CBS3009	Advanced Social, Text and Media Analytics	L	T	P	J	C
Pre-requisite	Nil	3	0	0	0	3
		Syllabus version				
		1.0				

Course Objectives:

1. To introduce the various tools for Text Mining and carry out Pattern Discovery, Predictive Modelling.
2. To Explore the use of social network analysis to understand the growing connectivity and complexity in the world around us on different scales.
3. To perform social media analytics to identify important social actors, subgroups and network properties in social media sites.

Course Outcome:

1. Interpret the contribution of text mining to generate new knowledge from natural language text.
2. Extract useful information from the textual data using various classifiers and Predictors.
3. Identify the various components of a web that can be used for mining process.
4. Analyse social media data using appropriate web mining techniques.
5. Discover interesting patterns from Social Media Networks using linear methods and models.
6. Provide solutions to the emerging problems of social media analytics with sentiment analysis and Opinion mining.

Student Learning Outcomes (SLO):	2,14,17	
Module:1	**Introduction to Text Mining**	**5 hours**
Introduction to Text Mining - Text Representation- Core text mining operations - Text mining applications		
Module:2	**Text Mining Essentials**	**6 hours**
Text mining Preprocessing techniques - Text Clustering, Text Classification , Topic Modelling, Probabilistic models for information extraction		
Module:3	**Web Mining**	**5 hours**
Web Analytics - Web analytics tools, Clickstream analysis, A/B testing, online surveys; Web search and retrieval		
Module:4	**Web Analytics Essentials**	**6 hours**
Search engine optimization, Web crawling and Indexing, Ranking algorithms, Web traffic models		
Module:5	**Social Media Networks**	**6 hours**
Social network and web data and methods. Graphs and Matrices. Basic measures for individuals and networks. Information visualization.		
Module:6	**Social Media Analytics**	**7 hours**
Making connections: Link analysis. Random graphs and network evolution. Social contexts: Affiliation and identity; Social network analysis		
Module:7	**Sentiment Analysis and Opinion Mining**	**8 hours**
Content Analysis; Natural Language Processing; Clustering & Topic Detection; Simple Predictive Modeling; Sentiment Analysis; Sentiment Prediction		
Module:8	**Industry Expert Lecture**	**2 hours**
	Total Lecture hours:	**45 hours**

Text Book(s)			
1.	Bing Liu, Web Data Mining-Exploring Hyperlinks, Contents, and Usage Data, Springer, Second Edition, 2011.		
2.	Reza Zafarani, Mohammad Ali Abbasi and Huan Liu, Social Media Mining-An Introduction, Cambridge University Press, 2014.		
Reference Books			
1.	Bing Liu, Sentiment Analysis: Mining Opinions, Sentiments, and Emotions, Cambridge University Press, Second Edition, 2020.		
2.	Ronen Feldman and James Sanger, The Text Mining Handbook: Advanced Approaches in Analyzing Unstructured Data, Cambridge University Press, First Edition, 2009.		
Mode of Evaluation: CAT / Assignment / Quiz / FAT / Lab			
Recommended by Board of Studies	29-01-2021		
Approved by Academic Council	No. 61	Date	18-02-2021