

BOWEN UNIVERSITY IWO, OSUN STATE
COLLEGE OF COMPUTING AND COMMUNICATION STUDIES
COMPUTER SCIENCE PROGRAMME
B. SC. DEGREE FIRST SEMESTER EXAMINATION SESSION: 2023/2024
COURSE CODE: SEN 305 COURSE TITLE: WEB APPLICATION DEVELOPMENT
COURSE CREDIT: 3 DATE: TIME ALLOWED: 2 HOURS 30 MINUTES
INSTRUCTION: Answer any four questions

Question #1

- a) Describe and explain the three-tier architecture and its benefits. 4marks
- b) Compare and contrast the roles of client-side and server-side scripting in web development. 4marks
- c) Explain the following terms: (i) Hypertext Transfer Protocol (HTTP), (ii) Representational State Transfer (REST), (iii) Uniform Resource Identifier (URI), (iv) Request verbs (HTTP verbs/ HTTP methods), (v) A request header, (vi) A request body, (vii) A response header, (viii) A response body. 8marks
- d) Mention and describe the structures of the three places where JavaScript code can be placed. 4marks

Question #2

- a) Write JavaScript code to dynamically create an HTML list ('') with three list items (''), each containing different text. 4marks
- b) Explain the purpose of HTML and CSS in web development. 1mark
- c) Briefly explain the following terms: (i) Selectors, (ii) Universal selector, (iii) Type selector, (iv) Class selector, (v) Multiple classes selector, (vi) ID selector, (vii) Attribute selector 7marks
- d) Briefly discuss the Grid Module and outline the six (6) Grid Container's properties. 8marks.

Question #3

- a) In a diagram, illustrate and discuss how CSS Works. 8marks
- b) Describe the purpose of HTTPS and its importance in securing web applications. 2marks
- c) Explain the two types of display values for HTML elements. 4marks
- d) Write a JavaScript function that toggles the visibility of an HTML element when a button is clicked. 6marks

Question #4

- a) Describe and discuss the CSS box model. 4marks
- b) Explain the concept of responsive web design and provide an example of a CSS property or technique used to create a responsive layout. 4marks
- c) Enumerate and explain the five (5) types of positioning method used for an element in CSS. 10marks
- d) Explain the Document Object Model (DOM) and its role in web development. 2marks

Question #5

- a) Create an HTML document structure for a webpage that includes a header, a navigation bar, a main content area with two paragraphs, and a footer. Style the webpage using an external CSS file to set a background color for the header and center-align the text in the paragraphs. 6marks
- b) Identify two Pros and Cons of using CSS. 4marks
- c) Mention and describe the structures of the three places where Style information can be located when using CSS in a Web application development. 6marks
- d) Write a simple Node.js server that listens on port 3000 and responds with "Hello, World!" when accessed. 4marks

Question #6

- a) Describe the Structure of how an HTML document looks in the browser. 5marks
- b) Outline and explain the simple rules on how to use HTML5. 4marks
- c) In a tabular form, give four (4) advantages and disadvantages of HTML. 8marks
- d) Explain the concept of JavaScript and the different paradigms in JavaScript. 3marks