ME/Sem I/CBCGS/COMP/ND-18/7-12-2018

Duration: 3 Hrs   **Total Marks: 80**

Note: 1) Question No.1 is compulsory.
2) Attempt any three questions out of the remaining five.
3) Figures to the right indicate full marks.

Q. 1 a) What is Natural language processing (NLP)? Discuss various stages involved in NLP process with suitable example.   10

b) Explain derivational & inflectional morphology in detail with suitable examples.   10

Q. 2 a) What is parsing? Explain Top-down & Bottom-up approach of parsing with suitable example.   10

b) Discuss various approaches to perform Part-Of-Speech (POS) tagging.   10

Q. 3 a) What is language model? Write a note on N-Gram language model.   10

b) Explain CFG with suitable example. Discuss following potential problems in CFG such as :
1) Agreement 2) Sub categorization 3) Movement..   10

Q. 4 a) Define discourse & pragmatic analysis. Discuss reference resolution problem in detail.   10

b) What is the role of FSA in Morphological analysis? Explain FST in detail.   10

Q. 5 a) What is stemming. Explain Porter's stemming algorithm in detail.   10

b) Explain with suitable examples following relationships between word meanings:
Homonymy, Polysemy, Synonymy, Antonymy, Hypernomy, Hyponymy, Meronomy   10

Q. 6 Write a note on : (any 2)   20
a) Information Retrieval.
b) Machine translation.
c) Sentiment analysis.
d) Wordnet.

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