

KRISHNASAMY

College of
ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
☎ (04142) 285 601 - 604 🌐 www.kcet.in ✉ info@kcet.in

DEPARTMENT OF MCA

21.04.2022

CIRCULAR

Ref.: KCET/MCA/VAC/CIRCULAR/2021-22/01.

The following Value Added Course will be conducted during the academic year 2021-2022. The course will be conducted from 11.05.2022 to 17.05.2022. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year / Sem	No. of Period	Course Coordinator
1	MCA-VAC2101	NLP using Python	I/II	30	Mr.J.Jayapandian, ASP/MCA

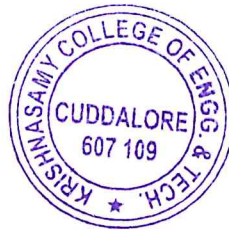
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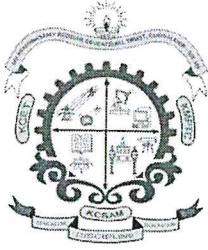
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Subject Code: MCA-VAC2101

Subject Name: NLP using Python

Duration: 30 Hours

OBJECTIVES:

- To learn the fundamentals of natural language processing
- To understand word level and syntactic analysis.
- To understand the role of semantics of sentences and pragmatics
- To get knowledge about the machine translation.

MODULE- I INTRODUCTION OF BASIC TEXT PROCESSING

Overview: NLP-Language - Basics of Text Processing – Spelling Correction – Weight Edit Distance- other Variations – Noisy Channel Model for spelling correction - Python object persistence.

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MODULE- II LANGUAGE MODELLING AND SMOOTHING

Language modeling – smoothing models – Computational Morphology – Finite state Methods for morphology – Introduction to POS tagging-Introduction to Python Programming – Python Mode.

6

MODULE- III SYNTAX, PARSING, SEMANTICS

Syntax – Parsing – CKY-PCFGs – Inside and outside probabilities - Dependency grammar and parsing – Transition based Parsing – Formulation – Learning. MST Based Parsing.

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MODULE- IV TOPIC MODELS AND INFORMATION EXTRACTION

Topic Model- Latent Dirichlet Allocation – Gibbs sampling for LDA – Formulation and Application – LDA Variants- Entity Linking - Information extraction- The Python Standard Libraries for data processing.

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MODULE- V TEXT SUMMARIZATION & TEXT CLASSIFICATION

Optimization Based models for summarization – Evaluation- Text classification – sentiment analysis - Affective lexicon -Learning affective lexicons- Text Classification.

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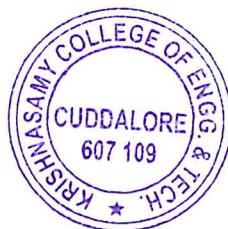
TOTAL: 30 PERIODS

OUTCOMES:

- To tag a given text with basic Language features
- To design an innovative application using NLP components
- To implement a rule based system to tackle morphology/syntax of a language
- To design a tag set to be used for statistical processing for real-time applications
- To apply NLG and machine translation

REFERENCES:

1. Daniel Jurafsky, James H. Martin—Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech, 3rd Edition, Pearson Publication, 2014.
2. Steven Bird, Ewan Klein and Edward Loper, —Natural Language Processing with Python, First Edition, OReilly Media, 2009.



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5/10/2022
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