

**M. TECH.-III (INFORMATION TECHNOLOGY) (CBCS – 2015  
COURSE) : SUMMER - 2018**

**SUBJECT : ELECTIVE – I: NATURAL LANGUAGE PROCESSING & UNDERSTANDING**

Day : **Tuesday**  
Date : **29/05/2018**

**S-2018-3088**

Time : **11.00 AM TO 02.00 PM**  
Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

**SECTION – I**

**Q.1** Explain the basic parsing technique in detail. **[10]**

**OR**

**Q.1** Explain the stepwise procedure of semantic analysis in natural language processing. **[10]**

**Q.2** Explain the principle and concept of dynamic programming in natural language processing. **[10]**

**OR**

**Q.2** What is machine translation? Explain the process in detail. **[10]**

**Q.3** Explain the noisy-channel model in detail. **[10]**

**OR**

**Q.3** State and explain Shannon's theorem in detail. **[10]**

**SECTION – II**

**Q.4** What is parts-of-speech? Explain in detail w.r.t natural language processing. **[10]**

**OR**

**Q.4** Explain the Hidden Markov Model (HMM) in detail. **[10]**

**Q.5** Explain the principle of maximum entropy. **[10]**

**OR**

**Q.5** Explain maximum entropy classifiers in detail. **[10]**

**Q.6** Explain the probabilistic model of machine translation. **[10]**

**OR**

**Q.6** What is language generation? Explain in detail. **[10]**

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