Total No. of Questions : 8]

SEAT No. :

P-442

[Total No. of Pages : 2

[6003]-547

T.E. (Artificial Intelligence and Data Science)

NATURAL LANGUAGE PROCESSING (Elective - II)

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

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates :

1) ***Solve questions Q.1 or Q.2, Q3 or Q4, Q5 or Q6, Q7or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Explain Combinatory Categorial Grammar. **[8]**

b) List and Explain grammar rules for English. **[9]**

OR

Q2) a) Explain partial parsing with example. **[8]**

b) Discuss Advanced Methods in Transition-Based Parsing. **[9]**

Q3) a) Explain Word Sense Induction. **[8]**

b) Explain Features-based Algorithm for Semantic Role Labeling. **[9]**

OR

Q4) a) Explain Connotation Frames. **[8]**

b) Explain defining emotions with Plutchik wheel of emotion. **[9]**

P.T.O.

Q5) a) Explain need of Machine Translation (MT) with suitable example. Which are the problems of Machine Translation? **[9]**

b) Write short note on :

i) Knowledge based MT System **[5]**

ii) Encoder-decoder architecture **[4]**

OR

Q6) a) Explain Machine Translation (MT) approaches with suitable example. Describe Direct Machine Translation in detail. **[9]**

b) Write short note on :

i) Statistical Machine Translation (SMT). **[5]**

ii) Neural Machine Translation. **[4]**

Q7) a) Elaborate Information retrieval- Vector space Model in detail. **[9]**

b) Write short note on : **[9]**

i) Categorization.

ii) Summarization.

iii) Sentiment Analysis.

OR

Q8) a) Discuss Information Extraction using Sequence Labelling in detail. **[9]**

b) Write short note on : **[9]**

i) Named Entity Recognition.

ii) Analyzing text with NLTK.

iii) Chatbot using Dialogflow.

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