

(Time: 2½ Hours)

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculator is allowed.

1. **Attempt any two of the following:** 12
a. State and explain the contextual factors that have assisted in sentence segmentation.
b. What is finite state transducer? Explain the working of FST with suitable example and diagram.
c. With suitable diagram, explain the stages of analysis in processing of Natural Language Processing.
d. Write a short note on Cross Lingual Information Retrieval.
2. **Attempt any two of the following:** 12
a. Explain Pustejovsky's Generative Lexicon approach to Semantic Representation.
b. Explain LR(0) parsing with an example.
c. Discuss the Cocke-Kasami-Younger Algorithm.
d. What is Macro-planning and micro-planning? Explain the one approach to text planning.
3. **Attempt any two of the following:** 12
a. What is alignment model and explain its type?
b. What is machine translation? What is statistical machine translation?
c. What is combined tagger?
d. What are the advantages and drawbacks of TBL?
4. **Attempt any two of the following:** 12
a. What is the discriminative model? Explain the types of discriminative model.
b. Write a short note on Core Parser.
c. What is probabilistic context free grammar (PCFG)? How PCFG is used as statistical parsing model?
d. What are the different set of data structure on which MALT parser operates?
5. **Attempt any two of the following:** 12
a. What is idiomaticity? Enlist and explain in detail the subtype of idiomaticity.
b. Write a short note on association measures.
c. What are the different types of MWEs?
d. Enlist and explain sources of the sense inventory.