PAPER ID-311115

Roll No: | | | | | | | | | | | | |

MCA
(SEM III) THEORY EXAMINATION 2024-25
WEB TECHNOLOGY

TIME: 3 HRS   M.MARKS: 100

Note: **Attempt** all Sections. In case of any missing data, choose suitably.

SECTION A

1.   **Attempt** *all* **questions in brief.**   **2 x 10 = 20**

Q no.	Question	CO	Level
a.	Define HTML and explain its significance in web development.	CO1	K1
b.	What is the difference between inline and block elements in HTML?	CO1	K2
c.	What is an external style sheet? How is it linked to an HTML document?	CO2	K2
d.	Explain the purpose of float and clear properties in CSS.	CO2	K2
e.	What is the use of JavaScript let and var keywords?	CO3	K1
f.	Explain the concept of DOM and its significance in JavaScript.	CO3	K2
g.	How is JSP better than Servlet?	CO4	K2
h.	Define include and forward tag of JSP.	CO4	K1
i.	Write the difference between Spring and Spring Boot?	CO5	K2
j.	Write the directory structure of Spring Boot framework	CO5	K1

SECTION B

2.   **Attempt any** *three* **of the following:**   **10 x 3 = 20**

Q no.	Question	CO	Level
a.	Discuss the history of the web and the role of protocols like HTTP, HTTPS, and FTP in web communication.	CO1	K3
b.	Write a JavaScript program to calculate and display the factorial of a number entered by the user. Explain the logic used.	CO2	K3
c.	Describe the servlet life cycle in detail. Explain how HTTP GET and POST requests are handled in servlets with examples.	CO3	K4
d.	Explain the concept of Dependency Injection (DI) in the Spring framework. Differentiate between Constructor Injection and Setter Injection with examples.	CO4	K4
e.	What are the main components of a Spring Boot RESTful API? Explain with an example illustrating GET and POST endpoints.	CO5	K4

SECTION C

3.   **Attempt any** *one* **part of the following:**   **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Write the HTML code for creating a form with input fields for name, email, and a submit button. Explain each element used in the form. Also use inline CSS for each component.	CO1	K4
b.	Explain Bootstrap and its role in responsive web design. Discuss any two Bootstrap classes with examples.	CO1	K4

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4. **Attempt any *one* part of the following:**   **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Write a JavaScript program that takes an array of numbers as input and returns the largest number. Explain the logic. Also swap two variables without using third variable using java script.	CO2	K4
b.	Discuss UI Events in JavaScript. Provide examples to demonstrate click and on mouse over events. Write the code for alerts using java script.	CO2	K4

5. **Attempt any *one* part of the following:**   **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Describe the servlet life cycle in detail. Explain how HTTP GET and POST requests are handled in servlets using servlet code.	CO3	K5
b.	Write a Servlet code for database connectivity along with an explanation of scripting elements.	CO3	K5

6. **Attempt any *one* part of the following:**   **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Describe Spring AOP (Aspect-Oriented Programming). How does it improve modularity? Provide an example.	CO4	K5
b.	Discuss the different bean scopes available in the Spring framework. Explain with code.	CO4	K5

7. **Attempt any *one* part of the following:**   **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Write and explain a Spring Boot RESTful web service to handle CRUD operations (GET, POST, PUT, DELETE) for an entity Student.	CO5	K6
b	Explain the purpose of Spring Boot Actuator. How can it be used for monitoring applications? Provide an example.	CO5	K6