- PYQ -

MI →

Q1) What is NLP? Explain ambiguity in natural languages with suitable examples. (5)

Q2)* Discuss various stages involved in NLP process with suitable examples (10).

Q3) Discuss various challenges in processing natural language (5).

Q4) Explain applicat"s of NLP (5).

Q5) Explain challenges of NLP (5).

Q6) Explain ambiguities associated at each level with ~~ex~~ example for NLP (10).

Q7) Discuss challenges in various stages of NLP (10).

Q8) Define affixes. Explain the types of affixes. (5).

Q9) Describe open class & closed class words ~~with~~ in English with ~~ex~~ examples (5) → Mod 3

Q10) Differentiate b/w Syntactic & Lexical ambiguity (5).

Define

H2-

Q1) Compare derivational & inflectional morphology with suitable example (5).

or illustrate working of

Q2) Explain Porter's Stemming algo. with example (10).

Q3) Explain N-Gram model with example (10).

Q4) NGram Numericals (10). (VVIP)

Q5) What is Parsing? Explain types of parsing in NLP (10).

Q6) Explain in brief inflectional & derivational morphology with suitable examples (5).

Q7) Explain edit dist. algo. with ~~ex~~ example. Show working of the min no. of operations required to transform 'kitten' to 'sitting'. (10)

Q8) Illustrate concept of tokenizatn & stemming in NLP (5)

Q9) Explain inflectional & derivational morphology with an example (10).

Q10. Explain how N-Gram model is used in spelling correctn (5).

Q11) Represent O/P of morphological analysis for Regular verb, Irregular verb, singular noun, plural noun. Also explain role of FST in morphological ~~analysis~~ parsing with an example (10).

(Q12) Explain Porter Stemmer with rules (10).

(Q13) Explain FSA for nouns & verbs. Also design a Finite State Automata (FSA) for the words of English nos. 1-99. (10).

(Q14) Explain perplexity on any language model (5).

(Q15) Explain role of FSA in morphological analysis (10).

(Q16) Compare top-down & bottom up approach of parsing with example (10).

M-3 -

(Q1) Explain in detail Stochastic (HMM) tagging (10).

(Q2) What is POS tagging? List diff. approaches to POS tagging. Explain any 1 approach in brief (10).

(Q3) Explain HMM with eg (10).

(Q4) Discuss / explain challenges in POS (5) or (10).

(Q5) Demonstrate concept of CRF in NLP (10).

(Q6) HMM numerical [Comp. engg. May 2023] (10)

(Q7) Explain Maximum Entropy Model for POS tagging (10).

(Q8) What is rule based & stochastic POS taggers? (5)

~~Q Explain various challenges in POS tagging.~~

Q9) Explain the use of Probabilistic Context Free Grammar (PCFG) in NLP with example (10).

Q10) Explain how CRF is used for sequence labelling (10)

Q11) What is POS tagging + Discuss challenges (10)

Q12) What are limitations of HMM (10)

Ref Resolut^{n} probs -

New QB -

1. Diff. b/w Info $\neq$ extract^{n} & info. retrieval [M6]
2. Types of linguistic models [M6]
3. Types of MT [M6]
4. Types of Text Summarizat^{n} [M6]
5. Relat^{n}'s b/w words & senses [M4]
6. Concept of WSD, lesk algo., Wordnet & Babelnet [M4]
7. Hobbs & Centering algo, ref. phenomena, syntactic & semantic constraints on co-ref. [M5]

PYQ -

M4 -

(Q1) What is WSD? Explain dictionary based approach to WSD. (10). [Also asked with examples].

(Q2) Explain with suitable egs. the all. relationships b/w word meanings: Homonymy, Polysemy, Synonymy, Hyponymy. (10) → OR (5). also add Hypernomy, Meronomy.

(Q3) Short note: Wordnet (5)

(Q4) Explain Yarowsky bootstrapping approach of semi-supervised learning (10).

(Q5) What do you mean by WSD? Explain ML based (Naive Bayes) approach for WSD (5).

(Q) What is semantic analysis? Discuss diff. semantic relationships b/w words (5).

H5 -

Q1) Write a note on Syntactic & Semantic constraints on Coreference (10).

Q2) Short Note: Reference Resolution Problem (10). (5).

Q3) Explain Hobbs algo for pronoun resolution (10).

Q4) Short Note: Syntactic & Semantic constraints on co-reference. (10).

Q5) Describe in detail Centering algo for reference resolution (10).

Q6) Explain Discourse reference resolution in detail (10).

Q7) Explain 3 types of referents that complicate the reference resolution problem (5).

Q8) What is reference resolution? (5)

Q9) What are 5 types of referring expressions? Explain with the help of example. (10).

~~Q10)~~

word color is hyp
etc. are hyponyms.

M6-

(Q1) Short Note: i) Machine Translatn (5)
ii) NER (5)

(Q2) Discuss Info. extratn vs. Info. retrieval in detail (5).

(Q3) Short Note: Info. retrieval (5)

(Q4) What is rule based Machine translatn? (5)

(Q5) Explain Machine Translatn Approaches used in NLP. (5)

(Q6) Explain info. retrieval vs. info. extratn systems. (10)

(Q7) Explain statistical approach for machine translatn (5).

(Q8) Explain Ques. Answering System (QAS) in detail (10).

(Q9) Explain Text summarizatn in detail (10).

(Q10) Explain the diff. steps in text processing for info. retrieval (5)

(Q11) Explain perplexity of any language model (5).

(Q12) What is NER? Define its types (5)