Code No: RR420503 **Set No. 1**

IV B.Tech II Semester Supplimentary Examinations, May 2008
NATURAL LANGUAGE PROCESSING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Construct a trace of a pure top down parse and a pure bottom up parse of a sentence "The heroines fly in groups"
   The lexicon entries for each word are:
   The : ART
   Herons : N
   Fly : NV ADJ
   In : P
   Groups : N.V [16]

2. (a) Discuss in detail the term Movement with respect to Transformational Grammar (TG).
   (b) What is Subject-aux inversion?
   (c) Give an example for local or bounded movement? [8+4+4]

3. Describe in detail several sources of knowledge that are used in decoding the information. [16]

4. (a) Explain in detail the forward chaining & backward chaining in IF then reasoning.
   (b) Explain:
      i. Abduction
      ii. Resolution. [10+6]

5. Explain in detail the five types of referring expressions? Give example to each. [16]

6. (a) What are the two fundamental operations to the discourse model?
   (b) With the help of diagram, Explain the operation & relationships of discourse model. [8+8]

7. Write short notes on:
   (a) Analysis of the input
   (b) Transfer
   (c) Generation of the Output
   (d) Interlingua. [4×4=16]

8. (a) Explain why RSST has had a greater influence on NLG?

(b) What information the knowledge base need to contain to make the appropriate choices in your network? [8+8]

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Code No: RR420503 **Set No. 2**

IV B.Tech II Semester Supplimentary Examinations, May 2008
NATURAL LANGUAGE PROCESSING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are Transition Networks?
   (b) Represent a noun Phrase segment of a transition network
   (c) "Kathy Jumped the horse"
   Parse the above sentence both using top-down & bottom-up Methods. [4+4+8]
2. (a) Discuss with an example the ATM grammar for simple Declarative Sentences?
   (b) What is graph Unification Algorithm? [8+8]
3. Describe in detail several sources of knowledge that are used in decoding the information. [16]
4. (a) What are the two forms of knowledge that are curtail in knowledge Representation?
   (b) Discuss the types of inferences?
   (c) What is knowledge base? [8+4+4]
5. (a) Define Pragmatics? Give example.
   (b) What is:
      i. Disclosure
      ii. Monologue
      iii. Dialogue
      iv. HCI.
   (c) Explain the two fundamental reference operations & relationships of Disclosure model? [4+8+4]
6. Discuss in detail the syntactic & Semantic constraints on Conference. [16]
7. Which structure takes more memory F(a,b,c,d,e) or f(abcde,abcde,abcde)? Explain how you can answer this question without knowing the amount of memory needed for a character, a pointer or a cell on any particular compiler? [16]
8. (a) Explain why RSST has had a greater influence on NLG?
   (b) What information the knowledge base need to contain to make the appropriate choices in your network? [8+8]

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Code No: RR420503 **Set No. 3**

IV B.Tech II Semester Supplimentary Examinations, May 2008
NATURAL LANGUAGE PROCESSING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Map the following CFG into an equivalent recursive transition networks that uses only three networks –S, NP,PP networks:
   S→ NP VP
   VP→ V
   VP→ V NP
   VP→ V PP
   NP→ ART NP2
   NP→ NP2
   NP2→ N
   NP2→ ADJ NP2
   NP2 → NP3 PREPS
   PREPS → PP
   PREPS → PP PREPS
   PP→ NP
   (b) Explain about grammars and logic programming. [10+6]

2. (a) Discuss the various forms of conjunctions? With example.
   (b) What is generative capacity? Explain. [6+10]

3. (a) What are Auxiliary or Helping Verbs?
   (b) Discuss all the kinds of Auxiliaries with example?
   (c) Give some examples of multiple auxiliary? [4+6+6]

4. Discuss the knowledge representation structure frames using the objects Slots & roles for House, Terrorist. [16]

5. (a) List & Define several important components of intelligent agents?
   (b) What do you mean by speech act?
   (c) What is Knowledge base and Belief Base? [6+4+6]

6. (a) List all the types of referencing Expressions?
   (b) Briefly describe the basic reference phenomena? [8+8]

7. Justify your answer with examples How NLP is related or involved with AI systems? [16]

8. (a) What do you mean by Natural Language generation (NLG)?

(b) What is Canned Text? Give Examples.

(c) What is template filling? Explain?

(d) What is Aggregation? [3+4+4+5]

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Code No: RR420503 **Set No. 4**

IV B.Tech II Semester Supplimentary Examinations, May 2008
NATURAL LANGUAGE PROCESSING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Write short notes on:
   (a) Grammars
   (b) Case grammars
   (c) Symantec grammar
   (d) Syntactic grammar [4×4]
2. (a) Explain with an example the elements of the simple noun phrases.
   (b) What is Morphology?
   (c) What are Inflectional form & Derivational forms? [8+4+4]
3. Describe in detail several sources of knowledge that are used in decoding the information. [16]
4. Natural Language Understanding requires a capability to represent and reason about knowledge of the world? Justify? [16]
5. (a) Define Pragmatics? Give example.
   (b) What is:
      i. Disclosure
      ii. Monologue
      iii. Dialogue
      iv. HCI.
   (c) Explain the two fundamental reference operations & relationships of Disclosure model? [4+8+4]
6. (a) List all the types of referencing Expressions?
   (b) Briefly describe the basic reference phenomena? [8+8]
7. Justify your answer with examples How NLP is related or involved with AI systems? [16]
8. (a) Explain why RSST has had a greater influence on NLG?
   (b) What information the knowledge base need to contain to make the appropriate choices in your network? [8+8]

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