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**MCA**  
**(SEM IV) THEORY EXAMINATION 2024-25**  
**NATURAL LANGUAGE PROCESSING**

**TIME: 3 HRS****M.MARKS: 100****Note: Attempt all Sections. In case of any missing data, choose suitably.****SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

Q No.	Question	CO	Level
a.	List the applications of NLP.	1	K1
b.	Explain open and closed word classes in English language.	1	K2
c.	Explain knowledge representation.	2	K2
d.	Differentiate between syntax and semantics.	2	K3
e.	Describe the parsing process.	3	K2
f.	Discuss the function of the lexicon during parsing?	3	K2
g.	Discuss Auxiliary verb with suitable example.	4	K2
h.	Explain different ways to create words from morphemes	4	K2
i.	Explain the use of language model?	5	K2
j.	What is meant by Part-of-Speech (POS) tagging?	5	K1

**SECTION B****2. Attempt any three of the following:****10 x 3 = 30**

Q No.	Question	CO	Level
a.	Explain the organization of natural language understanding system.	1	K2
b.	Discuss the language generation with respect to machine translation.	2	K2
c.	Describe various syntactic parsing techniques.	3	K2
d.	Determine context free grammar. Discuss its use and limitations.	4	K3
e.	Discuss the details about the encoding ambiguity in logical form.	5	K2

**SECTION C****3. Attempt any one part of the following:****10 x 1 = 10**

Q No.	Question	CO	Level
a.	Explain the different steps in natural language understanding in detail.	1	K2
b.	Explain the different levels of language analysis process.	1	K2

**4. Attempt any one part of the following:****10 x 1 = 10**

a.	Explain top-down parsing and bottom-up parsing with an example.	2	K2
b.	Explain all the steps that are used in machine translation.	2	K2

**5. Attempt any one part of the following:****10 x 1 = 10**

a.	Discuss morphological analysis in detail.	3	K2
b.	Discuss transition network. Explain the different types of transition network.	3	K2

**6. Attempt any one part of the following:****10 x 1 = 10**

a.	Illustrate human preferences in parsing in detail.	4	K3
b.	Illustrate lexical analysis. Explain in brief. Also explain finite state automaton.	4	K3

**7. Attempt any one part of the following:****10 x 1 = 10**

a.	Describe semantic analysis? Discuss different semantic relationships between the words.	5	K2
b.	Describe generative models and compare it with PCFG model.	5	K2