Total No. of Questions : 4]

SEAT No. :

PB114

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T.E. (Artificial Intelligence and Data Science) (Insem)

NATURAL LANGUAGE PROCESSING

(2019 Pattern) (Semester - II) (Elective-II) (317532B)

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 whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Make suitable assumptions wherever necessary.***

Q1) a) Explain the different levels of language analysis. **[5]**

b) List any three challenges in NLP. Provide solution to these challenges. **[5]**

c) Compare Rule based, Data Based and knowledge Based approaches of NLP. **[5]**

OR

Q2) a) With a neat diagram describe how a typical NLP system is organised. **[5]**

b) Explain the working of Rule based approach for NLP. **[5]**

c) Explain why ambiguity is one of the core challenges of NLP. Give examples. **[5]**

Q3) a) Define Morphology. Explain stem and affix classes of Morphemes with examples. **[5]**

b) Explain Minimum Edit Distance Algorithm. **[5]**

c) Explain Morphological Parsing with Finite-State Transducers. **[5]**

OR

Q4) a) Why do we need a 3-tape FST for morphological parsing. Illustrate with an example. **[5]**

b) Explain the spelling Correction approaches in NLP. **[5]**

c) Explain the use of Finite State Automata for Morphological Analysis. **[5]**

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