



Vidyavardhini's College of Engineering and Technology
Department of Artificial Intelligence & Data Science

AY: 2025-26

Class:	TE	Semester:	V
Course Code:	CSCS02	Course Name:	WC

Name of Student:	Dhanashree Gawar
Roll No. :	218
Assignment No.:	01
Title of Assignment:	18/07/25 Apply fundamental web tech for creating web application.
Date of Submission:	28/07/25
Date of Correction:	30/07/25

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Completeness	5	3
Demonstrated Knowledge	3	3
Legibility	2	1
Total	10	7

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Completeness	5	3-4	1-2
Demonstrated Knowledge	3	2	1
Legibility	2	1	0

Checked by

Name of Faculty :

Signature :

Date :

Bhawat
9/9/25



Q1) Explain how DNS works and the process it follows to resolve domain names to IP address.

The Domain Name System (DNS) is a hierarchical and decentralized system used to translate human readable domain names (like www.google.com) into machine readable IP address (like 142.250.183.68). Since computers use IP address to identify each other on the internet, DNS plays a critical role in enabling user friendly internet navigation.

* DNS Resolution Process:

i) User Requests a Website :

When a user enters a domain name in their web browser needs the IP address associated with that domain to connect to the website.

ii) Check Local Cache :

The operating system first checks the local DNS Cache to see if the IP address is already stored from a previous lookup. If found, it is used immediately.

iii) Query the Recursive Resolver :

If not in the local cache, the request is sent to a DNS recursive resolver. The recursive resolver is responsible for tracking down the IP address by querying other DNS servers.

iv) Contact Root DNS Servers:

The recursive resolver contacts a root DNS server, which doesn't know the final IP but responds with the address of a Top-level Domain (TLD) server.

v) Contact TLD DNS Server:

The resolver then contacts the TLD server, which provides the IP address of the authoritative DNS servers for the domain.

Q 2) Compare the two protocols used for formatting and transmitting the messages over the internet with respect to encryption, authentication, integrity and application.

→ The HTTP (Hypertext Transfer protocol) and HTTPS (HTTP server or HTTP over SSL/TLS) are two commonly used internet communication protocols.



Aspect	HTTP	HTTPS.
ii) Encryption	Not encrypted. Data is transmitted in plain text, making it vulnerable to eavesdropping.	Encrypted using SSL/TLS. Protects data from interception during transmission.
iii) Authentication	No mechanism to verify the identity of the website.	Uses digital certificates to authenticate the website.
iv) Integrity	Data can be modified or corrupted during transmission without detection.	Ensures data integrity. Any tampering is detected and rejected.
v) Application	Used for general browsing where security is not a concern.	Used for secure applications like banking, online shopping, login forms and data transfer.

Q3) Identify and explain the different methods to retrieve the resource, create new resource, update the resource, modify the resource and delete the resource while

* REST (Representational state transfer):

- The REST is an architectural style used for designing networked applications.
- It uses standard HTTP methods to perform operations on resources, which are identified by URIs.

* Different methods:

i) Retrieve a Resource:

HTTP method: GET.

- Used to fetch or read data from the server.
- Safe & idempotent
- Eg: GET /users/101 returns details of user with ID 101.

ii) Create a New Resource:

HTTP method: POST

- Used to create a new resource on the server.
- Sends data in the request body.
- Eg: - POST /users creates a new user with the given data.

iii) Update a Resource:

HTTP method: PUT

- Used to replace an existing resource entirely.
- Requires complete data.
- Eg: - PUT /users/101 replace 101's data with new data.

iv) Modify a Resource:

HTTP method: PATCH

- Used to partially update a resource.
- Only the modified fields are sent.
- Eg: - PATCH /users/101 updates only specified fields of user 101.

v) Delete a Resource:

HTTP method: DELETE

- Used to remove a resource from the server.

Eg:-

DELETE /users/101 deletes user 101.