



# Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India  
(Autonomous Institute Affiliated to University of Mumbai)

## Mid Semester Examination March - 2020

Max. Marks: 20

Class: S.Y.

Course Code: MCAE45B

Name of the Course: Natural Language Processing

Duration: 1 Hr

Semester: IV

Branch: M.C.A.

### Instruction:

- (1) All questions are compulsory
- (2) Draw neat diagrams
- (3) Assume suitable data if necessary

Q. No.		Max Mark	CO- BL- PI
Q1	A) Design the FSA for regular expression. Write five tuple. $10^*(1+0)110(111+00)^*$ B) Compare and contrast inflection morphology and derivation morphology.	02 02	1-3-1.3.1
Q2.	Design FST for identifying words and its classification with Reading, walked, cities, oxen.	04	2-3-2.4.1
Q3.	Write the Porter Stemmer algorithm. <b>OR</b> Design FSA for the English currency dollars and cents. Accepted String: 1. Three dollars five cents. 2. One dollar two cents. 3. Three dollars one cent. Rejected String: 1. One dollars five cents. 2. Three dollars one cents.	04	2-3-2. .4.1
Q4.	A) Represent the meaning of the following statement with temporal information in FOPC using semantic analysis. 1. I arrived in Ankara. 2. I am arriving in Ankara. 3. I will arrive in Ankara. B) State the role of lambda notation in semantic analysis. Apply lambda expression to represent the meaning using FOPC for the nominal noun where the part of the statements are as follows: 1. Flight schedule. 2. Summer flight schedule. <b>OR</b> Represent the meaning of the following statement using FOPC. Use lambda expression and In expression wherever required in Verb Phrase that modifies prepositional phrases. 1. I told harry to go to Maharani. 2. Ate dinner in a hurry.	03 03	2-3-2.4.1 2-3-2.4.1
Q5.	Draw a venn diagram that represents the relations among Homonymy, Synonym, Heteronym, Heterograph, Homograph, Homophone etc.	02	1-3-1.1.1