Program: Master of Computer Applications

Curriculum Scheme: CBCGS

Examination: MCA FIRST YEAR SEMESTER-II

Course Code: MCAE251 and Course Name: Natural Language Processing

Time: Max. Marks: 80

Section I - MCQS (20 Marks)

Section II – Subjective (60 Marks)

==========

Section I

Note to the students: - All the Questions are compulsory and carry equal marks.

Q.1	The foundation of speech and language technology lie in?
Option A:	Electrical Engineering
Option B:	Mathematics
Option C:	Computer Science
Option D:	All of the above
Q.2	How the word “processing” is stemmed using porter stemmer?
Option A:	process
Option B:	processing
Option C:	processy
Option D:	None of the above
Q.3	Knowing the probability of whole sentence or strings of words is useful in
Option A:	Word-sense-disambiguation
Option B:	Parts-of-speech tagging
Option C:	Probabilistic parsing
Option D:	All of the above
Q.4	Context free grammar consists of
Option A:	Rules or production
Option B:	Lexicon of words and symbols
Option C:	All of the above
Option D:	None of the above
Q.5	A relation that holds between words that have the same form with unrelated meanings is called ----------
Option A:	hyponymy
Option B:	Polysemy
Option C:	homonymy
Option D:	homographs

Q.6	In which approach all the sense definitions of the word to be disambiguated are retrieved from the dictionary
Option A:	Bootstraping
Option B:	Dictionary-based
Option C:	Naïve bayes
Option D:	Decision list
Q.7	How many morphemes are present in the word “happiness”
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q.8	Which tagger uses probabilistic and statistical information to assign tags to words?
Option A:	Rule Based
Option B:	Statistical
Option C:	POS
Option D:	Stochastic
Q.9	CFG consist of
Option A:	Rules, productions, order of element
Option B:	Set of productions
Option C:	Set of rules
Option D:	Order of elements
Q.10	Which of the following is a kind of text summarization?
Option A:	History-based summarization
Option B:	Summarizing a text or article
Option C:	Topic-based summarization
Option D:	Abstraction-based summarization

SECTION II

Q2 Solve any two out of three (10 Marks each) 20 marks

A. What is Word Sense Disambiguation? Explain Dictionary-based approach.

B. What is Text Summarization? Explain different types of Text Summarization techniques with example.

C. What is POS? Explain Stochastic POS-tagging.

Q.3 Solve any two out of three (10 Marks each) 20 marks

A. Describe Hidden Markov Model (HMM).

B. What are Lexical Semantics and lexemes? Explain relation between different lexemes.

C. Explain morphological parsing with FST.

Q.4 Write Short note on following (Any 4) 20 Marks

A. Regular Expression

B. Inflectional and Derivational Morphology

C. Generic NLP system

D. Text Classification

E. Sentiment Analysis

F. Noun Phrases