



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

SIT 225: WEB APPLICATION DEVELOPMENT

DATE: 19/4/2023

TIME: 2:00 – 4:00 PM

Instructions

This paper consists of FIVE questions

*Answer **question one** and other **two** questions in this paper*

QUESTION ONE (30 MARKS)

- a) Define the following terms: -
 - i. CGI Scripts (2 marks)
 - ii. Java Applets (2 marks)
- b) Using Javascript, write a code that executes “congratulations!” message if a student scores exam average greater than 50 else it executes the message “you can do better next time” (4 marks)
- c) Explain the bi-directional communication channel between client and server. (3 marks)
- d) HTTP uses TWO types of message format for transmission, discuss each (4 marks)
- e) Using an example explain the term Proxy in web application (3 marks)
- f) Write a PHP program to compute the sum of the two given integer values. If the two values are the same, then returns triple their sum. (6 marks)
- g) A common use of JavaScript is image replacement, discuss using an example. (4 marks)
- h) Distinguish between client-side validation and server-side validation (2 marks)

QUESTION TWO (20 MARKS)

- a) Write a PHP code that will output “Have a good day!” if the current time is less than 20hrs, and “Have a good night” otherwise. (6 marks)
- b) Explain THREE types of Servers in Web Applications. (6 marks)

- c) Write a function in JavaScript to display the product of 5*5. (4 marks)
- d) Explain the purpose of HTTP:// and HTTPS:// protocols used in the internet. (4 marks)

QUESTION THREE (20 MARKS)

- a) Explain how to install apache web server on windows operating systems (5 marks)
- b) Using a real-life scenario explain how 3 tier system is implemented in a learning Institution environment (6 marks)
- c) Explain the output of the following code; (4 marks)

```
<!DOCTYPE html>
<html>
<head>
<meta charset=utf-8 />
<title>JS nested for loop example</title>
</head>
<body>
  var x,y,chr;
  for(x=1; x <=6; x++)
  {
    for (y=1; y < x; y++)
    {
      chr=chr+("*");
    }
    console.log(chr);
    chr="";
  }
</body>
</html>
```

- d) Explain how a web session is established in web applications (5 marks)

QUESTION FOUR (20 MARKS)

- a) Write a simple PHP program code that prints out your name. (5 marks)
- b) Discuss how to Monitor a Heterogeneous Datacenter (5 marks)
- c) Describe the main difference between GET and POST methods when submitting a form during dynamic web development (5 marks)
- d) Using an example, explain how a session is established in web applications (5 marks)

QUESTION FIVE (20 MARKS)

- a) Using a suitable diagram example Client-Server architecture. (5 marks)
- b) Briefly describe the process of testing a XAMPP Installation. (5 marks)
- c) Write a program in ASP.net to accept and compute the sum, product and quotient of two integers captured through a web form. (5 marks)
- d) Discuss internet infrastructure and routing (5 marks)