Total No. of Questions : 4] **SEAT No. :**

PA-10172 **[Total No. of Pages : 2**

[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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