



AUTUMN MID SEMESTER EXAMINATION-2022

School of Computer Engineering
Kalinga Institute of Industrial Technology, Deemed to be University
Natural Language Processing (NLP)
[IT-3035]

Time: 1 1/2 Hours

Full Mark: 20

Answer any four Questions including Q.No.1 which is Compulsory.

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.

1. Answer all the questions. [1 x 5]
 - a) What is meant by the semantics of a natural language, and how this differs from the pragmatics?
 - b) Identify the ambiguities in the following sentences:
 - i. He is looking for a match.
 - ii. The chicken is ready to eat.
 - c) State the significance of Word Sense Disambiguation in NLP.
 - d) Explain vector space model of information retrieval.
 - e) What is meant by Lexicon? How is it useful in NLP?
2. [5 Marks]
Consider the following document counts for key sentiment words, with positive or negative class assigned as noted.

doc	“good”	“poor”	“great”	(class)
d1.	3	0	3	pos
d2.	0	1	2	pos
d3.	1	3	0	neg
d4.	1	5	2	neg
d5.	0	2	0	neg
- Use Multinomial Naive Bayes model to assign a class to the following sentence with add-1 smoothing :
A good, good plot and great characters, but poor acting.
3. Give any 3 different evaluation metrics available for text classification? [5 Marks]
4. Discuss various stages involved in NLP process with suitable example. [5 Marks]
5. What is language model? Write a note on N-Gram language model? [5 Marks]