



# THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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**MAIN EXAMINATION**

**SEPTEMBER –DECEMBER 2021**

**FACULTY OF SCIENCE**

**DEPARTMENT OF COMPUTER SCIENCE**

**REGULAR PROGRAMME**

**DIT 007: INTRODUCTION TO WEB DESIGN & DEVELOPMENT**

<b>Date: DECEMBER 2021</b>	<b>Duration: 3 Hours</b>
<b>Instructions:</b>	
1. Question is <b>COMPULSORY</b> . Answer Question <b>ONE</b> and any <b>Other Two</b>	
2. Question Q1e, Q2b, Q4a and therefore should be done on the PC and transferred to the examiner at the end of the exam	

Q1).

- a) HTTP is a paradigm based on request-Response paradigm. Briefly discuss the four main stages of the paradigm **(4 marks)**
- b) Explain what is meant by the following terms in the context of web programming
  - i. Class and Id selectors **(2 marks)**
  - ii. Intranet and extranets **(2 marks)**
- c) When developing web applications, what role do Cascading Style Sheets (CSS) play? **(1 mark)**
- d) With respect to web development, differentiate between client side and server-side scripting programming languages and the role each play. For each, give an example of programming language in each category **(4 marks)**

e) You have been approached by an upcoming college known as My Dreams to design for them a student portal landing page. The page shall be used to capture information for the student as shown below

A Web Page

https://

MyDreams Student Portal

search

Home About Us Login Create Account

Full Names:

Date of Birth:

Full Names:

Male Female

Mobile Number:

Adresss

Select country of Origin

Kenya

Save record Clear Form

[Home](#) | [About Us](#) | [Login](#) | [Create Account](#)

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You and your team has agreed on the above page structure. The page has three sections; header, footer and main section

**Required:**

Create an HTML file to render the above page on web browser program. Create an external CSS file and link it to your HTML above **(17 marks)**

**Additional information**

1. Use DIVs and CSS to structure your page
2. All the buttons in the form should have color black while the text color should be white
3. The footer and header section should appear in black with the text being gold
4. All input areas should have a width of 100 percentage

Q2).

a) Explain the role played by the following internet protocols

- i. Secure Socket Layer ( SSL) **(1 mark)**
- ii. Internet Message Access Protocol (IMAP) **(1 mark)**
- iii. Dynamic Host Configuration Protocol **(1 mark)**

b) The following table captures information about students currently enrolled in a college. Use it to answer the proceeding questions

Student Information

Reg No	Name	Gender	Course
1001	Joe	Male	Medicine
1002	James	Male	Law
1003	Jane	Female	B. com
Total students			3

- i. Write appropriate HTML code to generate the above table **(7 marks)**
- ii. Write appropriate CSS code to align the text of the table to the center **(2 marks)**
- iii. Write appropriate CSS code to that ensures the cell contents have a padding of 5px **(2 marks)**

- iv. Write appropriate CSS code to introduce horizontal dividers for the table. The color of the dividers should be black **(2 marks)**
  - v. Write appropriate CSS code to produce a striped table with the even rows having a lightgray color **(2 marks)**
- c) Discuss any TWO internet services and the nature of services each exposes to the users **(2 marks)**

Q3).

- a) With examples to support your answers, explain any two tags we can place at the head section of an HTML document **(4 marks)**
- b) Write appropriate CSS codes to set the background image to "background.png" for the body element of an HTML document **(2 marks)**
- c) There are THREE ways of inserting CSS to an HTML file. Explain **TWO** of those mechanisms indicating when each is most applicable. Use examples to demonstrate how each mechanism works **(6 marks)**
- d) A web developer has two files; *index.html* and *style.css*. In the *style.css*, he wrote the following code *p{color: blue;}*. In the style section of the *index.html*, the following code was written *p{color: red;}*. What shall be the color of the paragraphs? Explain your answer. The HTML and CSS files have been linked together **(3 marks)**
- e) Write appropriate HTML code to perform the following
  - i. This Page was modified on  $\log_{10}x$  **(1 mark)**
  - ii. we have adjusted all our prices from Ksh.1,500 to Ksh 1,000 **(1 mark)**
  - iii. change the background color to skyblue and text color to black for respectively for <H1> element **(2 marks)****(3 marks)**

Q4.

- a) You have been provided with the following page for your implementation. Write HTML and CSS codes (where applicable) to implement the page

The image shows a web browser window titled "A Web Page". The address bar contains "http://". The main content area features a "Create New Account" form with the following fields and controls:

- Full Names:
- Email Address:
- Select country of Residence:  (dropdown menu)
- Description:
- User Name:
- Password:
- Confirm Password:

At the bottom of the form are two buttons: "Create Account" and "Cancel". Below the form, the text "© 2017. All rights Reserved" is displayed.

**Required:**

Create an HTML file to render the above page on web browser program. Create an external CSS file and link it to your HTML above **(10 marks)**

**Additional information**

1. Use DIVs and CSS to structure your page

2. All the buttons in the form should have color black while the text color should be gold
3. The two buttons should take a width of 45 percentage each
4. All other input should have a width of 100 percentage

b) With respect to internet body, discuss any two services offered to the end users  
(4 marks)

- a) State any TWO reasons why websites maybe important to institutions (2 marks)
- b) Write appropriate HTML and CSS code to insert an image name "image.png" then display the as rounded (2 marks)
- c) Explain how server side scripting code is compiled (2 marks)

Q5.

- a) Using an example of your choice, demonstrate the basic components that constitute a URL  
(3 marks)
- b) Discuss any THREE challenges facing the intent body today (6 marks)
- c) Write HTML5 code to render a video named "sample.MP4" on a we browser. The video should autoplay when the page loads and should have the necessary video controls (3 marks)
- d) Why does W3 discourage web developers from using frames when developing their applications? (2 marks)
- e) Using Lists in HTML, write an HTML code to render the following on a web browser program (6 marks)

## Kenyan Universities

1. CUEA
  - Law
  - Computer Science
2. MKU
  - Medicine
  - History
3. KCA
  - Bcom
  - Education

DTE DEC 2021

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