

**M.Tech(IT) : Group A**  
**Paper Code: MT32A**  
**Paper Title: Natural Language Processing**

**SYLLABUS**

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**1. Introduction to Natural Language Processing**

Application of Natural Language Understanding, Evaluating Language Understanding Systems, The Different Levels of Language Analysis, Organisation of Natural Language Understanding.

**2. Syntactic Processing – Linguistic Background**

Words, Elements of Simple Noun Phrases, Verb Phrases and Simple Sentences, Adjective Phrases, Adverbial Phrases.

**3. Grammars and Parsing**

Grammars and Sentence Structure, A Top-Down Parser, A Bottom-up chart parser, Transition Network grammars, Top-Down chart parsing

**4. Grammars for Natural Language**

Auxiliary Verbs and Verb Phrases, movement Phenomena in Language, Handling Questions in Context –Free Grammars, Relative Clause

**5. Semantics and Logical Form**

Semantics and Logical Form, Word Senses and Ambiguity, The Basic Logical form Language, Encoding Ambiguity in the Logical form

**6. Linking Syntax and Semantics**

Semantic Interpretation and Compositionality, Simple Grammar and Lexicon with Semantic Interpretation, Prepositional Phrases and Verb Phrases

**7. Knowledge Representational and Reasoning**

Knowledge Representation, FOFC, Frames, Handling Natural Language Quantification, Time and Aspectual Classes of Verbs

**8. Discourse Structure**

The Need for Discourse Structure, Segmentation and Cue Phrases, Discourse Structure and Reference, Relating Discourse Structure and Inference, Discourse Structure, Tense, and Aspect.

**Reference:**

1. “Natural Language Understanding” JAMES ALLEN “Person Education”