GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3171616
Semester – VII
Subject Name: Internetwork security and Web analytics

Type of course: Elective

Prerequisite: Information and Network security, Web Development

Rationale: Internetwork security helps in identifying security points and helps in identifying the protocols where security is deployed. Web Analytics helps in identifying online/offline patterns and trends of web traffic. It is used to collect, measure, report, and analyze website data. Web analytics tracks key metrics and analyze visitors' activity and traffic flow.

Teaching and Examination Scheme:

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

Content:

Sr. No.	Content	Total Hrs
1	Picking a security policy, Host based security, Perimeter security, strategy for secure network. Security Review of protocols – lower layer and upper layer The Web Threat or Menace? Classes of attacks	8
2	Web Analytics – Present and future Web Analytics Fundamentals : Capturing Data, Selecting Optimal Web Analytics Tool, Understanding Quickstream Data Quality, Implementing Best practices, Apply the "Three Layers of So What" Test Diving Deep into core Web analytics concepts: Preparing to Understand basics, Revisiting foundation Metrics, Understanding standard reports, Using Web site content Quality and Navigation reports	7
3	Jump start Web data analytics: Creating foundation reports, E-commerce website guide, Website Jump start guide, Measurement jump start guide, Blog measurement jump start guide, competitive benchmarking, Reflections	7
4	Search Analytics – Internal search, SEO and PPC Performing internal site search analytics, Beginning search engine optimization, Measuring SEO efforts, Analyzing pay per click effectiveness	7
5	Measuring Email and multichannel marketing Email marketing fundamentals, Email marketing advance Tracking, Multichannel marketing,Tracking and analysis	7
6	Website experimentation and Testing Preparation and A/B testing, Test Important pages and calls to action, Focus on search	6

	traffic, Test content and creatives, Test price and Promotions, Test direct marketing campaigns	

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	**30**	**20**	**10**		

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1. Firewalls and Internet Security Repelling the Wily Hacker By William R. Cheswick, Steven M. Bellovin, Aviel D. Rubin, WILEY publication
2. Web analytics by Avinash Kaushik Wiley publication
3. Web Analytics For Dummies by Jennifer LeClaire and Pedro Sostre

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Differentiate the security aspects in lower and upper layer protocols.	35
CO-2	Explain the parameters, metrics and reports involved in analysis of website, blogs, search engine.	30
CO-3	Explain the measurement of analytics parameters involved in E-mail.	20
CO-4	Implement the test strategy for web site testing.	15

List of Experiments:

Consider the college web site or department web site. Use web analytics to..

1) track engagement with home page and other site content.
2) Measure the time taken to load home page and other pages
3) Perform A/B testing
4) Use cookies to store username.
5) Write content so that users come back to the site
6) Build your keyword list (a list or spreadsheet of attainable, relevant keywords), write content around those keywords and track performance and rankings.
7) Find the blogs which takes people to this site.
8) Try password attack to check the site is not vulnerable to this attack.

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