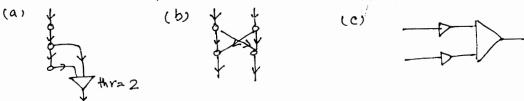
(9) 2019

Major test

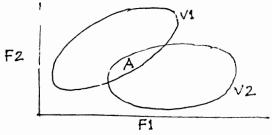
HUL 281 Mind, Machines & Language Time 2 hrs

Section A (Compulsory)

1. Which of the following schematics could be regarded as part of the representational module for the sentence "Ram and Shyam are friends"? Give valid reason(s). (5)



2. Consider the following diagram representing vowel V1 and vowel V2 in the feature space.



- (a) What feature(s) do F1 and F2 represent? (1)
- (b) What is the expression for the outer bound of the region of an ambiguous vowel? (1)
- (c) What is the probability that a vowel will be recognized as vowel V1 if it in the region A? (1)
- (d) According to the Levelt-Wheeldon model of speech production, under what circumstances will a syllable /kV1/ produce same motor commands as the syllable /kV2/? (2)
- (e) How will the human perceptual system distinguish between the two productions in (d) above? (2)
- 3. Consider the sentences 1 and 2:
 - 1. Rohan ate the apple.
 - 2. The apple was eaten by Rohan.
 - (a) What is the semantic relationship between sentences 1 and 2? (1)
 - (b) What is the respective verb in the two sentences? (2)
 - (c) What function does the word 'by' perform in (2)? (1)
- 4. What is the role of fMRI in language research? (4)

Section B (Answer any two)

- 5. Define Mental Lexicon. If λ_i is an element in the set of words, formulate an algorithm that will generate the sentence "The fruit is ripe". Draw a labelled diagram to explain the process. Also illustrate the various attributes that will be considered by the computational system. (10)
- 6. What are the differences between the representational and computational theories of mind? (10)
- 7. What is the role of working memory in sentence comprehension? (10)
- 8. What is the neural model of language? Explain with the help of suitable diagrams. (10)