



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

THIRD YEAR SECOND TERM EXAMINATION FOR

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

INTERNET BASED PROGRAMMING

DATE: 8/6/2021

TIME: 11.30-2.30 PM

INSTRUCTIONS:

Answer any five questions

QUESTION ONE

- a) Explain the meaning of the following terms
 - i. Internet
 - ii. Intranet
 - iii. Extranet
 - iv. Protocol (4 marks)
- b) Write a Java script code that will display the *current day* of the week based on the *computer system date* (6 marks)
- c) Write a java script code that will print out the following message
Start= 1 Counter= 1
Start= 2 Counter= 2
Start= 3 Counter= 3
Start= 4 Counter= 4
Start= 5 Counter= 5
Use the *for* loop (6 marks)
- d) Explain any **four** uses of internet (4 marks)

QUESTION TWO

- a) Write a PHP code that accepts **five** subject marks for a student and then calculates the grade and display it based on the average. Use the following grading system

Average	Grade	
≥ 75	A	
≥ 60	B	
≥ 50	C	
≥ 40	D	
< 40	E	(6 marks)

- b) Outline any **four** requirements needed when setting up internet in an office (2 marks)
- c) Explain any **four** uses of internet (4 marks)
- d) Explain the aspects of a website (3 marks)
- e) Explain the meaning of the term *DNA server* (2 marks)
- f) Using an example, demonstrate how one can specify a scripting language (3 marks)

QUESTION THREE

- a) Write a Java Script code that check the system clock and displays a message indicating whether it is a leap year or not (6 marks)
- b) Explain the differences between the following Protocols
- SSL
 - SMTP
 - MIME
 - IMAP
 - DHCP
- (5 marks)
- c) Explain **three** date methods (6 marks)
- d) Explain the different parts of *DNA* servers (3 marks)

QUESTION FOUR

- a) Peter wanted to develop a website and could not distinguish between *HTML* and *javascript* as an expert explain to him any **four** uses of java script (4 marks)
- b) Using a *for loop*, Write a java script code that will print even numbers from **0 to 20**. (5 marks)
- c) Using an example, explain the *dialog boxes* found in java script (6 marks)
- d) Write a java script code that will accept two values through the keyboard and then sum them up. It should then display the sum through an alert box with a message indicating whether the sum is an even number or an odd number (5 marks)

QUESTION FIVE

- a) Distinguish between *client side* and *server side* script (2 marks)
- b) Write a java script code that stores the following car models using an array; Toyota, BMW, VW, Mercedes, Nissan, Isuzu and Honda. Demonstrate on how to perform the following actions of the array
 - i. Sort the array in ascending order
 - ii. Arrange the element in reverse
 - iii. Add Jaguar at the end of the last element
 - iv. Remove Jaguar from the list (8 marks)
- c) Study the form below.
- d) Write a java script code that will accept a *student's name* through a *prompt box* and then display the name on an *alert box*. The program should display an *error message* through an *alert box* if the name is not entered. (6 marks)
- e) Explain any **four** factors one should consider when developing a website (4 marks)

QUESTION SIX

- a) The following is an extract from a particular college website. Use it to answer the question that follows.

Welcome to our website

Courses offered

1. Information Communication Department
 - a. Diploma
 - i. Information Technology
 - ii. Computer Studies
 - b. Certificate
 - i. Computer Application Packages
 - ii. Computer Studies
2. Business Education Department
 - a. Diploma
 - i. Marketing Management
 - ii. Business Administration
 - b. Certificate
 - i. Sales and Marketing
 - ii. Business Administration

Write an HTML code that would produce this information on the web. (10 marks)

- b) Generate the output of the following HTML code. (8 marks)

```
<HTML>
<BODY>
<Table border = "4">
<Caption>YEAR 2012</Caption>
<TR>
  <TD Colspan = "3" align = "center">MATOPENI</TD>
</TR>
<TR>
  <TD>ADM</TD>
  <TD rowspan = "3">FINANCE</TD>
  <TD>COMPUTER</TD>
</TR>
<TR>
  <TD>SCIENCE</TD>
  <TD rowspan = "2">SOFTWARE</TD>
```

```

</TR>
<TR>
    <TD>ENGINEERING</TD>
</TR></TABLE></BODY></HTML>

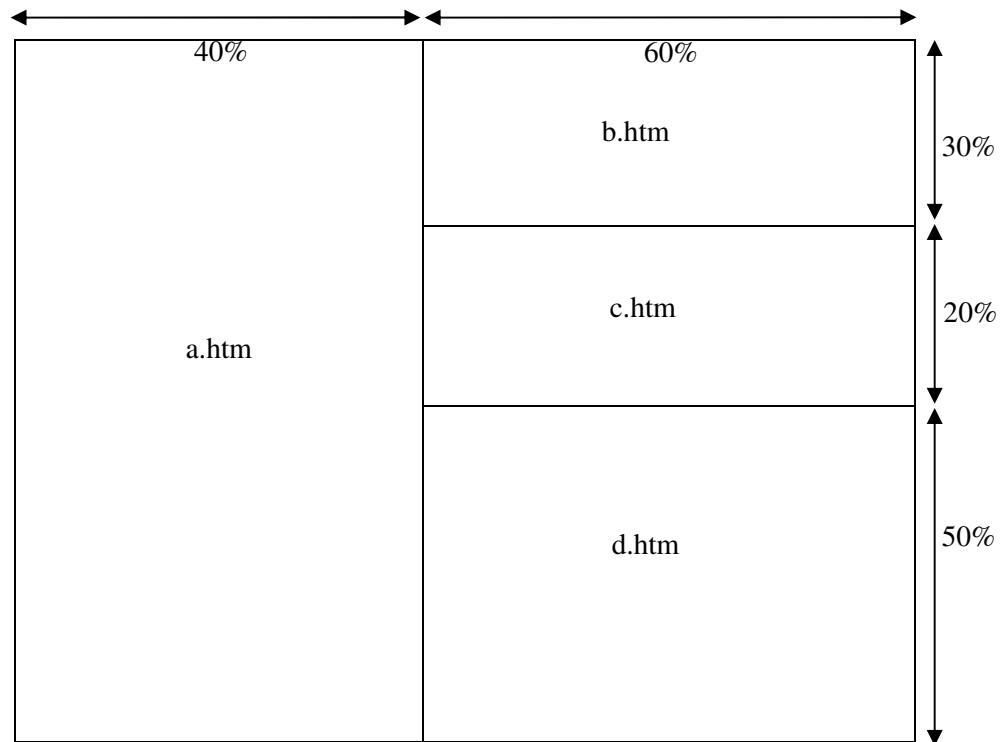
```

c) Explain the meaning of the term *DNA server*

(2 marks)

QUESTION SEVEN

a) Write down HTML code that would produce the following frames when run in a web browser. (10 marks)



b) The table below contains some details in a webpage. Use it to answer the question that follows.

Department	Full time Students		Total
	Male	Female	
ICT	20	35	55
Business	70	40	110
Electrical	5	20	25

Write HTML code that would generate the table in a web browser.

(10 marks)

QUESTION EIGHT

- a) Write a Java Script code that check the system clock a display a message indicating whether it is a leap year or not (6 marks)
- b) Peter wanted to develop a website and could not distinguish between HTML and java script as an expert explain to him any five uses of java script (5 marks)
- c) Using an example, demonstrate how one can specify a scripting language (3 marks)
- d) Using a for() loop, Write a java script code that will print even numbers from 0 to 20. (6 marks)