

ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार - शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur.

VIVEKANAND COLLEGE, KOLHAPUR

(An Empowered Autonomous Institute)

Affiliated to Sivaji University

NAAC Reaccredited "A+" CGPA 3.29 | College with Potential for excellence | ISO 9001:2015

Department of Computer Studies

NOTICE

Date: 29th July 2025

Open Book Test – Ethical Hacking

This is to inform all **MCA II Year students** that an **Open Book Test** will be conducted as part of the internal assessment for the subject **Ethical Hacking**.

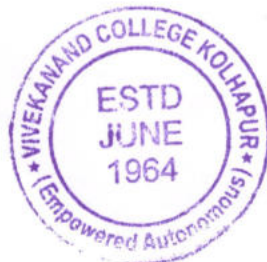
Test Details:

- **Subject:** Ethical Hacking
- **Type of Test:** Open Book
- **Date:** 29/07/2025
- **Time:** 11:00AM to 12:00PM
- **Venue:** Room No. 510

Instructions:

1. Students are allowed to bring their textbooks, printed notes, and class materials.
2. Attendance is **mandatory**.
3. Be punctual and adhere to academic honesty.

All students are advised to prepare accordingly and utilize this opportunity to deepen their understanding of ethical hacking concepts.




(Mr. V.B. Pujari)

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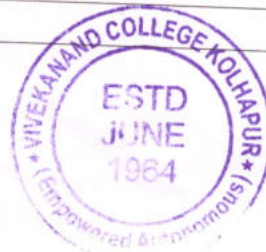
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MCA DEPARTMENT- OPEN BOOK TEST

Date -29/07/2025

ROLL NO.	NAME	Sign
1	AGLAVE AARTI HARIDAS	
2	*AMANE SALONI SATISH	<u>Amani</u>
3	*APATE KOMAL ARVIND	<u>Komal</u>
4	*BAVADEKAR MANASI PRAKASH	<u>Manasi</u>
5	*BHOI SHREYA SACHIN	<u>Shreya</u>
6	BHOSALE KARTIK KUMAR	<u>Kartik</u>
7	*BHOSALE DEVIKA RAMCHANDRA	<u>AB</u>
8	CHAVAN ABHISHEK RAJESH	<u>Chavale</u>
9	*CHAVAN PRANALI SUHAS	<u>Chavan</u>
10	*CHECHAR ADITI UTTAM	<u>Aditi</u>
11	*SHIVANI DATTATRAY CHOPADE	<u>Shivani</u>
12	CHOPADE JAMES PRAVIN	<u>Chopade</u>
13	*CHORMARE PRERANA SANJAY	<u>PR</u>
14	*CHOUGALE NANDINI SHASHIKANT	<u>Chougale</u>
15	*JADHAV HARSHADA MOHAN	<u>Harshada</u>
16	JADHAV AKASH SURYAKANT	<u>AB</u>
17	*JADHAV RADHIKA NITIN	<u>Radhika</u>
18	*JADHAV NISHA GUNDOPANT	<u>AB</u>
19	KAKADE SIDDHESH VINIT	<u>AB</u>
20	*KALE SHRUTI SATISH	<u>Shruti</u>
21	*KAMAT SWATI SHRIKANT	<u>AB</u>
22	KAMBALE SHREYASH RAJENDRA	<u>AB</u>
23	KAMBLE RUTVIK MURALIDHAR	<u>Ravi</u>
24	KAMBLE VINAY KAKASO	<u>AB</u>
25	KHADRE JAY SANJAY	<u>Khadre</u>
26	*KHAMBE VAISHNAVI MADHUKAR	<u>AB</u>
27	*KHOT SAKSHI DATTATRAY	<u>Sakshi</u>
28	*KOKATE SANDHYA ARUN	<u>Kokate</u>
29	KORADE SIDDHESH RAMAKANT	<u>Korade</u>
30	*KOTAMIRE POURNIMA UJWAL	<u>Pournima</u>
31	KUMBHAR SOURABH RAJESH	<u>Kumbhar</u>
32	*KUMBHAR POOJA MARUTI	<u>AB</u>
33	*LOKHANDE ASHLESHA ANANDA	<u>AB</u>



34	LOTAKE OM RAHUL	<u>Lotake</u>
35	*MAGDUM JYOTI KUMAR	AB
36	MAHADIK SANGRAMSINH TATYASAHEB	AB
37	*MARALKAR PRATIKSHA VITTHAL	<u>Sudhar</u>
38	NADAWADE PRASANNAJEET BHAGAVAN	<u>P. B. W.</u>
39	NIGADE SNEHAL RAMCHANDRA	<u>SP. Nigade</u>
40	*NILKANTH NIKITA NAMDEV	<u>Nilkant</u>
41	PATEL MUHAFIJ GOUSMAHAMAD	<u>M. Patel</u>
42	PATHAN AAKIBMATIN FIROZKHAN	<u>A. Pathan</u>
43	*PATIL SHIVALI SANDIP	<u>S. Patil</u>
44	*PATIL SHRAVANI MALGOUNDA	<u>Sh. Patil</u>
45	*PATIL SHREYA SHAMRAO	<u>Sh. Patil</u>
46	*PATIL VAISHNAVI VISHWAS	<u>V. Patil</u>
47	*PATIL VAISHNAVI BALIRAM	<u>V. Patil</u>
48	*PATIL ROHINI DATTATRAY	<u>R. Patil</u>
49	PRASAD VIVEK KALPNATH	<u>P. Prasad</u>
50	*SANGAR SHITAL RAVINDRA	<u>S. Sangar</u>
51	*SHAIKH SUMAIYA AMAN	<u>S. A. S.</u>
52	SHELAKH PARTH PRABHAKAR	<u>S. Shelake</u>
53	*SHINDE ARATI ARUN	<u>A. Shinde</u>
54	SHIVASHARAN ADITYA RAMESH	<u>S. Shivasharan</u>
55	*THOMBARE SHRUTI VILAS	<u>T. Thombare</u>
56	*TUPE SHREYA MOHAN	<u>T. Tupe</u>
57	*VADD SHWETA YASHVANT	<u>V. Vadd</u>
58	*VARNE SAKSHI SUNIL	<u>V. Varne</u>
59	*WAINGADE SAMRUDDHI SANJAY	<u>S. Waingade</u>
60	YADAV AISHWARYA SANJAY	<u>A. Yadav</u>
61	*KHADE SHARVARI EKNATH	AB

FACULTY SIGN

(Mr. Vaishnav. V. Shegale)





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MCA – II Semester – III Open Book Test– I Result Subject: Ethical Hacking

Marks: 20

Date: 29/07/2025

ROLL NO.	NAME	MARKS
1	AGLAVE AARTI HARIDAS	11
2	*AMANE SALONI SATISH	13
3	*APATE KOMAL ARVIND	10
4	*BAVADEKAR MANASI PRAKASH	12
5	*BHOI SHREYA SACHIN	13
6	BHOSALE KARTIK KUMAR	AB
7	*BHOSALE DEVIKA RAMCHANDRA	14
8	CHAVAN ABHISHEK RAJESH	13
9	*CHAVAN PRANALI SUHAS	12
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20	*KALE SHRUTI SATISH	15
21	*KAMAT SWATI SHRIKANT	AB
22	KAMBALE SHREYASH RAJENDRA	AB
23	KAMBLE RUTVIK MURALIDHAR	09
24	KAMBLE VINAY KAKASO	AB
25	KHADRE JAY SANJAY	10
26	*KHAMBE VAISHNAVI MADHUKAR	AB
27	*KHOT SAKSHI DATTATRAY	11
28	*KOKATE SANDHYA ARUN	13
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58	*VARNE SAKSHI SUNIL	12
59	*WAINGADE SAMRUDDHI SANJAY	12
60	YADAV AISHWARYA SANJAY	11
61	*KHADE SHARVARI EKNATH	15
		AB

Vaishnavi
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Vaishnavi
Mr. Vaishnav V. Shegale



Ethical Hacking

Q-1 What is Ethical Hacking? Explain its purpose and give one real life example where ethical hacking helped protect data and systems.

→ Ethical Hacking means hacking done legally and with permission to find security problems (called vulnerabilities) in a system applications or network.

Definition:

Ethical Hacking is the authorized act of breaking into computers and devices to test an organization's defenses. It's also known as penetration testing or white-hat hacking.

Purpose of Ethical Hacking:

- To protect data, networks and systems.
- To find and fix security issues before a criminal hackers can find and exploit them.
- Used by companies to keep their systems safe.

Real life example:

A big company like Google has something called a "bug bounty program".

They pay ethical hackers to find bugs or security issues in their apps and websites. One hacker found a big security problem in Gmail, reported it, and got a reward. This helped protect million of users.

Q.2 Describe any three type of hacker what are they called? what is their intention? Give one simple example of each.

→ Hackers are usually grouped based on their intentions (good or bad) and the method they use.

Below are three common types:

1. White Hat Hacker (Ethical Hacker)

- These are ethical hackers who use their skills to protect systems.
- They work with permission from the organization.
- Their goal is to find security issues and fix them.

Example: A cybersecurity expert hired by a bank to test its systems and report weaknesses.

Intent: Good (Defensive)

2. Black Hat Hacker (Malicious Hacker)

- These are criminal hackers who break into systems illegally.
- They steal data, cause damage or demand ransom.
- These hackers act without permission and often for personal gain, revenge or political motives.

Example: A hacker who breaks into a company's database and steals customer credit card information.

3. Grey Hat Hacker (Mixed intentions)

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- These hackers fall between white and black hat.
- They may hack without permission but don't harm the system intentionally.
- Sometimes they report the issue afterward - but still without legal authorization.

Example :

- A hacker finds a bug on a government website and reports it without permission.
- Sometimes asks for money or credit after reporting the issue.

Q.3 Explain the five phases of Ethical Hacking with example,

→ 1. Reconnaissance (Information Gathering):

- The Hacker collects information like domain names, email IDs, IP addresses etc.
- Example: finding out what software a website is using.

2. Scanning:

- Tools are used to scan the target system to find weaknesses.
- Examples: finding open ports using a tool like Nmap.

3. Gaining Access:

- Try to enter the system using passwords, malware or known bugs.
- Example: Logging in using a weak admin password.

4. Maintaining Access:

- keeping access inside the system to do further testing.
- Example: Installing a tool that lets you re-enter later.

5. Cleaning Tracks:

- Erasing logs so no one knows hacking happened (not done in real ethical hacking).
- But still studied to understand how bad hackers hide.

Q.5 Three networking security steps for Wifi:

→

1. Use Strong Passwords:

- Avoid using "123456" or "admin"

- Use complex passwords with letters, numbers and symbols.

◦ Example : N3twork\$@fe 2025

2. Enables WPA2 / WPA3 Encryption:

- This makes your Wifi signal secure.

- Prevents people from reading your internet traffic.

3. Update Your Router:

- Just like your phone needs updates, routers do too.

- New updates fix security bugs and protect you.

outdated software = easy target for hacker.

4.

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Page No.

Date

Name: Sandhya A. Kokate

Roll No: 28

Subject: Ethical Hacking

Q. 1) What is Ethical Hacking? Explain its Purpose & give one real life example where ethical Hacking helped protect data or systems.

Ans: Ethical Hacking is the practice of authorized penetration testing to identify security vulnerabilities in computer systems & networks, with the goal of improving overall security posture.

Purpose of Ethical Hacking:

- Identify vulnerabilities: - Ethical Hackers simulate real-world attacks to uncover weaknesses in systems, applications & networks.
- Improve Security posture:
By identifying & fixing vulnerabilities, organizations can proactively strengthen their defences & prevent potential breaches.
- Protect data & systems:
Ethical Hacking helps safeguard sensitive information & critical infrastructure from malicious actors.
- Ensure compliance:
Ethical hacking can help organizations meet

regulatory requirements & industry best practices related to cybersecurity.

Real-life example: -

Imagine a large e-commerce company that relies heavily on its website to process transactions & customer data. An ethical Hacking team is hired to conduct a penetration test on the website. The team uses various techniques to try & breach the system, including, web application testing, vulnerability scanning & social engineering.

Q. 2] Describe any three types of Hackers.

Ans: Here are three common types of Hackers,

1. White Hat Hackers

- What are they called?
- White Hat Hackers or 'Ethical Hackers'.
- What is their intention?
- To help organizations find & fix security vulnerabilities before malicious hackers can exploit them.

• Example:

A security expert is hired by a bank to test their website for security flaws. He discovers a vulnerability in the login system & reports it so it can be fixed.

2. Black Hat Hackers

- What are they called?
 - Black Hat Hackers
- What is their intention?
 - To exploit systems for personal gain, such as, stealing data, damaging systems, or spreading malware.
- Example:
 - A Hacker breaks into an online store's server & steals customer's credit card information to sell on the dark web.

3. Grey Hat Hackers

- What are they called?
 - Grey Hat Hackers
- What is their intention?
 - To find vulnerabilities without permission often without harmful intent, but still breaking the law or rules.
- Example: -
 - A Hacker finds a security flaw in a government website, fixes it, & then emails the officials about the fix without asking for permission first.

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9.37

Feature	Active attack	Passive Attack
Action	Modifies or disrupts the system / data	Monitors or gathers data without changing it.
Purpose	To alter, damage or destroy	To spy or collect information silently.
Visibility	Often noticeable (e.g. system malfunction)	Hard to detect (no changes to system)
Harm	Direct (e.g. data loss, service interruption)	Indirect (e.g. stolen confidential information)

• Examples of Each attack

• Active Attack example:

Man-in-the-Middle (MITM) Attack

- A Hacker intercepts & alters the communication between two users (e.g. changing a bank transfer amount)

• Passive attack example:

- Eavesdropping / Sniffing

An attacker secretly listens to network traffic to steal sensitive data like login credentials.

• Prevention Methods

Active Attack Prevention:

- Use encryption protocols (e.g. HTTPS, SSL/TLS)
- Implement firewall & intrusion detection systems
- Keep s/w & system updated to patch known vulnerabilities.

Passive Attack prevention:

- 04
- Encrypt all sensitive communications (e.g. VPNs, SSL/TLS)
 - Use secure wireless networks with strong Wi-Fi encryption (e.g. WPA3)
 - Monitor network traffic for unusual activity using intrusion detection tools.

Q.67

Ans -

The Information Technology Act, 2000 (IT Act 2000) is a law passed by the Indian Government to regulate cyber activities & provide legal recognition to electronic documents & digital transactions.

Main Purpose of the IT Act 2000

To:

- Facilitate electronic governance.
- Prevent cybercrimes.
- Provide legal backing to digital signatures & e-commerce.
- Protect data & ensure online security.

Two important changes in the 2008 Amendment:

1. Introduction of section 66A (Later Struck Down):

- This section criminalized sending offensive messages through communication services, including social media & email.

2. Recognition of cybercrime offenses:

- New sections (66B to 66F) were added to define & penalize specific cybercrimes like identity theft, cyber terrorism, data theft, phishing & more.

Why This Act is Important for cybersecurity:

- Legal framework for Digital offenses: It provides a structured legal basis to detect, investigate, & prosecute cybercrimes in India.
- Promotes safe Digital Transactions: By enabling penalties for hacking, data breaches, & unauthorized access, it helps build trust in digital services.