22MCAH301 Reg No : .....

CHOICE BASED CREDIT SYSTEM

MASTER OF COMPUTER APPLICATIONS THIRD SEMESTER DEGREE EXAMINATION MAY 2025

Research Methodology

Duration:3 Hours Max Marks:70

Part A

I. Answer any THREE of the following : 3×4= 12

1. Compare and contrast Applied and fundamental research with an example.
2. Enumerate the factors that must be considered by researcher for data collection.
3. Elucidate the various factors that affect Literature Review.
4. Enumerate the types of marks used in IPR.

Part B

II. Answer any FOUR of the following : 4×7= 28

5. Throw light on the layout of thesis at the end of research process.
6. Explain the concept of simple random sampling with an example.
7. Give a comparison between surveys and experiments.
8. Explain the structure of Literature Review document in research.
9. Enumerate the various types of trademark infringements.

Part C

III. Answer any THREE of the following : 3×10= 30

10. "The task of defining a research problem follows a sequential pattern" Explain.
11. Enumerate the steps that a researcher must perform in research design.
12. Explain the significance of research report and narrate the various steps involved in writing a research report.
13. "Plagiarism plays a vital role in research". Justify the statement.

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22MCAH303 Reg No : .....

CHOICE BASED CREDIT SYSTEM

MASTER OF COMPUTER APPLICATIONS THIRD SEMESTER DEGREE EXAMINATION MAY 2025

Information and Cyber Security

Duration:3 Hours Max Marks:70

Part A

I. Answer any THREE of the following : 3×4= 12

1. Explain risk assessment and incident response.
2. Explain the role of a security council in an organization.
3. Explain the key reasons for securing infrastructure services.
4. Analyze how threat intelligence contribute to proactive cybersecurity defense strategies

Part B

II. Answer any FOUR of the following : 4×7= 28

5. Analyze challenges in maintaining and updating security policies.
6. Examine the evolution of storage security from traditional storage to modern cloud-based security.
7. Explain the core functions of a firewall.
8. Brief about the application layer firewalls and how does deep packet inspection (DPI) work.
9. Describe virtualization technology with its security challenges.

Part C

III. Answer any THREE of the following : 3×10= 30

10. Analyze how firewalls and Intrusion Detection and Prevention Systems (IDPS) integrate to enhance security.
11. Explain the core principles of Information Security.
12. Illustrate public-key cryptography with a neat diagram
13. Explain the major security threats faced by mobile devices. Provide examples and mitigation strategies for the same.

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22MCAS305 Reg No : .....

CHOICE BASED CREDIT SYSTEM

MASTER OF COMPUTER APPLICATIONS SEMESTER THIRD SEMESTER DEGREE EXAMINATION MAY 2025

C# and Dot Net Technology

Duration:3 Hours **Max Marks:70**

Part A

I. Answer any THREE of the following : **3×4= 12**

1. Explain the role of CTS in .NET and how does it ensure type safety and interoperability?
2. Write a C# program to square the elements of an array using the concept of indexers.
3. Describe the role of HTML markup within an ASP.NET Web Form and how it integrates with server-side controls?
4. Explain GridView Control in detail.

Part B

II. Answer any FOUR of the following : **4×7= 28**

5. Explain with an example the concept of enumerations in C# and also discuss the key differences between enumerations and constants.
6. Explain the principle of encapsulation in OOP with C# and also describe how encapsulation is achieved through access modifiers.
7. What are Lambda Expressions? Create a C# program that utilizes lambda expressions to calculate volumes of any three geometric solids.
8. Explain the use of RangeValidator and CompareValidator in performing input data validations in ASP.NET.
9. Explain in detail SQLConnection and SQLCommand classes used in ADO.NET.

Part C

III. Answer any THREE of the following : **3×10= 30**

10. List and explain in detail the different elements of an ASP.NET Web Form.
11. Write a C# program that includes a class named Product with properties such as name, ID, category, quantity, and price. Implement methods to add new products, update product quantities and display product details.

12. Explain try, catch, finally and throw blocks with respect to Exception handling in C#.

13. Design an ASP.NET Website that performs CRUD operations on PhoneBook(ID,FirstName, LastName, Contact, Email) table using ADO.NET Connected Architecture.

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22MCADE315 Reg No : .....

CHOICE BASED CREDIT SYSTEM

MASTER OF COMPUTER APPLICATIONS THIRD SEMESTER DEGREE EXAMINATION

MAY 2025

Ethical Hacking

Duration:3 Hours **Max Marks:70**

Part A

I. Answer any THREE of the following : **3×4= 12**

1. Discuss five popular tools used for vulnerability assessment.
2. Analyze the countermeasures that can be implemented to protect against system hacking.
3. Discuss real-world incidents where attackers successfully bypassed IDS, firewalls, or honeypots.
4. Discuss wireless network security threats, and their impact on cybersecurity.

Part B

II. Answer any FOUR of the following : **4×7= 28**

5. Discuss malware detection methods Summarize the countermeasures to enhance cybersecurity defenses.
6. Discuss passive and active footprinting with examples.
7. Identify password cracking tools and techniques and evaluate preventive measures to mitigate their impact on system security.
8. Explain the various methods used to evade IDS.
9. Discuss the security risks associated with mobile applications and how can they be mitigated.

Part C

III. Answer any THREE of the following : **3×10= 30**

10. Discuss the concept of session fixation and how it can be mitigated.
11. Analyze how information assets contribute to the overall value of an organization.
12. Analyze the measures organizations implement to prevent DoS attacks.
13. Discuss the role of Security Information and Event Management (SIEM) in cybersecurity operations.

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