document is it right to refer to an external CSS ?
- A. At the end of the document.
  - B. In the head section.
  - C. In the body section.
  - D. At the top of the document.
15. How do you add a background color for all hl elements ?
- A. all.hl {background-color:#FFFFFF}
  - B. hl {background-color:#FFFFFF}
  - C. hl.all {background-color:#FFFFFF}
  - D. hi {lagcolor#FFFFFF}
16. What is the correct way to include the file "time.inc"?
- A. <!--include fi4e="time.inc"-->
  - B. <% include file="time.inc" %>
  - C. <?php include\_file("time.inc"); ?>
  - D. <?php require("time.inc"); ?>
17. What is the correct CSS syntax that makes a link not underlined?
- A. <a style="decoration:none">
  - B. <a style="text-decoration:noline">
  - C. <a style="text-decoration:none">
  - D. a {decoration:no line}
18. Which of the following options is correct with regard to HTML?
- A. It is a modelling language
  - B. It is a DTP language
  - C. It is a partial programming language
  - D. It is used to structure documents

E. It is a scripting language.

19. What would be the colors where the hexadecimal values are #FF0000, #00FF00 and #0000FF respectively?

- A. Blue, Green, Red
- B. Green, Blue, Red
- C. Green, Red, Blue
- D. Red, Blue, Green
- E. Red, Green, Blue.

20. The elements <DIV> and <SPAN> have the following characteristics

- A. Element <DIV> inherits properties defined for <SPAN> in a stylesheet
- B. <DIV> and <SPAN> have no real meanings as html tags unless stylesheet is applied
- C. Elements <SPAN> and <DIV> define content to be inline or block-level
- D. <DIV> and <SPAN> are used as alternatives for the element <P>
- E. <DIV> is used inside element <P>.

21. The following is a web-page:

```
<html>
  <head> <title>JavaScript</title> </head>
    <body bgcolor="#0000ff">
      <script language="JavaScript">
        <!-- document.write("<hl> hello world </hl>"); //-->
      </script>
    </body>
</html>
```

When the above web page is loaded into a browser, what will happen?

- A. The body of the web page will not contain any text
- B. The body of the web page will contain the text "<hl> hello world </hl>"
- C. The body of the web page will contain the text "hello world" as an H1 heading
- D. The background color of the web page will be green
- E. document.write("<hl> hello world </hi. >"); is a comment.

22. Consider the following script:

```
<html>
  <head><title>JavaScript</title></head>
    <body>
      <script language="JavaScript">
        var a=80;
        var b=(a==80 ? "pass" : "fail");
        document.write(b)
      </script>
    </body>
```

</html>

What will be the output of the above script?

- A. pass
- B. fail
- C. null
- D. 80
- E. Error at line 6.

23. What will be displayed in a browser when the following PHP code is executed:

```
<?php
function greeting() {
    echo "Welcome To Programming Skills";
}
echo "PHP Basics, ";
greeting();
?>
```

- A. Welcome To Programming Skills
- B. PHP Basics,
- C. PHP Basics Welcome To Programming Skills
- D. PHP Basics,Welcome To Programming Skills

24. What will be displayed in a browser when the following PHP code is executed:

```
<?php
function changeValue($y) {
    $y = $y + 5;
}
$myNumber = 8;
changeValue($myNumber);
echo $myNumber;
?>
```

- A. 13
- B. 8
- C. 12
- D. None of the above

25. To call an object obj function foo within the object itself:

- A. \$obj.foo()
- B. \$obj->foo()
- C. a+b
- D. \$this->foo()

26. Which of the following keywords will you use to jump out of a loop?

- A. continue
- B. return
- C. break
- D. jump

27. You want to position a <div> element in relation to the browser window. Which position setting do you use?

- A. static

- B. relative
  - C. absolute
  - D. fixed
28. Which of the following elements is used to create a row in a table element?
- A. <td>
  - B. <row>
  - C. <th>
  - D. <tr>
29. Which of the following regular expression characters denote the end of the string?
- A. \$
  - B. %
  - C. A
  - D. &
30. Which of the following input fields is used to create a drop-down list?
- A. <list>
  - B. <input type="dropdown">
  - C. <select>
  - D. <option>

## SECTION B [20 MARKS]

*COMPULSORY QUESTION PLEASE ANSWER THE FOLLOWING QUESTIONS.*

- a) Explain what is meant by:
- i) *A packet switched network*; and
  - ii) *A circuit switched network*
- Which of these applies to the Internet?
- (5 marks)
- b) Explain the role each of the following technologies plays in delivering a dynamic website:
- i) HTML
  - ii) CSS
  - iii) JavaScript
  - iv) DOM
  - v) PHP
- (5 marks)
- c) State and explain the two types of arrays in PHP and differentiate between them.
- (5 marks)
- d) Write down an example of an URL and explain its individual parts.
- (5 marks)

## SECTION C [50 MARKS]

ANSWER ANY TWO QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS

Q1. (a) Briefly explain each of the following terms as applied to JavaScript:

- i) Variable
- ii) Data type
- iii) Operator
- iv) Statement
- v) Function

(10 marks)

(b)

i) Write code for a JavaScript function that takes two integers as parameters, sums all the integers from the lowest of the parameters to the highest of the parameters. For example, if the parameters were 2 and 4(or 4 and 2) respectively the result would be 9, that is  $2+3+4=9$ , the function should then return the value of the result.

```
}  
hi
```

(6 marks)

ii) Write JavaScript code for the function call that calls the above function and passes it two numbers and displays the result to the user.

(4 marks)

```
}
```

```
{
```

**Q2.** (a) In relation to Cascading Style Sheets (CSS), briefly state what each of the following terms refer to:

- i) Selector
- ii) Property
- iii) Value
- iv) Id
- v) Class

(5 marks)

(b) In relation to inserting CSS rules into an HTML file:

i) Identify the THREE ways in which CSS rules can be inserted.

(3 marks)

ii) State which is the preferred approach and why this is the case.

(2 marks)

(c) Consider the following CSS markup:

```
<style>  
  body  
  {  
    width: 400px;  
    text-align: left;
```

```
font-family: Helvetica, Arial, Sans-Serif;  
font-size: 16px;  
margin: 20px 10px 5px 10px
```

```
font-family: "Times New Roman", Georgia, Serif;  
font-size: 14px;  
margin: 10px 10px 20px 10px;
```

```
}  
</style>
```

1) Briefly state the purpose of each part of the above CSS and the effect each rule would have on any HTML it might be applied to.

(7 marks)

ii) Write a declaration for the body rule to set its background color to white.

(1 mark)

iii) Write a declaration for the hl rule to set its text color to #226622.

(1 mark)

**Q3. (a)** Write in PHP a Calculator class that can store two values, then add them, subtract them, multiply them together, or divide them on request. For example:

```
$calc = new Calculator( 3, 4 );  
echo $calc->add(); // Displays "7"  
echo $calc->multiply(); // Displays "12"
```

(8 marks)

**(b)** Consider the following html:

```
<html>  
<head><title>Validation</title></head>  
  <body>  
    <form method="POST" action="validate.php">  
      Username:<input type="text" name="username" /> <br/>  
      Password: <input type="password" name="passwd" /><br/>  
      <input type="submit" name="submitBtn" value="Send" />  
    </form>  
  </body>  
</html>
```

Write PHP code for the file validation.php which validates the form fields that are sent from the above HTML. The validation should check for the following:

- (i) Both username and password fields are not empty
- (ii) Password field has a length greater than eight
- (Hi) Return an error message if the above are not met or redirect the user to a **dashhoard.php** page.

(8 marks)

**(c)** List and explain the three main **visibility levels** in PHP as used in the properties of a class.