

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Name: Security Standards and Audit

Subject Code: 3725107

Semester: II

Type of course: M.E. Computer Engineering (IT systems and Network Security)

Prerequisite: Basic Knowledge of Information Security and Operating System Management

Rationale: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	2#	0	4	70	30	30	20	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment;

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Procedures and security Policies	2	4
2	Risk assessment methodologies, Risk management	2	4
3	DRP/BCP Business impact analysis	2	4
4	Asset classification, process level strategy	2	4
5	information classification organization	2	4
6	Crisis management plan, Resources recovery strategy	2	4
7	Framework, audits benchmarks, compliance, communications	2	4
8	Data protection for system designers	2	4
9	Evaluation criteria and security testing	2	4
10	International standards, Analysis and Logging	2	4
11	Recovery and data backs, Security policy development	2	4
12	Security Models, Frameworks, Standards	2	4
13	Security Certification ISO 17799/ ISO 27001	2	4
14	System Security Engineering Capacity Maturity Model	2	6
15	Laws and Legal Framework for Information Security	2	6
16	Recovery and risk analysis, Operating system and application specific auditing	3	6

Reference Books: - IT Auditing: Using Controls to protect Information Assets, Chris Davis/TMH

Course Outcome:

After learning the course the students should be able to:

- Standards and frameworks for IT industries security i.e, ISO 20000.
- Policy making for the Information Security.
- Auditing and security compliance.
- Access control and Information abstraction for level of demanded security.

List of Experiments: (with Open Ended Problems)

- Making Access Control on the basis of User Authorization in Operating System.
- Auditing the Lab Network Infrastructure

Major Equipment:

- VMWare-Workstation
- Linux (Kali/Fedora/BT5/centOS)
- Windows Server 2008/2012

List of Open Source Software/learning website:

- ISO 20001-7
- HIPAA
- CMM Levels
- PCI DSS
- www.pcisecuritystandards.org/security_standards
- www.hipaa.com
- www.iso.org

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website