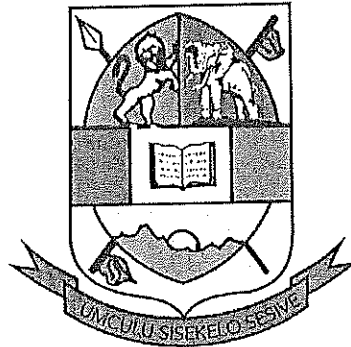


UNIVERSITY OF ESWATINI



FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE

Main Examination

Course Name: Web Technology and Development
Course Code: CSC 433
Time allowed: Three (3) Hours

INSTRUCTIONS TO THE CANDIDATES

- 1) Answer any **four (4)** questions out of the **five (5)** questions.
- 2) Each question carries **twenty-five (25)** marks.
- 3) This examination paper should **NOT** be opened until permission has been granted by the invigilator.
- 4) Number of marks per each question is written at the end of each question

Question 1

- a. Explain the following terms:
- i) Bad-neighbour effect [3 marks]
 - ii) Collocation [3 marks]
 - iii) Web cache [3 marks]
 - iv) Domain Name System [3 marks]
 - v) Temporal locality [3 marks]
- b. Write a PHP MySQLi code to connection to the database called **csc433**, with
servername: localhost, username: csc433user and password: csc4332020
[5 marks]
- c. Write a PHP MySQLi code to close connection established in Question 1 (b)
above [5 marks]

Question 2

- a. With aid of diagrams, critically compare and contrast TCT/IP model from OSI
model [15 marks]
- b. Write a PHP MySQLi code to create a table called **WebDev** with the following
fields:
- id, (AUTO_INCREMENT PRIMARY KEY)
 - studentID
 - firstname, VARCHAR(30) NOT NULL
 - lastname, VARCHAR(30) NOT NULL
 - email, VARCHAR(50)

The table **WebDev** should be contained in a database called **csc433** [10 marks]

Question 3

- a. The World Wide Web is strongly becoming important source of information
globally and its usage is increasing exponentially because of ever-growing
demand for data sharing, transformation and transmission, especially in the era of
Internet of Things (IoT), big data and fourth industrial revolution. Explain the web

- caching challenges caused by the rapid growth of the World Wide Web usage [8 marks]
- b. With the aid of relevant examples, explain how web cache replacement algorithms are classified. [10 marks]
- c. Write a PHP MySQLi code to insert data into a table called **WebDev** with the following fields; `id`, `studentID`, `firstname`, `lastname` and `email` . Note that the table fields have same properties as highlighted in Question 2 (b) [7 marks]

Question 4

The World Wide Web has been evolving from Web 1.0 to the sensory-emotion Web. With the aid of relevant examples, explain the Web Evolution [25 marks]

Question 5

- a) Write HTML code to output the HTML Alumni Registration Form shown in Figure 1 below. [10 marks]

Alumni Registration Form

Enter Name :	<input type="text"/>
Enter Phone Num :	<input type="text"/>
Select Gender :	<input type="radio"/> Male <input type="radio"/> Female
Enter Address :	<input type="text"/>
Select City :	Manzini <input type="button" value="v"/>
Uneswa Education :	<input type="checkbox"/> BSc
	<input type="checkbox"/> BBA
	<input type="checkbox"/> BA
	<input type="checkbox"/> BSc Comp.Ed
	<input type="checkbox"/> BCOM
	<input type="checkbox"/> BEng
	<input type="checkbox"/> BScIT
	<input type="checkbox"/> MBA
	<input type="checkbox"/> PhD
<input type="button" value="Submit"/>	

Figure 1. Alumni Registration Form

- b) Write a PHP MySQLi code that displays the data entered in the Alumni Registration Form in Figure 1. The registration details are shown in Figure 2. [10 Marks]

REGISTRATION DETAILS	
Name :	John Mike
Phone :	78246653
Gender :	MALE
Address :	jmike@gmail.com
City	Manzini
Educational Qualification :	BScIT

Figure 2. Alumni PHP code Output