GUJARAT TECHNOLOGICAL UNIVERSITY

Master of Engineering
Subject Code: 3722322
Semester – II
Subject Name: Web Analytics and Development

Type of course: Elective

Prerequisite: ---

Rationale: The course explores use of social network analysis to understand growing connectivity and complexity in the world ranging from small groups to WWW.

Teaching and Examination Scheme:

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

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	**Introduction** – Social network and Web data and methods, Graph and Matrices, Basic measures for individuals and networks, Information Visualization	**10**	20%
2	**Web Analytics tools:** Click Stream Analysis, A/B testing, Online Surveys	**8**	17%
3	**Web Search and Retrieval:** Search Engine Optimization, Web Crawling and indexing, Ranking Algorithms, Web traffic models	**9**	19%
4	**Making Connection**: Link Analysis, Random Graphs and Network evolution, Social Connects: Affiliation and identity	**12**	25%
5	**Connection:** Connection Search, Collapse, Robustness Social involvements and diffusion of Innovation	**9**	19%
	Total	**48**	**100%**

Reference Books:

1. Hansen, Derek, Ben Sheiderman, Marc Smith. 2011. Analyzing Social Media Networks with NodeXL: Insights from a Connected World. Morgan Kaufmann, 304.
2. Avinash Kaushik. 2009. Web Analytics 2.0: The Art of Online Accountability.
3. Easley, D. & Kleinberg, J. (2010). Networks, Crowds, and Markets: Reasoning About a Highly Connected World. New York: Cambridge University Press. http://www.cs.cornell.edu/home/kleinber/networks-book/
4. Wasserman, S. & Faust, K. (1994). Social network analysis: Methods and applications. New York: Cambridge University Press. Monge, P. R. & Contractor, N. S. (2003). Theories of communication networks. New York: Oxford University Press.

Course Outcomes:

At the end of the module the student will be able to:

Sr. No.	CO statement	Marks % weightage
CO-1	Become familiar with core research communities, publications, focused on web and social media analytics and research questions engaged in.	30%
CO-2	Get insight of different data models and methods for web analysis and their application to develop new ones.	30%
CO-3	Practical accountability of different tools available in the market for network analysis to find the impact and connectivity in the real world.	40%

List of Experiments:

1. To perform data collection from any social media network.
2. To perform analysis on the data collected from the social network with key parameters details.
3. To perform web traffic and click analysis using any open web analytics tool.
4. To study search engine optimization algorithm.
5. To perform page ranking algorithm.
6. To study details about Google Analytics.

Major Equipment: --

List of Open Source Software/learning website: Google Analytics, Twitter Analytics, Bitly, Piwik, Clicky, Python