

kasneb

DICT LEVEL III

PRINCIPLES OF WEB DEVELOPMENT

TUESDAY: 18 May 2021.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

QUESTION ONE

- (a) Describe four unique features that must be taken into account when designing a mobile phone website. (8 marks)
- (b) Distinguish between a static website and a dynamic website. (4 marks)
- (c) Write HTML code that would render the following output on a browser:

A Nested List:

1. Coffee
2. Tea
 - a. Black tea
 - b. Green tea
 - (i) China
 - (ii) Africa
3. Milk

A Definition List:

- Bangalore
- Capital city of Kamataka
- Mumbai
- Capital city of Maharastra

(8 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Explain the following HTML tags as used in web programming:

- (i) `<!DOCTYPE html>`. (2 marks)
- (ii) `<title>`. (2 marks)
- (iii) `<q> </q>`. (2 marks)

- (b) Consider the interface below:

Username	<input type="text"/>	txtUsername
Password	<input type="text"/>	txtPswd
Forgot Password	Click here	

btnLogIn

Required:

- (i) Assume the username and password fetched from database are 'DICT_2332' and 'WebProg1/&Veloپر'.

Write an embedded Javascript function that will validate these login details with the ones provided from the interface. If login details are correct, 'homepg.html' should be opened in the same tab, otherwise, the user should be notified appropriately. (7 marks)

- (ii) Write HTML code that will render the interface on a web browser. Note that the link 'click here' should open the form named 'forgotpswd.html' in a new tab and the button "log in" should call the function in (b) (i) above. (7 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Describe the use of the following background repeat properties as used in Cascading Style Sheets (CSS):

- (i) background-repeat: repeat. (1 mark)
(ii) background-repeat: repeat-x. (1 mark)
(iii) background-repeat: repeat-y. (1 mark)
(iv) background-repeat: no-repeat. (1 mark)

- (b) List three types of Cascading Style Sheets. (3 marks)

- (c) (i) Highlight four approaches to improving website security. (4 marks)

- (ii) Compare and contrast traditional commerce with e-commerce. (4 marks)

- (d) Use Structured Query Language (SQL) statements to create a MySQL table called "students" with four columns namely; Admission, FirstName, LastName and Year of Birth. (5 marks)

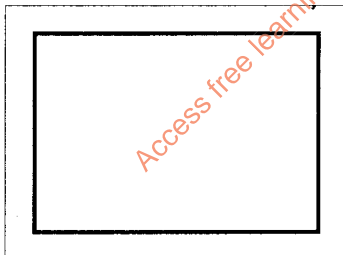
(Total: 20 marks)

QUESTION FOUR

- (a) Name the parts of the following uniform resource locator (URL):

<https://www.kasneb.or.ke/methods-of-payment-of-fees/> (4 marks)

- (b) Write an HTML code that uses the canvas tag to create a 190 by 140 pixel canvas with an embedded 150 by 100 pixel rectangle as shown below:



(6 marks)

- (c) Create a script within an HTML document which uses arrays to produce the following output.

- Elephant.
- Buffalo.
- Lion.
- Leopard.
- Cheater.
- Hyena.

(6 marks)

- (d) Consider a video named "Kasneb.mp4" whose size is 320 by 240 pixels.

Show how to insert the video into an HTML5 document.

(4 marks)

(Total: 20 marks)

QUESTION FIVE

- (a) Tumaini National Polytechnic recently implemented a web application to assist students during registration and for running some administrative tasks. Some users have complained that the website is too slow.

Required:

Analyse how the above situation could be improved to enhance the user experience.

(5 marks)

- (b) You wish to embed a flash file named "myFlashfile.swf".

Demonstrate how you would add fallback content into an element for browsers that do not support the <embed> tag.

(5 marks)

- (c) Create an animation of a 100 by 100 pixels square that uses the @keyframes rule to display a 4 seconds animation which binds the "MyAnimation" animation to the <div> element. The animation should gradually change the background colour of the <div> element from red to yellow colours. When the animation is finished, it changes back to its original style.

(10 marks)

(Total: 20 marks)

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