Total No. of Questions : 4]

SEAT No. :

PB-264

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[6270]-52

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 Q1 or Q2, Q3 or Q4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) What do you mean of 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 its different types. **[5]**

OR

Q2) a) What is natural language processing (NLP)? Discuss various stages involved in NLP process with suitable example. **[8]**

b) Once a day the weather is observed as one of state 1 : rainy, state 2 : cloudy, state 3 : sunny. **[7]**

$$A=\begin{pmatrix} 0.4 & 0.3 & 0.3 \\ 0.2 & 0.6 & 0.2 \\ 0.1 & 0.1 & 0.8 \end{pmatrix}$$

Each row sums to 1

Given that the weather on day 1(t=1) is sunny (state 3) ,What is the probability that the weather for next 7 days will be “sun-sun-rain-rain-sun-cloudy-sun”?

Q3) a) Define Morphology? Explain stem and affix classes of morphemes with Example. **[5]**

b) Explain CFG with suitable example. **[5]**

c) What are different techniques for the semantic analysis for the Statement. **[5]**

P.T.O.

OR

Q4) a) Explain Derivational and Inflectional morphology in detail with suitable Example. **[8]**

b) Explain with suitable examples following relationship between word meanings, 1. Homonymy 2. Polysemy 3. Synonymy 4. Hyponymy 5. Antonymy 6. Hypernomy 7. Meronomy **[7]**