DICT LEVEL III

PRINCIPLES OF WEB DEVELOPMENT

TUESDAY: 31 August 2021.   **Time Allowed: 3 hours.**

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

QUESTION ONE

(a)   Outline three common types of basic animations used on web pages.   (3 marks)

(b)   Enumerate three stages of the planning process of web design.   (3 marks)

(c)   The list below provides predefined options for users to select a favourite Kenyan dish.

Choose your favourite Kenyan Dish:

▼
Ugali and vegetables
Biriani and stew
Nyama choma and ugali
Matumbo and rice
Chapati and beef stew
Soup and mandazi
Githeri and greens
Muthokoi plain
Chicken and chapati
Fish and ugali

(5 marks)

Required:
Create the interface using the HTML <datalist>tag

(d)   Interpret the action of the following CSS code as used in animations.

```
A@keyframes Skiza{
    0%{
        transform:scale(0.2);
        opacity: 0;
    }
    70% {transform: scale(1.5);
        opacity:0.8;
    }
    100%{
        transform:scale(1);
    }
}
```

(3 marks)

(e)   Write Javascript code for sketching a circle on HTML canvas.   (6 marks)

(Total: 20 marks)

QUESTION TWO

(a)   Write HTML code that includes cascading style sheets (CSS) that defines a class called 'red' embedded in the head tag. Ensure that the class makes text red to tags that belong to it. The class should be called on a <H2> tag.

(4 marks)

(b)   (i)   Explain the term search engine optimisation.   (2 marks)

        (ii)   Describe four ways in which you could improve on-page search engine optimisation of a company's website.   (8 marks)

(c)   Assume data of new Covid-19 infections in Nairobi and Central regions on 20 January 2021 were as shown in the table below:

S/N	Region	Gender	
		Male	Female
1	Nairobi	20	15
2	Central	14	10

Required:
Write HTML code to render the table above on a web browser.   (6 marks)

(Total: 20 marks)

QUESTION THREE

(a)   Write a Jquery element selector that will select and hide all <P> elements on a page when a user clicks a button.

(2 marks)

(b)   Interpret the following script:

```
$(document).ready(function(){
        $('h1').add class('foo');
        });
```
(2 marks)

(c)   Using HTML, demonstrate how to insert a Javascript code which displays an alert with the current to basic. HTML mark up document.

Ensure that the date is displayed regardless of when the user loads the site.   (6 marks)

(d)   Write a query that will create a table called "Mytable" in "mydatabase" database.   (3 marks)

(e)   Create a cookie using PHP named "mtumishi" with the value "mtu wetu". The cookie should expire after 30 days.

(7 marks)

(Total: 20 marks)

QUESTION FOUR

(a)   The target attribute specifies where to open the linked document in a website.

Describe the following values associated with the target attribute:

        (i)   _self   (1 mark)
        (ii)   _blank   (1 mark)
        (iii)   _parent   (1 mark)
        (iv)   _top   (1 mark)

(b)   Write an HTML document that will display the following:

        1.   Home
        2.   School
        3.   Shop
        4.   Church   (4 marks)

(c)   Highlight four encoding methods used for mapping addresses such as ftp into uniform resource locators (URLs).

(4 marks)

(d)   Write the minimum HTML code one needs in order to embed a flash movie whose value is 'myfile.swf' in a browser.   (4 marks)

(e)   Enumerate four steps that an animator could follow to change some text into a graphic symbol using flash application.   (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   In the era of Covid-19 pandemic, cashless payments are inevitable. Highlight four technological requirements that you would encounter when designing an e-payment system.   (4 marks)

(b)   Describe four appropriate technologies that a web designer could use to make a website more interactive.
                                                                                                                        (4 marks)

(c)   Identify four actors involved in content management.   (4 marks)

(d)   Consider the code below:

```
function convert _To _Binary (x) {
        let bin = 0;
        let rem, i = 1, Step = 1;
        while (x ! = 0) {.................................................(iii)
        rem = x % 2;................................................. (i)
        Console.log ('step $ {step ++} : $ {x}/2,
        Remainder = $ {rem}, Quotient = $ {parselnt (x/2')};
        x = parsInt (x/2);
        bin = bin + rem * 1; ...........................................(ii)
        i = i * 10;
}
Console.log ('Binary: $ {bin}');
}
let number = prompt ('Enter a Number;'); }
convert _To _Binary (number );              }        (iv)
}
```

Required:
Explain the purpose of statements or groups of statements (i), (ii), (iii) and (iv).   (4 marks)

(e)   Use a random number to demonstrate the working of the code in (d) above.   (4 marks)

(Total: 20 marks)

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