

MASTER OF SCIENCE (INFORMATION SECURITY) (MSCIS)

MSCIS/ASSIGN/2025

**ASSIGNMENTS
JULY 2025**

Semester-IV

MSE-033, MSE-034, MSE-035, MSE-036 and MSEL-037

**SCHOOL OF VOCATIONAL EDUCATION AND TRAINING
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068**

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Course Code : **MSE-033**
Course Title : **Web Application Testing and Audit**
Maximum Marks : **100**
Weightage : **30%**
Last date of Submission : **31st October, 2025 (For latest update, Pl. check IGNOU's Website)**

Attempt any five questions out of seven questions. Each question carries 20 marks. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

- Q1: Explain attacks using HTML5. How can it be secured?
- Q2: Describe standards of web services and their application on securing issues.
- Q3: What do you mean by Web Security Protocol? Explain SET protocol and PEM protocol.
- Q4: Explain the following: a) Session Management Vulnerabilities
b) Web Application Audit Tools
- Q5: Describe the fundamentals of web application security audit.
- Q6: What do you mean by Encryption? How does it work?
- Q7: Explain OWASP top application security risks with illustration.

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Course Code : **MSE-034**
Course Title : **E-commerce and Cyberspace**
Maximum Marks : **100**
Weightage : **30%**
Last date of Submission : **31st October, 2025 (For latest update, Pl. check IGNOU's Website)**

Attempt any five questions out of seven questions. Each question carries 20 marks. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

Q1: Explain applicable Laws Covering Online Contracts.

Q2: Discuss future of e-commerce in India.

Q3: What is the function of trademark? When can a trademark be eligible for registration?

Q4: Distinguish between Traditional Litigation in courts and under Arbitration rule.

Q5: Explain Online Payments and the information Technology Act, 2000.

Q6: Difference between Traditional Contract and Online Contract. Why online contracts are considered to be more secure?

Q7: Discuss Indian position on ISP Liability for Copyright Infringement

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Course Code	:	MSE-035
Course Title	:	IoT Security
Maximum Marks	:	100
Weightage	:	30%
Last date of Submission	:	31st October, 2025 (For latest update, Pl. check IGNOU's Website)

Attempt any five questions out of seven questions. Each question carries 20 marks. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

Q1: Explain the importance of IoT.

Q2: Explain the following communication protocols with reference to the IoT devices:

- a) IPv6
- b) MQTT

Q3: What is Edge computing? Discuss the working of Edge computing. Also, describe the relation between Edge computing, Fog computing and Cloud Computing, with the help of a suitable block diagram?

Q4: Explain applications of Fog computing.

Q5: What are the Challenges of IoT.

Q6: Explain the term Internet of Things (IoT). List and explain the various components used to implement IoT. Give characteristics of IoT. Briefly discuss the following types of IoT:

1. Consumer IoT (CIoT)
2. Industrial IoT(IIoT)
3. Infrastructure IoT
4. Internet of Military Things (IoMT)

Q7: Discuss the top 10 emerging IoT technologies.

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Course Code	:	MSE-036
Course Title	:	Latest Trends Information and Cyber Security
Maximum Marks	:	100
Weightage	:	30%
Last date of Submission	:	31st October, 2025 (For latest update, Pl. check IGNOU's Website)

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Q1: Discuss Endpoint Defense Strategies.

Q2: What do you mean by Moving Target Defense (MTD) and what are the basic principles of designing MTD?

Q3: List and explain the phases involved in Cyber Kill Chain (CKC).

Q4: Discuss Block Chain Technology and Security in detail.

Q5: Explain Attack Modeling Techniques in detail.

Q6: Discuss types of Ransomware in detail.

Q7: What is Zero-Day attack and why is it dangerous? What are the ways to Minimize Zero-Day Attack Risks?

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Course Code	:	MSEL-037
Course Title	:	Practical (Web Application, Audits, e-commerce security and IoT)
Maximum Marks	:	100
Weightage	:	30%
Last Dates for Submission	:	31st October, 2025 (For latest update, Pl. check IGNOU's Website)

This assignment has two Questions, answer all questions. Each Question is of 20 marks. Your Lab Records will carry 40 Marks (20 Marks for each Question). Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the programme guide for the format of presentation.

Note: You must execute the program and submit the program logic, sample input and output along with the necessary documentation. Assumptions can be made wherever necessary.

Q1: Explain industry-standard tools and techniques for mobile application development and security with examples. **(20 marks)**

Q2: Explain IoT Device Auditing and overview of IoT devices and their vulnerabilities with examples. **(20 marks)**

Note: Make necessary assumptions if any.