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_Seventh__ SEMESTER **B.Tech [IT]**

(Reappear)

Supplementary
~~END SEMESTER~~ EXAMINATION *Feb-2019*

IT-425 NATURAL LANGUAGE PROCESSING

Time: 3:00 Hours *Max. Marks : 50*

Note : Answer any five questions.
Assume suitable missing data, if any.

Q.1 Explain the following terms in brief with an example.
a) Word sense disambiguation
b) Auxiliary verbs
c) Morphology
d) Phonetics
e) WORDNET
(2x5)

Q.2 Demonstrate using an example for test and training corpus, the application of different distance and similarity formulae used to classify text in the test corpus. (10)

Q.3 Given the following grammar and lexicon for generating sentences:

1. S→NP VP	4. NP→Det Adj N.	N→cat|fish|man	Adj→old|small
2. NP→Name	5. VP→V	Name→Jack	Det→The
3. NP→Det N	6. VP→V NP	V→ate|cried	

Demonstrate Top-Down parsing in tabular form for the sentence **"The small fish cried the old man"**
(10)

Q. 4 What are bigram, unigram and trigram? Explain using examples how they could help in the classification of text for sentiment analysis.
(10)

Q. 5 a) What is Augmented Transition Network (ATN)? Describe its use with an example.
b) What are the different features that could be extracted from text. Describe each with relevant formulae.
(5+5)

Q. 6 a) Describe unification of features using suitable example.
b) What is probabilistic CFG. Explain using an example.
(5+5)

Q.7 Explain the following in detail
[a] Logistic regression classifier and how it can be applied to text
[b] Any one modern application of NLP
(5+5)

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