

Total No. of Questions : 4]

SEAT No. :

PB114

[6269]- 328

[Total No. of Pages :1

**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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