1. Use wireshark
   1. Analyze the difference between HTTP vs HTTPS. (50)
   2. Analyze the various security mechanisms embedded with different protocols. (50)
2. Use OWASP ZAP to identify vulnerabilities within a web application.
3. Create simple REST API using Python & Perform HTTP Requests.
4. Perform Vulnerability testing within a web application using Burp Suite.
5. Perform a Attack on a Website Using Social Engineering Method.
6. Use Wireshark to capture and analyze SSL/TLS traffic and explain how these protocols secure data in transit.
7. Analyze the session management mechanisms of a web application using browser developer .
8. Explore various security testing tools provided by OWASP (e.g., OWASP ZAP, OWASP Dependency-Check) to understand their functionalities and usage.
9. Use browser developer tools or a tool like Wireshark to analyze HTTP headers exchanged between a client and server, focusing on security-related headers like Content-Security-Policy and X-Frame-Options.
10. Analyze the cookies used by a web application to understand how session management and authentication are handled, and identify any potential security risks.
11. Use a tool like Burp Suite to test a website's protection against click jacking by attempting to overlay content from another site onto the target site.
12. Develop a basic security incident response plan for a web application, outlining steps to take in case of a security breach.
13. Cross-Origin Resource Sharing (CORS) Analysis
    1. Use a web browser's developer tools to inspect CORS headers in HTTP responses.
    2. Visit a website that makes cross-origin requests and analyze the CORS headers to understand the cross-origin policy implemented by the server.
14. Use a web security testing tool (e.g., CSP Evaluator) to analyze the CSP implementation of a website.
15. Use a web security testing tool (e.g., HPKP Analyzer) to analyze the HPKP implementation of a website.
16. Create simple REST API using python for following operation
    1. GET
    2. PUSH
17. Create simple REST API using python for following operation
    1. POST
    2. DELETE
18. Use Burp Suite to identify SQL injection vulnerabilities within a web application
19. Use Burp Suite to identify SQL cross- site scripting(XSS) vulnerabilities within a web application.
20. Use Burp Suite to attack the website using social engineering method.