SEAT No. :

[6010]-42

B.E. (Computer Engineering) (Insem)
NATURAL LANGUAGE PROCESSING
(2019 Pattern) (Semester - VIII) (410252(A)) (Elective - V)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) Answer Q.1 or Q.2, Q.3 or Q.4.

2) Neat diagrams must be drawn wherever necessary.

3) Figures to the right side indicate full marks.

4) Assume suitable data, if necessary.

Q1) a) What do you mean by part-of-speech Tagging? What is the need of this task in NLP. **[5]**

b) Differentiate between natural languages and programming languages. **[5]**

c) Explain Tokenization with it's different types. **[5]**

OR

Q2) a) What is Natural Language Processing(NLP)? Discuss various stages involved in NLP process with suitable example. **[8]**

b) Discuss the challenges of Natural Language Processing. **[7]**

Q3) a) Derive a top-down, depth-first, left-to-right parse tree for the given sentence: **[7]**

The angry bear chased the frightened little squirrel

Use the following grammar rules to create the parse tree:

S → NP VP	Det → the
NP → Det Nom	Adj → little | angry | frightened
VP → V NP	N → squirrel | bear
Nom → Adj Nom | N	V → chased

P.T.O.

b) Explain Derivational and Inflectional morphology in detail with suitable example. **[8]**

OR

Q4) a) What is Probabilistic context-free grammars? State the benefits of probabilistic parsing. **[7]**

b) Explain with suitable examples following relationship between word meanings, 1. Homonymy 2. Polysemy 3. Synonymy 4. Hyponymy **[8]**

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