

2920/304
INTERNET BASED PROGRAMMING
July 2022
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY
MODULE III
INTERNET BASED PROGRAMMING

3 hours

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INSTRUCTIONS TO CANDIDATES

*This paper consists of EIGHT questions.
Answer any FIVE of the EIGHT questions on the answer booklet provided.
Candidates should answer the questions in English.*

This paper consists of 5 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1. (a) Explain the function of each of the following protocols in the Internet: (6 marks)
- File Transfer Protocol;
 - Network News Transfer Protocol;
 - Gopher.
- (b) When Amina downloaded a file from the Internet, she noticed that the file had a ZIP extension. (4 marks)
- Explain the term download.
 - Explain why the document had a ZIP extension.
- (c) Distinguish between an *address bar* and a *status bar* as used in a web browser window. (4 marks)
- (d) Describe **three** types of files that may be used for images during the development of a website. (6 marks)
2. (a) Outline **four** attributes that may be used with `` in HTML. (4 marks)
- (b) Marion has been asked to include graphic editors when acquiring web authoring tools.
- Explain the function of the graphic editor. (2 marks)
 - List **four** examples of the graphic editors that she is likely to acquire. (2 marks)
- (c) Explain each of the following terms as used in the Internet:
- web hosting; (2 marks)
 - thumbnail; (2 marks)
 - online chat. (2 marks)
- (d) (i) Explain the term *broken link* as used in a website. (2 marks)
- (ii) Outline **four** reasons that may cause broken links in a web page. (4 marks)
3. (a) Outline the function of each of the following features labelled (i), (ii) and (iii) on a Web browser window labelled figure 1. (3 marks)

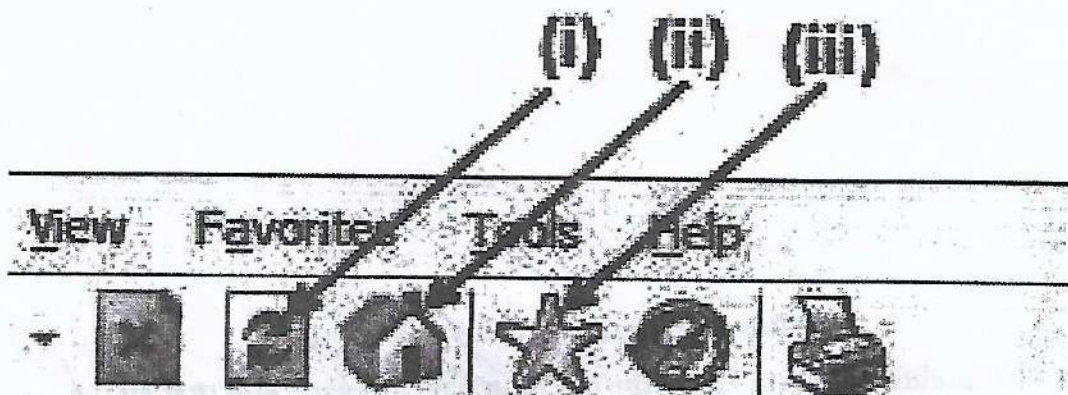


Figure 1

- (b) Distinguish between a *portal web page* and *news web page* as used in the Internet. (4 marks)

- (c) Moses intended to navigate between web pages using links. Outline **three** ways that would help him identify the links on the website. (3 marks)
- (d) The following is a table generated when a HTML code is run on a web browser.

PLACE A BANNER HERE	
Links1	Content goes here
Links2	
Links3	

Table 1

Write the code that would be used to generate table 1 with the following additional features:

- Cell spacing of 1 pixel, Cell padding of size 0 and boarder of size 3;
- First row to have a height of 50 pixel and a background colour of red;
- Second cell to have a width of 30% and background colour of green;
- The text Links1 to link to a page named Home.html.

(10 marks)

4. (a) Outline **four** advantages of using a *dynamic web page*. (4 marks)
- (b) Explain **two** advantages of using *Common Gateway Interface (CGI)* in web development. (4 marks)
- (c) John a web developer opted to use a WYSIWYG editor to develop a web site for an organization. Explain **three** reasons of using this type of editor. (6 marks)
- (d) Write a JavaScript program that uses *OnClick event* to display the statement "Map of Kenya" on an alert box when the map of Kenya image is loaded on the screen. Use a function. (6 marks)
5. (a) Outline **four** advantages of having *internal links* in a web page. (4 marks)
- (b) Explain the function of each of the following statements as used in HTML forms.
- (i) `<input type="text">` (2 marks)
- (ii) `<textarea>` (2 marks)
- (iii) `<select>` (2 marks)
- (c) Distinguish between *responsive* web design and *adaptive* web design. (4 marks)
- (d) Explain **three** reasons for using of JavaScript as a client-side programming language. (6 marks)

6. (a) Explain the function of each of the following features in a web authoring tool:
- (i) hyperlink; (2 marks)
 - (ii) frameset; (2 marks)
 - (iii) layer. (2 marks)
- (b) In order to ensure the confidentiality, integrity, and availability of information in a website, organizations are opting to use various information security control methods. Describe **three** such security control methods. (6 marks)
- (c) Write a HTML code that would display the following form when run on a web browser. (8 marks)

USERNAME:

EMAIL ID:

SELECT GENDER
 Male
 Female

SELECT SUBJECTS
 Maths Science

Description:

7. (a) Outline **four** types of *HTTP method attributes* used to send data when submitting a form. (4 marks)
- (b) Explain the function of each of the following attributes used in a form tag in HTML:
- (i) Target; (2 marks)
 - (ii) Name. (2 marks)
- (c) Distinguish between *response object* and *request object* as used in Active Server Page (ASP) language. (4 marks)
- (d) Write a JavaScript program that prompts a user to enter **three** numbers. The program should then compare the three numbers and display on an alert box the greatest of the three. (8 marks)
8. (a) State the function of each of the following object methods in JavaScript programs.
- (i) Object.entries() (1 mark)
 - (ii) Object.values() (1 mark)
 - (iii) Object.assign() (1 mark)
 - (iv) Object.freeze() (1 mark)

- (b) Andrea intends to developed a user friendliness website. Outline **four** considerations that he should make in order to achieve his objective. (4 marks)
- (c) Write a HTML code that would display the following list when run on a web browser.

Description Lists:

CATEGORIES OF TRANSPORTATION :

4. COMMUNITY TRANSPORTATION
3. INDIVIDUAL SERVICES TRANSPORTATION
2. MANAGED CARE TRANSPORTATION

TYPES OF TRANSPORTATION :

- BUSES
- TRAIN
- AIR

Community Transportation

These are trips provided for members of the general public or clients of human services agencies who travel on group basis.

(6 marks)

- (d) With the aid of **two** examples in each case, distinguish between *primitive* and *non-primitive* data types as used in a JavaScript program. (6 marks)

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