GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications	Branch/Spec.	Master of Computer Applications
Semester	III	Version	1.0.0.0
Effective from Academic Year	2021-22	Effective for the batch Admitted in	June 2020
Subject Code	Elective-III P13A4CSF2	Subject Name	Cyber Security and Forensic-II

Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total

(Per week)	L	TU	P	TW	Total		CE	SEE	Total
Credit	2	1	2	-	5	Theory	40	60	100
Hours	2	1	4	-	7	Practical	20	30	50

Objective:

- To become aware of different aspects of securities in the context of web applications

Pre-requisites:

- Basic knowledge of Metasploit framework.
- Client and Server Scripting technology.
- Coding of Java Script, PHP script
- Any computer programing language

Course Outcomes :

Name of CO	Description
CO1	To understand different types of web application attacks.
CO2	To understand usage of metasploit framework for securing web.
CO3	To understand and apply several testing to check security on web application.
CO4	Working with live web application for testing purpose.

Mapping of CO and PO											
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	1	1	2	1	1	1	3	1	1
CO2	2	2	1	1	2	3	2	1	1	2	1	2
CO3	1	2	1	1	1	2	1	1	2	2	1	1
CO4	2	2	2	1	2	3	2	1	1	3	1	2

Content:

Unit	SECTION – I	Hrs
1	**Input Validation Testing** Testing for Reflected Cross Site Scripting, Testing for Stored Cross Site Scripting, Testing for HTTP Verb Tampering, Testing for HTTP Parameter pollution, Testing for SQL Injection, Testing for LDAP Injection, Testing for XML Injection, Testing for Code Injection	12

	Vulnerability scanner: The Basic Vulnerability Scan, Scanning with NeXpose, Scanning with Nessus, Specialty Vulnerability Scanners, Using Scan Results for Auto ping	
2	**Metasploit:** Basic commands,Armitage GUI,Pro Console,Vulnerability scan **Exploitation:** Basic Exploitation, Exploiting Your First Machine, Exploiting an Ubuntu Machine, All-Ports Payloads: Brute Forcing Ports, Resource Files, Wrapping Up	11
SECTION – II		
3	**Session Management Testing** Testing for Bypassing Session Management Schema, Testing for Cookies attributes, Testing for Session Fixation, Testing for Exposed Session Variables, Testing for Cross Site Request Forgery (CSRF), Testing for logout functionality, Test Session Timeout.	11
4	**Client Side Testing** Testing for Client Side URL Redirect, Testing for Clickjacking, Test Cross Origin Resource Sharing, Testing for Spoofable Client IP address	11

Practical Content:
List of programs specified by the subject teacher based on above mentioned topics

Text Books:	
1	Metasploit The Penetration Tester's Guide - David Kennedy, Jim O'Gorman, Devon Kearns, and MatiAharoni

Reference Books:	
1	The Web Application Hecker's Handbook 2 – DafyddStuttard , Marcus Pinto
2	Metasploit for Begineers-sagar rahalkar-Packt

Web References / MOOC / Certification Course	
1	https://www.tutorialspoint.com/metasploit/index.htm
2	https://nptel.ac.in/courses/106/105/106105217/

Question Paper Scheme:
University Examination Duration: 3 Hours Note for Examiner: - (I) Questions 1 and 4 are compulsory with no options. (II) Internal options should be given in questions 2, 3, 5 and 6. **SECTION - I** Q.1 –8 Marks Q.2 –11 Marks Q.3 –11 Marks **SECTION - II** Q.4 –8 Marks Q.5 –11 Marks Q.6 –11 Marks