	L LANGUAGE PR ased Credit Syster	n (CBCS) schemel		
(Effective fro	m the academic ye SEMESTER – VI	ar 2016 -2017)		
Subject Code	15CS741	IA Marks	20	
Number of Lecture Hours/Week	3	Exam Marks	80	
Total Number of Lecture Hours	40	Exam Hours	03	
	CREDITS - 03		105	
Course objectives: This course will	enable students to			
 Learn the techniques in natur 	al language process	ing.		
• Be familiar with the natural 1	anguage generation.			
 Be exposed to Text Mining. 				
• Understand the information r	etrieval techniques			
Module – 1				Teaching
0				Hours
Overview and language modeling:	Overview: Origins	and challenges of	NLP-	8 Hours
Dunguage and Grammar-Processin	o Indian Language	OC NII D A 1!		
miorination Retrieval. Language Mo	odeling: Various Gr	ammar- based Lang	guage	
Models-Statistical Language Model. Module – 2				
	XXX 1 X 1 1 1			
Word level and syntactic analysis: Finite-State Automata-Morphologic	Word Level Analys	sis: Regular Express	sions-	8 Hours
Finite-State Automata-Morphologic correction-Words and Word classes-	Part of Speed To	g Error Detection	and	
Context-free Grammar-Constituency	Parcing Probabilia	ging. Syntactic Ana	lysis:	
Module – 3	T dising-1 100a0ilis	tic Parsing.		
Module – 3				
Extracting Relations from Text: Paths:	From Word Seq	uences to Depend		8 Hours
Extracting Relations from Text: Paths: Introduction, Subsequence Kernels f	From Word Seq	uences to Depend		8 Hours
Extracting Relations from Text: Paths: Introduction, Subsequence Kernels f Kernel for Relation Extraction and Ex	From Word Seq	uences to Dependion, A Dependency	-Path	8 Hours
Extracting Relations from Text: Paths: Introduction, Subsequence Kernels f Kernel for Relation Extraction and Ex Mining Diagnostic Text Reports by	From Word Sequence or Relation Extractive Experimental Evaluate V Learning to Appe	ion, A Dependency	-Path	8 Hours
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Module - 5

INFORMATION RETRIEVAL AND LEXICAL RESOURCES: Information

mation 8 Hours

Retrieval: Design features of Information Retrieval Systems-Classical, Non classical, Alternative Models of Information Retrieval – valuation Lexical Resources: World Net-Frame Net-Stemmers-POS Tagger-Research Corpora.

Course outcomes: The students should be able to:

- Analyze the natural language text.
- Generate the natural language.
- Do Text mining.
- Apply information retrieval techniques.

Question paper pattern:

The question paper will have ten questions.

There will be 2 questions from each module.

Each question will have questions covering all the topics under a module.

The students will have to answer 5 full questions, selecting one full question from each module.

Text Books:

- Tanveer Siddiqui, U.S. Tiwary, "Natural Language Processing and Information Retrieval", Oxford University Press, 2008.
- Anne Kao and Stephen R. Poteet (Eds), "Natural LanguageProcessing and Text Mining", Springer-Verlag London Limited 2007.

Reference Books:

- Daniel Jurafsky and James H Martin, "Speech and Language Processing: Anintroduction to Natural Language Processing, Computational Linguistics and SpeechRecognition", 2nd Edition, Prentice Hall, 2008.
- James Allen, "Natural Language Understanding", 2nd edition, Benjamin/Cummingspublishing company, 1995.
- Gerald J. Kowalski and Mark.T. Maybury, "Information Storage and Retrieval systems", Kluwer academic Publishers, 2000.

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