

QP CODE: 25805792



Reg No : .....

Name : .....



**I M C A DEGREE EXAMINATION, DECEMBER 2025**  
**Ninth Semester**  
INTEGRATED MCA  
**CORE - IMCA9C02 - NETWORK SECURITY WITH IPR**  
2020 Admission Onwards  
F01CFA6D

Time: 3 Hours

Maximum: 75 Marks

**Part A**

*Answer any **ten** questions*

*Each question carries **3** marks*

1. Describe three common network security threats related to unauthorized access.
2. What is the role of data encryption in protecting network communications?
3. Compare and contrast packet filtering firewalls and stateful inspection firewalls.
4. Explain the concept of "signature-based detection" in HIDS.
5. What is Network-Based Intrusion Detection, and how does it function?
6. What is an Intrusion Detection Exchange (IDE) and how does it enhance security?
7. How do Authentication Headers (AH) and Encapsulating Security Payload (ESP) contribute to IPsec's security services?
8. How does the Security Association (SA) help in the establishment of secure communication between two devices in IPsec?
9. Outline the format of PGP message.
10. Why is Transport Layer Security (TLS) preferred over SSL for securing web communications today?
11. What are the objectives of DRM system?
12. Why is it important for Information Systems (IS) professionals to follow a code of conduct?

(10×3=30 marks)

**Part B**

*Answer **all** questions*  
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Turn Over





13. a) "Today's network security threats are a serious concern". Identify some of the most dangerous threats.

OR

b) Differentiate between screened hostfire wall system configurations single homed bastion host and dual homed basion host.

14. a) Discuss the different categories of intruders in a network and how their actions can be detected and mitigated by intrusion detection systems.

OR

b) Explain about Malicious softwares.

15. a) Provide an in-depth explanation of how IPsec provides data confidentiality, integrity, and authentication. Discuss the role of Encryption, Authentication Header (AH), and Encapsulating Security Payload (ESP) in achieving these goals.

OR

b) Discuss the Internet Key Exchange (IKE) protocol in detail. Explain its two-phase process and how it facilitates the secure exchange of cryptographic keys.

16. a) Explain PGP message reception in fdetail with suitable diagram.

OR

b) Describe the payment processing steps in SET with suitable diagrams.

17. a) What is the Digital Millennium Copyright Act (DMCA), and how does it address online copyright infringement?

OR

b) Describe ACM Code of Ethics and Professional Conduct.

(5×9=45 marks)

