

Question Paper

Exam Date & Time: 29-Apr-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
Second Semester Master of Engineering - ME (Cyber Security) Degree Examination - April / May 2024

Web Application Security [CYS 5204]

Marks: 100

Duration: 180 mins.

Monday, April 29, 2024

Answer all the questions.

- 1) Explain any five threats involved in Web Application Security with an example.[L3 C01 PO1] [1X10 =10 Marks] (10)
- 2) For the given scenario identify the name of the attack and explain the about the attack. (10)
 - an attacker can type code into a website's search box to force the SQL server to dump stored usernames and passwords.
 - attacker uses multiple breached devices at the same time to attack the victim
 - attacker injecting malicious shell script into an application.
 - Attacker gathers a list of legitimate usernames, and then attempting a common password against each of these usernames.[L3 C01 PO2] [1X10 =10 Marks]
- 3) Explain the different stages of Penetration Testing.[L3 C02 PO2] [1X10 =10 Marks] (10)
- 4) What is Information Gathering. Differentiate between Active and Passive Information Gathering with examples.[L3 C02 PO4] [1X10 =10 Marks] (10)
- 5) Identify the vulnerability for the following scenario and provide the mitigation technique to overcome the vulnerability. (10)

Scenario:
Suppose we have a simple online banking application where users can view their account details after logging in. The application uses user IDs as object identifiers.

[L4 C03 PO5] [1X10 =10 Marks]
- 6) Explain API Injection with an example and provide the solution to mitigate the injection. (10)

[L4 C03 PO5] [1X10 =10 Marks]
- 7) Devise a STRIDE based Threat model for the School Management system.[L3 C02 PO2] [1X10 =10 Marks] (10)
- 8) Compare Command Injection and SQL Injection with an Example.[L4 C02 PO4] [1X10 =10 Marks] (10)
- 9) Discuss various password cracking techniques with respect to Brute force method.[L4 C03 PO4] (10)

[1X10 =10 Marks]

- 10) Explain session management, and why is it important for web application security.[L4 C03 PO4] (10)
[1X10 =10 Marks]

-----End-----