

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**SEOND 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.**

**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:

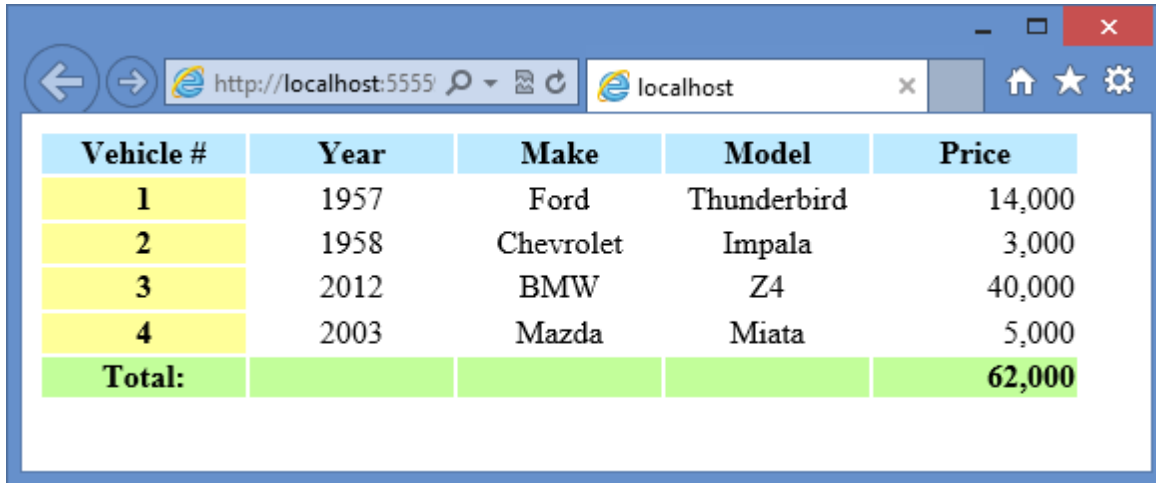
- 1  $\frac{1}{2}$   $\frac{3}{4}$  cups ricotta
- $\frac{3}{4}$  cup milk
- 4 eggs
- 1 cup plain *white flour*
- 1 teaspoon **baking powder**
- 75g 50g butter
- **pinch of salt**

[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:
- Universal Selector. [4 Marks]
  - Type Selector. [3 Marks]
  - Class Selector. [3 Marks]

**QUESTION FIVE [20 MARKS]**

- 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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