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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2025 - 2026)

Subject: Modern Web Applications

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- (1.1) Identify the static website from the following options: (CO1,K1) 1
- (a) Google Docs
 - (b) Personal Portfolio without user login
 - (c) Facebook
 - (d) Amazon
- (1.2) Programs that request data from servers is called : (CO1,K1) 1
- (a) users
 - (b) hosts
 - (c) clients
 - (d) programs
- (1.3) The tag which allows you to nest other HTML tags within the description: (CO2,K1) 1
- (a) CAPTION
 - (b) TD
 - (c) TR
 - (d) None of the above
- (1.4) The space between border and content is: (CO2,K1) 1
- (a) margin
 - (b) padding
 - (c) outline
 - (d) gap

- (1.5) Preferred tag for placing JS code: (CO3,K1) 1
- (a) div
 - (b) head
 - (c) script
 - (d) js
- (1.6) Standard MIME type for JS: (CO3,K1) 1
- (a) text/html
 - (b) application/javascript
 - (c) text/css
 - (d) text/jscript
- (1.7) Selector for an element with ID 'menu': (CO4,K1) 1
- (a) \$('menu')
 - (b) \$('#menu')
 - (c) \$('menu')
 - (d) \$('div.menu')
- (1.8) jQuery method used to attach an event: (CO4,K1) 1
- (a) .do()
 - (b) .event()
 - (c) .on()
 - (d) .fire()
- (1.9) Format typically used for RESTful request and response messages. (CO5,K1) 1
- (a) JPEG
 - (b) HTML
 - (c) JSON
 - (d) EXE
- (1.10) Response code indicating successful GET request. (CO5,K1) 1
- (a) 404
 - (b) 500
 - (c) 200
 - (d) 302

2. Attempt all parts:-

- (2.1) Differentiate between Web Client & Web Server.(CO1,K2) 2
- (2.2) Illustrate the concept of an ID selector in CSS.(CO2,K2) 2
- (2.3) Compare break and continue statements.(CO3,K2) 2
- (2.4) State advantages of AJAX in web applications.(CO4,K1) 2
- (2.5) Analyze the use of GET and POST methods in RESTful design.(CO5,K4) 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Outline the structure of client–server architecture with a labeled diagram. Also define transparency and explain its role in the system.(CO1,K3) 6

(3.2)	Differentiate between web pages and websites with suitable examples.(CO1,K2)	6
Answer any one of the following:-		
(3.3)	Design a table in HTML to display student data with borders and alignment.(CO2,K3)	6
(3.4)	Create a web page using HTML and CSS markup for showing text properties and font properties.(CO2,K3)	6
Answer any one of the following:-		
(3.5)	Develop a program that utilizes a switch statement to print the names of the days in a week.(CO3,K3)	6
(3.6)	Compare `var`, `let`, and `const` with code examples.(CO3,K4)	6
Answer any one of the following:-		
(3.7)	Differentiate between .container and .container-fluid, and explain the role of .row in the Bootstrap grid system.(CO4,K2)	6
(3.8)	Demonstrate event handling using AngularJS directives.(CO4,K3)	6
Answer any one of the following:-		
(3.9)	Discuss the use of JSON and XML as data formats in RESTful messages, highlighting their advantages and disadvantages.(CO5,K2)	6
(3.10)	Evaluate the importance of RESTful services in scalable web application design.(CO5,K5)	6
SECTION-C		50
4. Answer any <u>one</u> of the following:-		
(4.1)	Compare the Client–Server Model and Three-Tier Architecture in terms of scalability, performance, and data flow.(CO1,K4)	10
(4.2)	Outline the working of a web browser and a web server, and describe their interaction in the client–server architecture with the help of a labeled diagram.(CO1,K2)	10
5. Answer any <u>one</u> of the following:-		
(5.1)	Create a web page which displays a hyperlink for each subject in your current semester. When the user clicks a link, it should open the respective subject & page. (Note: The subject pages can be empty). Use CSS pseudo classes on hyperlinks.(CO2,K3)	10
(5.2)	Design registration form and login form that are linked to each other, If account exists than login, otherwise register or signup for login in registration form.(CO2,K3)	10
6. Answer any <u>one</u> of the following:-		
(6.1)	Analyze the concept of the Document Object Model (DOM) and its structural organization.(CO3,K4)	10
(6.2)	Analyze the differences between client-side and server-side JavaScript, including their advantages and disadvantages.(CO3,K4)	10
7. Answer any <u>one</u> of the following:-		
(7.1)	Examine the Bootstrap grid system and assess its significance in designing responsive layouts.(CO4,K4)	10

- (7.2) Analyze AngularJS services and their role in enabling data sharing across controllers.(CO4,K4) 10
8. Answer any one of the following:-
- (8.1) Compare idempotent and safe HTTP methods and discuss their significance in RESTful communication.(CO5,K4) 10
- (8.2) Analyze stateless communication in REST architecture and evaluate its impact on scalability, reliability, and performance.(CO5,K4) 10

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