

CHUKA



UNIVERSITY

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UNIVERSITY EXAMINATIONS

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE AWARD  
OF BACHELOR OF SCIENCE APPLIED COMPUTER SCIENCE

ACSC 226: WEB DESIGN AND DEVELOPMENT

STREAMS: BSC. APPLIED COMPUTER SCIENCE

TIME: 2 HOURS

DAY/DATE: MONDAY 15/4/2019

8.30 A.M. – 10.30 A.M.

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INSTRUCTIONS:

- Answer Question **ONE** and any other **TWO** questions.
- Diagrams should be used whenever they are relevant to support an answer.
- Sketch maps and diagrams may be used whenever they help to illustrate your answer
- Do not write anything on the question paper
- This is a **closed book exam**, No reference materials are allowed in the examination room
- There will be **No** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION

QUESTION ONE [30 MARKS]

a) Explain the use of the following HTML tags:

- `<sup></sup>`
- `<hr/>`
- `&reg;`
- `<strong></strong>`
- `&frac14;`

[5 Marks]

b) Giving an example, explain each part of a typical CSS rule.

[4 Marks]

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- c) Write a JavaScript program to display the string “Hello World” when a web page loads  
[3 Marks]
- d) Explain the importance of the ID attribute in HTML [2 Marks]
- e) Write the HTML code to produce the following fragment. [5 Marks]

### Other units to take this semester include:

- i. ACSC 221
- ii. ACSC 222
- iii. ACSC 234

- f) There are five components of multimedia that are implemented in a typical website. Identify and describe each of them [5 Marks]
- g) Highlight any three advantages of GIF images over JPEG image [3 Marks]
- h) Integer num1=4 and integer num2=6. Write a JavaScript program to sum the two integers and display the result as another integer [3 Marks]

## SECTION B

### ANSWER ANY TWO QUESTIONS FROM THIS SECTION

#### QUESTION TWO [20 MARKS]

- a) Design the following using HTML

#### Ricotta pancake ingredients:

- 1  $\frac{1}{2}$   $\frac{3}{4}$  cups ricotta
- $\frac{3}{4}$  cup milk
- 4 eggs
- 1 cup plain *white flour*
- 1 teaspoon **baking powder**
- 75<sub>g</sub> 50<sub>g</sub> butter
- **pinch of salt**

[10 Marks]

- b) Headings 1, 2 and 3 are to be bold, of font type Arial, white in color and have a black background. All paragraphs are to be blue in color and of size 36 points. The background color of the web page is to be pink. Implement this in a web page using:
- i. External CSS styles. [3 Marks]
  - ii. Internal CSS styles. [3 Marks]
- c) Explain the role of Definition List in web pages. Write HTML code to demonstrate a Definition List. [4 Marks]

**QUESTION THREE [20 MARKS]**

- a) List and explain Schneidermann’s rules of interface design [4 Marks]
- b) Write the HTML code to reproduce the following part of a webpage. [10 Marks]

The screenshot shows a web browser window with the address bar displaying 'http://localhost:5555'. The main content area contains a table with the following data:

Vehicle #	Year	Make	Model	Price
1	1957	Ford	Thunderbird	14,000
2	1958	Chevrolet	Impala	3,000
3	2012	BMW	Z4	40,000
4	2003	Mazda	Miata	5,000
<b>Total:</b>				<b>62,000</b>

- c) Write a JavaScript program that prompts the user to enter their SurName. The SurName is then displayed on a JavaScript Alert box [6 Marks]

**QUESTION FOUR [20 MARKS]**

- a) The following comments are made depending on a grade a student attains in an exam.

Grade	Comment
A	EXCELLENT
B	GOOD
C	FAIR
D	POOR

Write a JavaScript Switch... Case program that takes in Grade as an input then gives appropriate comment. [10 Marks]

- b) Write CSS code as well as explain the usage of the following CSS components:
  - i. Universal Selector. [4 Marks]
  - ii. Type Selector. [3 Marks]
  - iii. Class Selector. [3 Marks]

**QUESTION FIVE [20 MARKS]**

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- a) You are designing a website for a certain institution. Discuss in detail how you could apply Nielsen's heuristics for a usable interface [10 Marks]
- b) The following is a website layout. Implement this Layout Container by use of CSS and DIV. [10 Marks]

LOGO		
MENU	MAIN CONTENTS	ADVERTS
FOOTER		

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