

EXTC

BE SEM VIII (choice based) Summer 2026

Time: 3 hours

Max. Marks: 80

1415126

Instructions:

- 1) Question No. 1 is compulsory
- 2) Attempt any three questions out of remaining five questions

- Q.1 (a) Define Web Services. Discuss the key advantages and challenges involved in using web services. [5]
- (b) Differentiate between the GET and POST methods in Java Servlets. Highlight their features, uses, and differences. [5]
- (c) Explain the concept of a Web Browser. Describe its working mechanism with the help of a neatly labeled diagram. [5]
- (d) Define the following (any four): [5]
- (i) HTML5
 - (ii) CSS Selector
 - (iii) DOM
 - (iv) Bootstrap
 - (v) Responsive Web Design
- Q.2 (a) Describe the Bootstrap Grid System in detail. Support your explanation with a suitable diagram and a relevant example. [10]
- (b) Discuss the different types of loops available in PHP. Provide suitable examples for each loop. [10]
- Q.3 (a) What is jQuery? Explain its major advantages and list some important features that make it useful in web development. [10]
- (b) Describe the Model-View-Controller (MVC) Architecture. Explain its components and working with the help of a diagram. [10]
- Q.4 (a) Explain the various communication models used in Web Services. Provide suitable examples to support your answer. [10]
- (b) What is HTTP? Draw the structure and explain the format of an HTTP Request and an HTTP Response message in detail. [10]
- Q.5 (a) Describe the life cycle of a Servlet. Include a clear and labeled diagram, and explain the different methods invoked at each phase of the life cycle. [10]
- (b) Draw and compare the diagrams of an AJAX-based Web Application Model and a Traditional Web Application Model. Highlight the differences between the two. [10]
- Q.6 (a) Write a program using CSS to demonstrate: [10]
- Inline CSS, Internal CSS, External CSS
- (b) Design an HTML form to collect student details, including: [10]
- Student ID (text field), First Name (text field), Last Name (text field), Address (text area), Gender (radio buttons), Department Name (drop-down list)
- Also, include a Submit button to submit the form data and a Reset button to clear the form fields.
