Code: 13A05802

R13

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018
NATURAL LANGUAGE PROCESSING
(Common to CSE and IT)

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
*****

1   Answer the following: (10 X 02 = 20 Marks)
  (a) Define recursive transition network.
  (b) List some common verbs that compliment structure in English with example.
  (c) Explain syntax, semantics and pragmatics.
  (d) Define ambiguity and list different disambiguation techniques.
  (e) What is inflectional and derivational morphology? Give examples.
  (f) Describe coordination.
  (g) Explain about dependency grammar.
  (h) What is the rule-by-rule semantic interpretation?
  (i) What is linguistic structure?
  (j) How are idioms handled while processing natural languages?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 (a) Differentiate between the depth-first and breadth-first top down parsing.
   (b) Describe simple top-down parsing algorithm.
OR
3   Write an algorithm for parsing a finite-state transducer using the pseudo code. Explain the algorithm with an example. Also give the merits and demerits of this algorithm.

UNIT – II

4   Explain various forms of Conjunctions with examples.
OR
5   Discuss in detail the term movement with respect to transformational grammar.

UNIT – III

6   Consider the grammar G given by:
$$S \rightarrow \varepsilon \mid AB \mid XB$$
$$T \rightarrow AB \mid XB$$
$$X \rightarrow AT$$
$$A \rightarrow a$$
$$B \rightarrow b$$
Use CYK parsing algorithm to determine the following:
   (i) Is w = aaabb in L(G)?
   (ii) Is w = aaabbb in L(G)?
OR
7   Describe the following with suitable example:
  (a) Reference resolution.
  (b) Elements of a language.

UNIT – IV

8   Between the words eat and find which you would expect to be more effective in selection restriction based sense disambiguation. Why?
OR
9   Give an algorithm for pronoun resolution and explain it with an example.

UNIT – V

10   What is discourse structure? Illustrate with examples.
OR
11   What information the knowledge base needs to contain to make the appropriate choices in your network?