

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
APPLIED COMPUTER SCIENCE**

ACSC 475: WEB MEDIA TECHNOLOGIES

STREAMS: BSC APPLIED COMP. SCI .

TIME: 2 HOURS

DAY/DATE: MONDAY 16/12/2024

11.30 A.M – 1.30 P.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) Highlight any four disadvantages of using animations in a web system. [4 Marks]
- b) Explain how the following types of hackers are of benefit to web developers.
 - i. White hat hackers. [2 Marks]
 - ii. Grey hat hackers. [2 Marks]
 - iii. Black hat hackers. [2 Marks]
- c) Differentiate between front end and backend web technologies giving examples in each. [4 Marks]
- d) List and describe any four servers important in web development. [4 Marks]

- e) Identify the two ways of representing the loopback address when testing web sites and web applications. [4 Marks]
- f) Highlight four strengths of the waterfall methodology for web development. [4 Marks]
- g) Lulu has created a logo for her company and would want to protect it.
 - i. Explain what type of Intellectual Property protection Lulu would go for. [2 Marks]
 - ii. Identify the relevant body in the Kenya which will offer this kind of Intellectual Property protection. [2 Marks]

SECTION B: ATTEMPT ANY TWO QUESTIONS FROM THIS SECTION

QUESTION TWO [20 MARKS]

- a) The W3C is a body that provides guidance and technologies that shape the development of web based content.
 - i. Describe the purpose of W3C in web development. [2 Marks]
 - ii. List and explain the seven standards advocated for by W3C to web developers. [14 Marks]
- b) Discuss the various web development frameworks [4 Marks]

QUESTION THREE [20 MARKS]

- a) John and Ann are members of a team tasked with developing an Employee Management web application for a certain client. When deliberating on the web development approach to use, John proposes the Feature Driven Development while Ann proposes the Lean methodology.
 - i. Describe the Feature Driven Development approach of web system development. [4 Marks]
 - ii. Describe the Lean methodology of web development. [4 Marks]
- b) Software testing has been identified as one of the techniques of reducing software vulnerabilities in web based software. Describe four types of software testing that could be used to test the security of an input accepting web system. [8 Marks]
- c) Discuss four ways of protecting a web startup's trade secrets. [4 Marks]

QUESTION FOUR [20 MARKS]

Describe any four characteristics of a SEO website. [4 Marks]

- a) Discuss any four functions of the State Department of ICT in Kenya. [8 Marks]
- b) Mohamed is creating a user registration form for a Sacco Management web application. Clearly explain how Mohamed will use each of the rules in Schneidermann's rules of interface design to come up with a robust user friendly interface. [8 Marks]

QUESTION FIVE [20 MARKS]

- a) Amber is a full stack web developer in a particular start up
 - i. Explain what is meant by a full stack developer. [2 Marks]
 - ii. If Amber was not a full stack web developer, which other options would she have as a web developer? [4 Marks]
 - b) Giving an example for emphasis explain how the following operate as security threats to a web application developed using PHP/MySQL:
 - i. SQL injection. [4 Marks]
 - ii. Cross Site Scripting. [4 Marks]
 - b) Explain the following web terms:
 - i. URL. [2 Marks]
 - ii. Protocols. [2 Marks]
 - iii. Browser. [2 Marks]
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