FR. Conceicao Rodrigues College Of Engineering

Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50

Department of Electronics and Computer Science

Laboratory Plan

B.E. (ECS) (Semester VIII) (2022-23)

Subject name: Natural Language Processing Lab

Subject code: ECL802

Teacher-in-charge: Dipali Koshti **Academic Term:** Jan 2023- June 2023

Course Outcomes:

Upon successful completion of the laboratory students will be able to:

ECL802.1 Apply the mathematical and linguistic foundations and underlying approaches to solve the various NLP problems.
ECL802.2 Design, implement, and test algorithms to solve NLP problems.
ECL802.3 Apply NLP techniques to design real-world NLP applications.

Relationship of course outcomes with program outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2
ECL802.1	3	2			1									
ECL802.2	3	2	2		1									
ECL802.3	3	3	3	2	3				3	3		2	3	3

Provide justification of PO to CO mapping

CO	BL	C	PI	PO
ECL802.1: Apply the mathematical and linguistic foundations and underlying approaches to solve the various NLP problems.	2	1.1 1.3 2.1 5.1	**1.1.1** **1.3.1**	PO1
			2.4.1	PO2
			3.2.1	PO3
			5.1.1	PO5
ECL802.2 Design, implement, and test algorithms to solve NLP problems.	3	1.1 1.3 2.1 5.1	**1.1.1** **1.3.1**	PO1
			2.1.3 **2.1.4**	PO2
			3.2.1	PO3

			5.1.1	PO5
ECL802.3 Apply NLP techniques to design real-world NLP applications.	4	1.1 1.4 2.1 2.2 2.3 4.1 4.3 5.1 9.1 9.2 9.3 10.1 10.2 10.3 12.3	**1.1.2** **1.4.1**	PO1
			2.1.2 **2.1.4** **2.2.4** **2.3.1**	PO2
			3.2.1	PO3
			4.1.2 **4.3.1**	PO4
			5.1.1	PO5
			9.1.1 **9.2.2** **9.2.3** **9.3.1**	PO9
			10.1.1 **10.1.2** **10.2.1** **10.2.2** **10.3.1**	PO10
			12.3.1	PO12

CO Assessment Tools:

Course Outcomes	***Direct Methods(80%)***						***Indirect Method (20%)***
	Attendance	Viva-voce/Post lab questions/ Demonstration	Journal Assessment based on lab performance	Mini Project	Case study/ Technical paper presentation	End Sem Practical Exam	Lab exit survey
ECL703.1	10%	20%	20%	--	--	50%	100%
ECL703.2	10%	20%	20%	--	--	50%	100%
ECL703.3	10%	20%	--	20%	10%	40%	100%

CO calculation= (0.8 *Direct method + 0.2*Indirect method)

Rubrics for assessing experiments:

Sr. No	Performance Indicator	Below average	Average	Good	Excellent
1	On time Submission (2)	Not submitted(0)	Submitted after deadline (1)	Early or on time submission(2)	---
2	Test cases and output (4)	Incorrect output (1)	The expected output is verified only a for few test cases (2)	The expected output is Verified for all test cases but is not presentable (3)	Expected output is obtained for all test cases. Presentable and easy to follow (4)
3	Coding efficiency (2)	The code is not structured at all (0)	The code is structured but not efficient (1)	The code is structured and efficient. (2)	-
4	Knowledge(2)	Basic concepts not clear (0)	Understood the basic concepts (1)	Could explain the concept with suitable example (1.5)	Could relate the theory with real world application(2)

Practical Session Plan

Sr. No.	Lab experiment	Co	PO
1	Pre-processing of text (Tokenization, Filtration)	**ECL703.1**	PO1,PO2,PO3,PO5
2	Stemming and Lemmatization	**ECL703.1**	PO1,PO2,PO3,PO5
3	Pattern Matching using Regular Expressions	**ECL802.2**	PO1,PO2,PO3,PO5
4	POS Tagging	**ECL802.2**	PO1,PO2,PO3,PO5
5	N- Gram Model	**ECL802.2**	PO1,PO2,PO3,PO5
6	Chunking and NER	**ECL802.2**	PO1,PO2,PO3,PO5
7	POS tagging using HMM	**ECL802.2**	PO1,PO2,PO3,PO5
8	POS tagging using Viterbi algorithm	**ECL802.2**	PO1,PO2,PO3,PO5
9	Mini Project	**ECL802.3**	PO1,PO2,PO3,PO5,PO9,PO10,PO12
10.	Study of Technical paper papers: Case study	**ECL802.3**	PO1,PO2,PO3,PO5,PO9,PO10,PO12

CLASS	**BE ECS, Semester VII**
Academic Term	**July – October 2022**
Subject	**Deep Learning Laboratory (ECL 703)**

Evaluation System		***Hours***	***Marks***
	Practical Examination	--	25
	Oral Examination	--	--
	Term work	--	25
	Total	--	50

Time Table	***Day***	***Batch***	***Time***
	Monday		
	Tuesday		
	Wednesday		
	Friday		

Title of Experiments

Sr.	***Title***	***Attained***	***Attained POs***
1	Pre-processing of text (Tokenization, Filtration)	**ECL703.1**	PO1,PO2,PO3,PO5
2	Stemming and Lemmatization	**ECL703.1**	PO1,PO2,PO3,PO5
3	Pattern Matching using Regular Expressions	**ECL802.2**	PO1,PO2,PO3,PO5
4	POS Tagging	**ECL802.2**	PO1,PO2,PO3,PO5
5	N- Gram Model	**ECL802.2**	PO1,PO2,PO3,PO5
6	Chunking and NER	**ECL802.2**	PO1,PO2,PO3,PO5
7	POS tagging using HMM	**ECL802.2**	PO1,PO2,PO3,PO5
8	POS tagging using Viterbi algorithm	**ECL802.2**	PO1,PO2,PO3,PO5

9	Study of Technical paper papers : A case study (To select a real-word problem and study few recent technical papers related to the problem and summarize it)	**ECL802.3**	PO1,PO2,PO3,PO5,PO 9,PO10,PO12
10	Mini Project – Apply NLP techniques to Implementation/solve of real-world problem.	**ECL802.3**	PO1,PO2,PO3,PO5,PO 9,PO10,PO12,PSO1, PSO2

Practical Session Plan

Expt No.	Title/aim	Planned Dates	Batch A Tue	Batch B Fri	Batch C Thu	Batch DWed	CO Map
01	Pre-processing of text (Tokenization, Filtration)	4th week of Jan	24/1	24/1	31/1	31/1	**ECL703.1**
02	Stemming and Lemmatization	1st week of Feb	30/1/23	30/1/23	10/2/23	10/2/23	**ECL703.1**
03	Pattern Matching using Regular Expressions	2nd week of Feb	6/2/23	6/2/23	17/2/23	17/2/23	**ECL802.2**
04	POS Tagging	3rd week of Feb	13/2/23	13/2/23	24/2/23	24/2/23	**ECL802.2**
05	N- Gram Model	1st week of March	20/2/23	20/2/23	3/3/23	3/3/23	**ECL802.2**
06	Chunking and NER	2nd week of March	3 / 4/23	3 / 4/23	10/3/23	10/3/23	**ECL802.2**
07	POS tagging using HMM	1st week of April	10/4/23	10/4/23	17/3/23	17/3/23	**ECL802.2**
08	POS tagging using Viterbi algorithm	2nd Week of April	24/1/23	24/1/23	17/3/23	17/3/23	**ECL802.2**
09	Study of Technical papers	**3rd week of April**	**10/4/23**				**ECL802.3**
10	Mini Project	**3rd week of April**	**10/4/23**				**ECL802.3**

Submitted By	**Approved By**
Prof. Dipali Koshti	ii) Dr. D. V Bhoir Sign:
Sign:	ii) Prof. K. Narayanan Sign:
	iii) Prof. Shilpa Patil Sign:
Date of Submission: 5-8-2022	**Date of Approval:**
Remarks by PAC (if any)	