Total No. of Questions : 5]

SEAT No. : ____

PC-3694

[Total No. of Pages : 2

[6333] - 31
S.Y. B.Sc.
CYBER & DIGITAL SCIENCE
CDS-231: Basics of Ethical Hacking
(2020 Pattern) (Semester - III)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) **Attempt any ten of the following :** **[10 × 1 = 10]**

a) List down any four types of Malwares.

b) What is Brute Force Attack?

c) What is enumeration?

d) What is Vertical Privilege Escalation?

e) Define SUDO.

f) Justify True/False "Security increases system function and ease of use decreases for user".

g) List down any two OWASP web application vulnerabilities.

h) What is WPA?

i) What is Beacon Frames?

j) State use of Linux Password Enumeration.

k) What is Cross site scripting?

1) Define Man-in-the-Middle Attack.

P.T.O.

Q2) **Attempt any Five of the following** : **[5 × 2 = 10]**

a) What is CIA Triad? Explain with example.

b) Write a short note on Sniffing Attacks.

c) What is pivoting? Write down its types.

d) List down primary components of 802.11 Protocol.

e) What is Mitigation?

f) What is Evil Twin Attack?

Q3) **Attempt any Four of the following :** **[4 × 5 = 20]**

a) Differentiate between Bind Shell and Reverse Shell.

b) What is Trojan? What is the purpose of the Trojan?

c) Describe Life Cycle of Social Engineering.

d) Who is hacker? Explain different types of hackers.

e) Explain different Authentication Issues in Web Application Hacking.

Q4) **Attempt any Four of the following :** **[4 × 5 = 20]**

a) Differentiate between Phishing and Vishing.

b) What is ethical hacking? Explain different phases of ethical hacking.

c) What is OSINT? Differentiate between Passive and Active OSINT.

d) What is injection in ethical hacking? Explain XML Injection and CRLF Injection.

e) What is Privilege Escalation? Explain its types.

Q5) **Attempt any One of the following :** **[1 × 10 = 10]**

a) List down the advantages and disadvantages of Ethical Hacking. **[5]**

b) What is foot printing? Explain its types. **[3]**

c) Explain SNMP protocol. **[2]**

OR

a) What are the different tools used for ethical hacking? **[5]**

b) Explain Nmap **[3]**

c) What is the use of Registry in Windows Privilege Escalation? **[2]**

Total No. of Questions : 5]

SEAT No. : ____

PC-1665

[Total No. of Pages : 2

[6333]-32

S.Y. B.Sc.

CYBER AND DIGITAL SCIENCE

CDS - 232 : Database Management Systems

(2020 Pattern) (Semester - III)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) **Attempt any 10 of the following :** **[10 × 1 = 10]**

a) What is DBMS?

b) List out the types of Data Models.

c) Define the term Domain.

d) List out Relational Algebra Operations.

e) Define the term Decomposition.

f) List out the types of Functional Dependencies.

g) Define the term schedule.

h) What is Distributed Database?

i) Define the term Dead lock?

j) What is precedence graph?

k) What is phantom problem?

l) Define the term Data Warehousing.

Q2) **Attempt any Five of the following :** **[5 × 2 = 10]**

a) Explain composite and multivalued attribute.

b) What is outer join?

c) Explain the concept of Indexing and Hashing.

d) Explain view serializability.

e) What is XML Database? List out its types.

f) Define the term lock. List out its types.

P.T.O.

Q3) **Attempt any four of the following :** **[4 × 5 = 20]**

a) What is Data Independence? Explain its types.

b) Explain the structure of RDBMS.

c) What is Normalization? Explain its types.

d) What are various deadlock recovery techniques? Explain.

e) Explain applications of multimedia database.

Q4) **Attempt any four of the following :** **[4 × 5 = 20]**

a) Define Relation. Explain the types of relation.

b) F = (A $\rightarrow$ B, CD $\rightarrow$ E, A $\rightarrow$ C, B $\rightarrow$ D, E $\rightarrow$ A) compute the closure of F i.e. F^+.

c) What is transaction? Explain ACID properties.

d) Explain timestamp based protocol.

e) Write a note on shadow paging.

Q5) **Attempt any one of the following :** **[1 × 10 = 10]**

a) Explain Dirty read problem with example. **[5]**

b) What are the advantages of Object Oriented Databases? **[3]**

c) Explain any 2 E-R notations. **[2]**

OR

a) Give non-serial schedules which are serializable for following. **[5]**

T_1	T_2
Read (x)	Read (y)
x = x - 50	y = y + 100
Write (x)	Write (y)
Read (y)	Read (z)
y = y + 50	z = z - 50
Write (y)	Write (z)

b) Explain Thomas write rule. **[3]**

c) Explain super key and primary key. **[2]**

Total No. of Questions : 5]

SEAT No. : ____

PC-1666

[Total No. of Pages : 2

[6333]-33

S.Y. B.Sc.

CYBER AND DIGITAL SCIENCE

CDS - 233 : Data Structure using Python

(2020 Pattern) (Semester - III)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) **Attempt any Eight of the following.** **[8 × 2 = 16]**

a) What is Weighted Graph?

b) What is Height Balanced Tree? How to calculate height of a tree?

c) List out any two asymptotic natations with syntax.

d) What is Time complexity? How to calculate it?

e) What are the non-linear data structures?

f) What is difference between stack and queue?

g) What are the ancestors of a Node in a tree?

h) Give best case and worst case time complexity of Merge sort.

i) Define Linked List and state the types of linked list.

j) What is linear search? When it will be more efficient?

Q2) **Attempt any Four of the following.** **[4 × 4 = 16]**

a) Differentiate between DFS and BFS.

b) Explain an algorithm to convert infix expression to postfix expression with an example

c) Explain tree traversing techniques with an example.

d) Explain Binary search method with an example.

e) Sort the following data by using Selection sort technique:

98, 6, 1, 90, 65, 2, 78, 55, 3

P.T.O.

Q3) **Attempt any FOUR of the following.** **[4 × 4 = 16]**

a) Write a function to add a node at the end of singly linked list.

b) Write a python frogram for the implementation of Circular Queue.

c) Write a python program for the implementation of insertion sort technique.

d) Write a python program to create and display doubly linked list.

e) Write a python program for the implementation of stack.

Q4) **Attempt any FOUR of the following.** **[4 × 4 = 16]**

a) Explain Prim's algorithm for minimul spanning tree with an example.

b) Construct binary search tree for the following data:
JUL, JAN, FEB, DEC, MAY, APR, SEPT, OCT, JUN.

c) Explain Quick sort technique with an example.

d) Write a function to delete first Node from doubly linked list.

e) Write a function to search a given node in singly linked list.

Q5) **Attempt any Two of the following.** **[2 × 3 = 6]**

a) Explain any two AVL rotations with an example.

b) Write a function to add a node by position in a circular singly linked list.

c) Explain Heap sort technique with an example.

Total No. of Questions : 5]

SEAT No. : ____

PC1667

[Total No. of Pages : 3

[6333]-41

S.Y. B.Sc. (Cyber and Digital Science)

CDS-241 : Principles of Operating Systems

(2020 Pattern) (Semester - IV) (24101)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks***
3) ***Draw diagrams wherever necessary.***

Q1) Attempt Any Ten of the following. **[10×1=10]**

a) What is system call and system program?

b) What is turnaround time and waiting time'?

c) What is context switch and context switch time?

d) What do you mean by I/O bond and CPU bond processes.

e) What is Semaphore and what are the types of Semaphores?

f) What is critical section problem?

g) What is safe and unsafe state?

h) What is page hit and page fault?

i) What is file system?

j) When will file system fragmentation occur? What is the solution for fragmentation?

k) List the Names of different Open Source and Close Source Operating System.

l) Which Module gives control of the CPU to the process selected by the Short-term Scheduler.

P.T.O.

Q2) Answer any Five of the following. **[5×2=10]**

a) What are advantages of Distributed O.S.

b) What is Free space Management.

c) What do you understand by Banker's algorithm?

d) List different CPU Scheduling Criteria's and Why Criteria's are important.

e) List the common types of file system are used in various operating system.

f) What is Resource allocation Graph?

Q3) Answer any Four of the following. **[4×5=20]**

a) Consider the following set processes CPU time given in millisecond. Illustrate the execution of processes using pre-emptive SJF CPU scheduling algorithm and Draw the Gantt-chart, calculate the turnaround time, waiting time, average turnaround time and average waiting time.

Process	Arrival Time	Burst Time
P0	3	1
P1	1	1
P2	0	2
P3	2	3
P4	2	4

b) Consider following set of reference string 2 3 2 1 5 2 4 5 3 2 5 2. Assume 3 free frames. Find the number of page fault according to FIFO, LRU page replacement algorithm.

c) What is fragmentation? Explain with its types.

d) What are four necessary conditions to be hold simultaneously in system to deadlock avoidance?

e) Explain the dining philosopher Problem?

Q4) Answer any Four of the following. **[4×5=20]**

a) Define the Process. Explain the Process State transition diagram in brief.

b) Consider a system with 5 processes P0 to P4 and 3 Resource types A, B, C where A has 10 instances, B has 5 instances, C has 7 instances. Suppose at the time to the System the Snapshot is as follows.

	Allocation			Max			Available		
	A	B	C	A	B	C	A	B	C
P0	0	1	0	7	5	3	3	3	2
P1	2	0	0	3	2	2			
P2	3	0	2	9	0	2			
P3	2	1	1	2	2	2			
P4	0	0	2	4	3	3			

i) What is Content of Need Matrix?

ii) Is System in a Safe State.

iii) If a Request from process P1 arrives for additional resource (1, 0, 2) can the request is granted immediately.

c) Explain the First fit, Best fit and Worst fit strategies.

d) Write a note on two level directory structures.

e) What is operating System? Explain the various services provided by operating Services.

Q5) Answer any one of the following. **[1×10=10]**

a) Explain the Swapping with the help of Suitable diagram. **[5]**

b) What is purpose of using Semaphores? How are semaphores used in concurrent Processing? **[3]**

c) Consider a reference String 3, 2, 1, 0, 3, 2, 4, 3, 2, 1, 0, 4. Assume number of free frames = 3. Find out the number of page fault using OPT Page replacement. **[2]**

OR

a) Explain linked file allocation ?State advantages & disadvantages of linked allocation. **[5]**

b) What is multilevel Queue Scheduling. **[3]**

c) Define Thrashing, Rollback. **[2]**

Total No. of Questions : 5]

SEAT No. : ____

PC-1668

[Total No. of Pages : 2

[6333]-42

S.Y. B.Sc.

CYBER AND DIGITAL SCIENCE

CDS - 242 : Web and Mobile Application

(2020 Pattern) (Semester - IV) (24103)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

Q1) **Attempt any EIGHT of the following (Out of TEN).** **[8 × 2 = 16]**

a) 'What is JavaScript? Write any two advantages of JavaScript

b) Define Anchor tag with syntax.

c) List the types of Style sheets.

d) Define ordered list with attributes.

e) What is the use of $ symbol in Regular Expression.

f) What is the use of document object in JavaScript?

g) List any two advantages of PHP.

h) Define Threat.

i) Define Event.

j) What are listeners in Android?

Q2) **Attempt any FOUR of the following (Out of FIVE).** **[4 × 4 = 16]**

a) Differentiate between JavaScript and PHP.

b) Describe the structure of an Android project in Kotlin.

c) Explain features of Kotlin.

d) Explain various operators and data types available in java script with examples.

e) Explain the structure of the HTML webpage with an example.

P.T.O.

Q3) **Attempt any FOUR of the following (Out of FIVE). [4 × 4 = 16]**

a) Expiain the lifecycle of an Android Activity and how it relates to Kotlin programming.

b) Explain Variable function in PHP with an example.

c) Explain about Cascading Style Sheets with an example.

d) Build a JavaScript program to check whether number is Amstrong or Not.

e) Write a PHP program to print reverse of given number.

Q4) **Attempt any FOUR of the following (Out of FIVE). [4 × 4 = 16]**

a) Discuss the role of XML layouts in Android apps.

b) Explain TextView with 4 properties in Android.

c) Explain the process of encrypting a message using symmetric encryption algorithms.

d) Differentiate between HTTP and HTTPS in terms of security.

e) Explain String Functions in PHP.

Q5) **Write a short note on Any TWO of the following (Out of THREE).[2 × 3 = 6]**

a) Cybersecurity threats.

b) Type casting and type conversion in Kotlin variables.

c) Control structures in PHP.

Total No. of Questions : 5]

SEAT No. : ____

PC-1669

[Total No. of Pages : 2

[6333] - 43
S.Y. B.Sc.
CYBER & DIGITAL SCIENCE
CDS-243: Network Security and Cryptography
(2020 Pattern) (Semester - IV) (24105)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) **Attempt any ten of the following :** **[10 × 1 = 10]**

a) Define Electronic Codebook (ECB)

b) Why is asymmetric cryptography bad for huge data? Specify the reason?

c) Define DSS.

d) Define Block cipher.

e) What is cryptography?

f) What is mean by Brute-Force Attack

g) Define steganography

h) Specify the four categories of security threats.

i) What is the use of SSH in cyber security?

j) Why network need security?

k) Which are the objectives of hash function security?

l) What do you mean by PKCS?

Q2) **Attempt any Five of the following** : **[5 × 2 = 10]**

a) Define confidentiality and authentication.

b) What is mean by SHA-256?

c) Compare RC4 and RC5.

P.T.O.

d) Differentiate symmetric and asymmetric encryption?

e) What is mean by digital signature?

f) Define with example E-mail Security services.

Q3) **Attempt any Four of the following :** **[4 × 5 = 20]**

a) Describe in detail Network Security Model.

b) Explain the detail procedure for creating digital certificates.

c) Convert "MEET ME" using Hill cipher with the key matrix Convert the cipher text back to plaintext.

$$\begin{bmatrix} 17 & 17 & 5 \\ 21 & 18 & 21 \\ 2 & 2 & 19 \end{bmatrix}$$

d) Explain RSA algorithm with example.

e) What is the difference between differential and linear cryptanalysis.

Q4) **Attempt any Four of the following :** **[4 × 5 = 20]**

a) Perform encryption and decryption using RSA Alg. for the following. P=17; q=11; e=7; M=88.

b) Explain in detail about DES.

c) Describe substitution techniques in detail.

d) Explain Symmetric Key Cryptography.

e) Write a note on- SHA-3.

Q5) **Attempt any One of the following :** **[1 × 10 = 10]**

a) i) Explain Blowfish algorithm in detail with example. **[5]**

ii) Explain Transposition Techniques **[3]**

iii) Define secure hash algorithms. **[2]**

OR

b) i) Explain Simple Hash Functions in details. **[5]**

ii) Explain Knapsack Algorithm. **[3]**

iii) What are the services provided by PGP? **[2]**

Total No. of Questions : 5]

SEAT No. : ____

PC1670

[Total No. of Pages :2

[6333]-51

T.Y.B.Sc. (Cyber & Digital Science)

CDS - 351 : DIGITAL FORENSICS - I

(2020 Pattern) (Semester- V)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) Attempt any Ten of the following: **[10×1=10]**

a) Define Cyber Crime.
b) Which are the two types of memory types?
c) Define Digital evidence.
d) Write down any two Computing Environment.
e) What is GUI?
f) Define Digital Forensics.
g) Name any two File Systems.
h) Define Search Warrant.
i) Define DHCP.
j) Define Forensic Workstations.
k) Name any two primary storage.
l) Define Mobile Forensics.

Q2) Attempt any Five of the following: **[5×2=10]**

a) What is Law enforcement?
b) What is digital file metadata?
c) Explain challenges of Acquiring Digital Evidence.
d) What are the firewalls?
e) What are Validation Protocols?
f) What are network Forensics?

P.T.O.

Q3) Attempt any Four of the following: **[4×5=20]**

a) Explain Digital Forensics and its goals.

b) Solve the following.

i) Convert the binary number 111011001 into a decimal number.

ii) Convert 111102 into a decimal number system.

c) Explain Chain of Custody in detail.

d) Explain the different types of Computing Environment.

e) Explain Order of Volatility.

Q4) Attempt any Four of the following: **[4×5=20]**

a) What is Cybercrime Attack Mode? How computers are used in cybercrimes?

b) Explain Different types of Computer Storage.

c) Explain in detail - Digital Forensics Examination Process.

d) Explain incident response process.

e) Explain Digital Forensics Hardware Tools.

Q5) Attempt any One of the following: **[1×10=10]**

a) Explain Different types of digital forensics. **[5]**

b) Differentiate between Digital Forensics vs. Other Computing Domain. **[3]**

c) Explain Computer Encoding Character Schema. **[2]**

OR

a) Explain the Duty of First Responder Tasks. **[5]**

b) Write note on: Capturing Network Traffic. **[3]**

c) Explain Digital Evidence types. **[2]**

Total No. of Questions : 5]

SEAT No. :

PC1671

[Total No. of Pages : 3

[6333]-52

T.Y. B.Sc. (Cyber & Digital Science)

CDS - 352 : CYBER THREAT INTELLIGENCE

(2020 Pattern) (Semester - V)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) Attempt any Ten of the following: **[10×1 = 10]**

a) Name one tool used for analyzing cyber threat data.

b) What is threat intelligence?

c) Define cyber incident information-sharing.

d) What does APT stand for in cybersecurity?

e) What is standardization in information sharing?

f) What is the primary goal of intelligence communities in cybersecurity?

g) Name one infrastructure component essential for CTI communities.

h) Define data breach in the context of cybersecurity?

i) What is the main purpose of situational awareness models in cybersecurity?

j) Define information leakage in cybersecurity.

k) What is one challenge associated with sharing threat information?

l) What is the main goal of national threat intelligence (TI)?

P.T.O.

Q2) Attempt any five of the following: **[5×2 = 10]**

a) Identify two challenges organizations face in threat information sharing.

b) How do tooling and infrastructure support CTI communities?

c) What is the primary purpose of monitoring raw data in cybersecurity?

d) How does the legal and regulatory landscape affect cybersecurity information sharing?

e) What are two primary responsibilities of cybersecurity centers?

f) List two benefits of having a well-structured CTI community.

Q3) Attempt any four of the following: **[4×5 = 20]**

a) Elaborate on each step of the cyber kill chain, highlighting the importance of each phase in preventing cyber-attacks.

b) Compare and contrast two methods of analyzing raw monitoring data to derive cybersecurity insights.

c) What are the responsibilities and tasks of cybersecurity centers in ensuring national cybersecurity, explain with examples.

d) Explain the role of infrastructure in supporting the growth and collaboration within a CTI community.

e) Explain the term disproportionate mitigation measures and provide one example.

Q4) Attempt any four of the following: **[4×5 = 20]**

a) Explain the benefits and challenges of cross-organizational threat information sharing, providing examples for each.

b) How does efficient cooperation and coordination help in achieving effective information sharing in cybersecurity?

c) Explain the relationship between cybercrime and cybersecurity, including how they influence each other in the modern digital landscape.

d) What are the advantages and limitations of using raw monitoring data for cyber threat analysis?

e) What are the potential legal barriers to data transfer in cybersecurity and how organizations can navigate them?

Q5) Attempt any one of the following: **[1×10 = 10]**

a) Explain the roles, responsibilities, and processes within a National TI Framework and how they contribute to its success. **[5]**

b) Describe one technology used to implement a National TI Framework and its importance. **[3]**

c) What are the key challenges in deriving insights from raw monitoring data? **[2]**

OR

a) How can organizations balance the need to share security-relevant information while protecting personal data and maintaining anonymity? **[5]**

b) What role does the EU Cybersecurity Legal Framework play in cross-border data transfer? **[3]**

c) Explain the role of anonymization in sharing security-relevant information. **[2]**

Total No. of Questions : 5]

SEAT No. :

PC1672

[6333]-53

[Total No. of Pages : 2

T.Y.B.Sc (Cyber & Digital Science)
CDS - 353 : INFORMATION SECURITY POLICY AND AUDIT
(2020 Pattern) (Semester-V)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) Attempt any TEN of the following : **[10 x 1=10]**

a) What is IT governance?

b) What is Information Security?

c) Define HMAC.

d) Define Network security.

e) What is Cryptography.

f) What is the role of a Forensic Investigator?

g) What is an Audit report?

h) What is the role of a public key in asymmetric encryption?

i) Define Cloud Computing.

j) List the different threats that affects the information Security?

k) What is the purpose of logging controls?

Q2) Attempt any FIVE of the following : **[5×2=10]**

a) What is Operating system security? Name two common methods used in operating system security.

b) What is the main difference between Encryption and Hashing?

c) What is Computer forensics? Name two common tools used in computer forensics.

d) What is COBIT? What is the main purpose of COBIT?

e) Define Computer-Assisted Audit Tools (CAATs). Name two common types of CAATs.

f) Explain the following terms

i) User Security Policy

ii) System Security Policy

P.T.O.

Q3) Attempt any FOUR of the following : **[4×5=20]**

a) What is Contingency plan? Explain its Stages.

b) Write down the steps of information security audit reports.

c) Explain ISO/IEC 27001 standard for information security.

d) Explain the importance of incident reporting in maintaining organizational security. How incident reporting process help in detection and mitigation of security threats?

e) Define Domain. Explain the following terms

i) Active Directory

ii) Group Policy

iii) Organizational Unit (OU)

iv) Directory permissions

Q4) Attempt any FOUR of the following : **[4×5=20]**

a) What is the difference between Symmetric and Asymmetric key Cryptography?

b) What are the Frameworks & Standards for Cyber Security Domains?

c) Explain Network Attacks and also explain hosted and web based attacks.

d) Short note on Log monitoring

e) Explain the concept of risk management in information security.

Q5) Attempt any One of the following : **[1×10=10]**

a) Explain ISMS briefly. **[5]**

b) What is Physical Security ? Explain the types of Physical Security. **[3]**

c) Define IPSec **[2]**

OR

a) What strategies do you use to identify' areas of vulnerability within an organization's IT infrastructure? **[5]**

b) What is Digital Signature ? Explain its working in detail. **[3]**

c) Define Disaster recovery. **[2]**

■■■■

Total No. of Questions : 5]

SEAT No. :

PC-1673

[Total No. of Pages : 2

[6333] - 54
T.Y. B.Sc. (Cyber & Digital Science)
PROFESSIONAL ELECTIVE - I
CDS-357A Mobile Forensics
(2020 Pattern) (Semester - V)

Time : 2 Hours] ***[Max. Marks : 35***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks***
3) ***Drawdiagramswherevernecessary.***

Q1) **Attempt any eight of the following :** **[8 × 1 = 8]**

a) Define Mobile Stations

b) What is a SIM?

c) What is Micro Read?

d) NAND memory is made up of multiple _____.

e) Which Cellebrite UFED solutions can perform Physical acquisition of mobile devices?

f) Which acquisition method can be used to retrieve data from severely damaged devices?

g) Who are the main users of the ParabeniRecovery Stick?

h) Name the tool that can decode and analyze Call Data Records (CDRs)?

I) Which is the proprietary file system developed by Apple?

j) What is logical acquisition?

P.T.O.

Q2) **Attempt any Four of the following** : **[4 × 2 = 8]**

a) Enlist Acquisition Methods

b) Enlist the categories of mobile operating systems

c) Name two types of data that the iRecovery Stick can retrieve from an ioS device. And explain how

d) Justify True or False “In the evidence acquisition phase, the first task is to identify the mobile device make and model. This information includes the device manufacturer and the device specific model.”

e) Enlist Micro Systemation AB (MSAB)

Q3) **Attempt anyTwo of the following :** **[2 × 4 = 8]**

a) What can affect Artefacts extraction from a mobile device?

b) Write a note on phases of Mobile Forensics Process.

c) What is Oxygen Forensics?

Q4) **Attempt anyTwo of the following :** **[2 × 4 = 8]**

a) Write a note on Examination and Analysis phase of mobile forensics process

b) What is the primary purpose of the ParabeniRecovery Stick?

c) Explain why Bypassing the security controls on mobile devices is not an easy task

Q5) **Attempt any One of the following :** **[1 × 3 = 3]**

a) Write a note on SIM security

OR

b) What is Physical Acquisition?

Total No. of Questions : 5]

SEAT No. : ____

PC-1674

[Total No. of Pages : 2

[6333] - 55
T.Y. B.Sc.
CYBER & DIGITAL SCIENCE
CDS-357B: Cloud Security
(2020 Pattern) (Semester - V) (Professional Elective - I)

Time : 2 Hours] ***[Max. Marks : 35***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) **Attempt any eight of the following :** **[8 × 1 = 8]**

a) What are the main service models of cloud computing?

b) What is data classification?

c) What are the cloud assets?

d) What are the key components of an IAM system.

e) What is Finding Leaks?

f) What is Compute Resource? Write any one example.

g) What is utility computing?

h) What do you mean by Infrastructure as a Service (IaaS)?

i) What role do Single Sign-On (SSO) solutions play in IAM?

j) Why is revalidation important for maintaining security?

Q2) **Attempt any Four of the following** : **[4 × 2 = 8]**

a) What are the characteristics of confidential data?

b) Differentiate the private cloud and public cloud.

c) What are the three data classification levels?

d) Define the CREATE operation in the context of IAM. What types of entities can be created?

e) How can tooling leaks impact data security?

f) Write a short note on network assets.

Q3) **Attempt any Two of the following :** **[2 × 4 = 8]**

a) What are the three pillars of data security?

b) What is Community cloud? Explain in details.

c) What is biometric authentication? Discuss the different types of biometric methods.

Q4) **Attempt any Two of the following :** **[2 × 4 = 8]**

a) Which are the different data identification services available?

b) What are the main types of access control models?

c) Why Multi-Factor Authentication (MFA) is important in IAM?

Q5) **Attempt any One of the following :** **[1 × 3 = 3]**

a) Describe the Cloud Computing Architecture.

b) Explain the lifecycle for Identity and Access management.

OR

b) What are the four pillars of data asset management?