



**NARSIMHA REDDY
ENGINEERING COLLEGE**

An Autonomous Institution | Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

SYSTEM AUDIT AND ASSURANCE

Quality, Security, and Governance in Information Systems

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About the Institution

Narsimha Reddy Engineering College (NRCM), established in 2007, is a premier UGC Autonomous institution in Secunderabad.

- ✓ Permanently Affiliated to JNTUH
- ✓ Accredited by NBA & NAAC with 'A' Grade
- ✓ Center of Excellence in Technical Education
- ✓ Promotes Innovation and Research-driven Learning



UNIT-I: System Audit and Assurance

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FUNDAMENTALS

Core Concepts of Unit I

This unit provides the foundational understanding of auditing information systems. It explores the relationship between technology, control systems, and organizational integrity.

Key topics include System Audit definitions, Assurance services, professional certifications like CISA, and frameworks like COBIT.

What is a System Audit?



Process

A systematic examination and evaluation of an organization's IT infrastructure and operational environment.



Assessment



Focuses on ensuring that controls are in place to safeguard assets and maintain data integrity.





Alignment

Verifies if Information Systems are aligned with the overall business objectives and goals.

System Audit Objectives (Part 1)

-  **Protect Data and Resources:** Ensuring that sensitive organizational data is shielded from unauthorized access or theft.
-  **Ensure System Reliability:** Verifying that systems perform consistently and provide accurate outputs under various conditions.

System Audit Objectives (Part 2)

-  **Detect Errors and Frauds:** Identifying discrepancies in processing or intentional malpractices within the system.
-  **Improve Efficiency:** Recommending optimizations to reduce waste and improve the speed of IT-related operations.

Common Types of Audits

Audit Type	Focus Area	Primary Benefit
Internal Audit	Internal processes and risks	Continuous improvement of internal controls
External Audit	Financial statements and compliance	Independent verification and stakeholder trust
Compliance Audit	Laws, regulations, and policies	Avoidance of legal penalties and fines

Operational & Information System Audits

Operational Audit

Evaluates the effectiveness and efficiency of an organization's operations in meeting established goals.

Information System Audit

The specialized evaluation of IT infrastructure, software, and data management controls.

Introduction to Assurance Services

Assurance services are independent professional services that improve the **quality and reliability** of information for decision-makers.

They provide "assurance" to management and external parties that systems and reports are trustworthy.

Verification and Assurance

Characteristics of Assurance Services

Independence

Assurance providers must remain neutral and free from influence.

Competence

Requires deep technical expertise in systems and auditing standards.

Reliability

Findings are backed by objective evidence and verifiable data.

Scope of Assurance Services

- § **Financial Assurance:** Verifying accuracy of financial reports.
- ⚠ **Risk Assurance:** Assessing effectiveness of risk management.
- 💻 **IT Assurance:** Evaluating IT system reliability and performance.
- 🔒 **Security Assurance:** Confirming strength of data protection controls.

Certified Information Systems Auditor (CISA)

CISA is a globally recognized professional certification for those who audit, control, monitor, and assess an enterprise's information technology and business systems.

Issued by ISACA, it serves as the "gold standard" for IT auditors.



Responsibilities of a CISA



System Auditing

Applying global standards to assess IT infrastructure.



Security Review




Evaluating access controls and vulnerability management.



Compliance

Ensuring organizational adherence to IT laws (like GDPR/SOX).

Benefits of the CISA Certification

-  **Global Recognition:** Opens career doors internationally across various industries.
-  **Specialized Knowledge:** Demonstrates mastery in the 5 domains of IT auditing.
-  **Career Growth:** Higher earning potential and senior management opportunities.

Organizational Benefits of IT Audits

Fraud Prevention

Early detection of malicious activities and processing errors.

Asset Protection

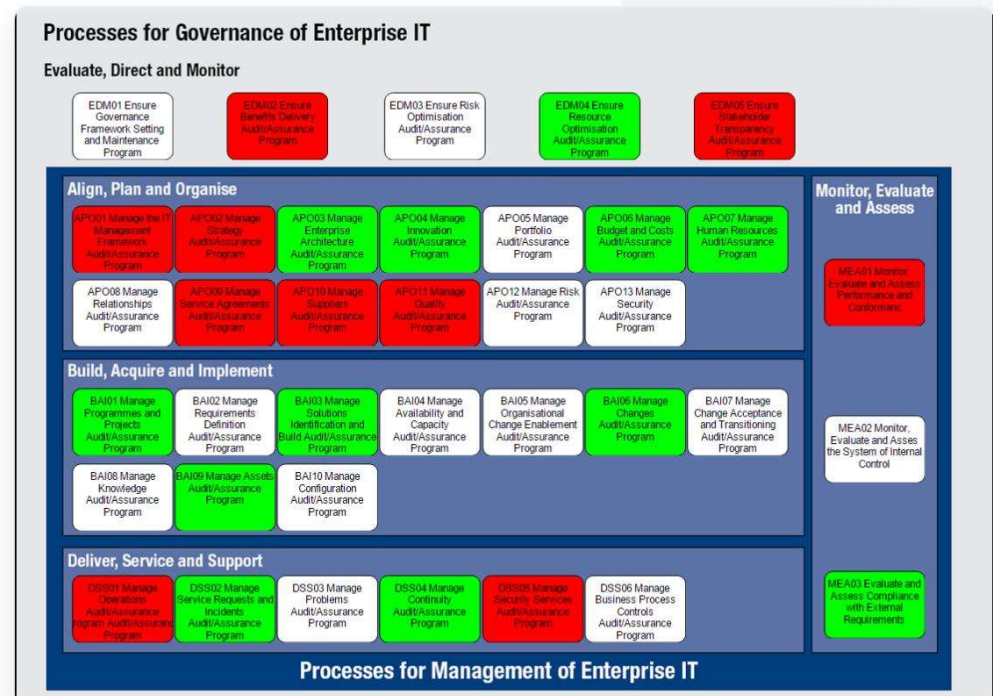
Safeguards high-value digital and physical organizational assets.

Efficiency Boost

Identifies bottlenecks and recommends performance improvements.

COBIT: IT Governance Framework

COBIT (Control Objectives for Information and Related Technology) is a framework for IT management and governance. It helps organizations meet business challenges in regulatory compliance and risk management.



Features and Benefits of COBIT

Key Feature	Organizational Benefit
Risk Management	Informed decision-making and reduced threats
Performance Measurement	Ensures IT delivers value to the business
Compliance Alignment	Easier reporting for regulatory audits