**Sample Questions**

Computer Engineering

**Subject Name:** Natural Language Processing **Semester: VIII**

Multiple Choice Questions

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| **Choose the correct option for following questions. All the Questions carry equal marks** | |
| 1. | "He went to the bank". identify the challenge of NLP |
| Option A: | Discourse resolution |
| Option B: | Noun resolution |
| Option C: | Verb resolution |
| Option D: | Pronoun resolution |
| 2. | “ Bat is flying in the sky” Identify the dependency checking to perform sense disambiguation of ‘Bat’ |
| Option A: | Bat -> sky, fly |
| Option B: | Bat-> sky |
| Option C: | Sky-> fly |
| Option D: | Bat-> fly |
| 3. | N-grams are defined as the combination of N keywords together. How many bigram can be generated from given sentence: “Data segmentation is a great source to learn text summarization” |
| Option A: | 7 |
| Option B: | 8 |
| Option C: | 9 |
| Option D: | 10 |
| 4. | "Given a input sentence "" The crane is loaded""  How will you determine the correct sense of the word 'crane'" |
| Option A: | Word will be searched in lexicon and first sense of crane will be identified |
| Option B: | Identify the POS of crane and load, apply rule and determine correct meaning |
| Option C: | Determine the clue word load and find the dependency between crane and load. Match with all the definitions of crane in the lexicon. Best match is the answer. |
| Option D: | As clue words such as fly, sky are not part of input, so correct sense of crane is machinery sense |
| 5. | HMM model formula P(q2|x2,q1)=p(x2|q2)\*P(q2|q1) This formula does not contain |
| Option A: | State transition Probability |
| Option B: | Emission probability |
| Option C: | CDF |
| Option D: | Initial state |
| 6. | In Porter stemmer algorithm,\*v\* indicates |
| Option A: | Stem contains a vowel |
| Option B: | Stem contains any character |
| Option C: | Stem contains VC combinations |
| Option D: | Stem contains CV combinations |
| 7. | Who invented Wordnet |
| Option A: | Tomas Mikolov |
| Option B: | Atlas University |
| Option C: | PENN treebank |
| Option D: | Princeton University |
| 8. | "The Tajmahal is one of the seventh wonder of the world". Identify the application of NLP in the word 'TajMahal' |
| Option A: | Named entity recognition |
| Option B: | QA system |
| Option C: | Text categorization |
| Option D: | Sentiment analysis |
| 9. | The contraction of the morpheme “is”, as in, “That’s the way to do it.” is an example of: |
| Option A: | Clitic |
| Option B: | Inflection |
| Option C: | Derivation |
| Option D: | Suffix |
| 10. | Lesk algorithm |
| Option A: | converts words to vectors |
| Option B: | finds comparison between two words |
| Option C: | measures overlap between sense definitions for all words in context |
| Option D: | check for similarity between words in context |
| 11. | What is morphology? |
| Option A: | The study of linguistic sounds |
| Option B: | It is a study of the way words are built up from smaller meaning-bearing units called morphemes. |
| Option C: | The study of the structural relationships between words. |
| Option D: | The study of linguistic units larger than a single utterance. |
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| 12. | Select correct example of inflectional morpheme? |
| Option A: | Read --> Reader |
| Option B: | Teach --> Teacher |
| Option C: | Tall --> Taller |
| Option D: | Play --> Player |
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| 13. | Parts of speech can be divided into two broad super categories \_\_\_\_\_\_\_\_ |
| Option A: | Parent class and derived class |
| Option B: | Closed class and open class |
| Option C: | Sentence class and character class |
| Option D: | Sub class and child class |
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| 14. | Bigram model also called as \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | First-order Morkov model |
| Option B: | Second-order Morkov model |
| Option C: | Third-order Morkov model |
| Option D: | (N-1)th-order Morkov model |
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| 15. | "Custemer Review system" is example of one of the following? |
| Option A: | Machine Translation |
| Option B: | Sentiment Analysis |
| Option C: | Question-Answering system |
| Option D: | Text-Summerization |
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| 16. | "I saw someone on the hill with a telescope." is the example of which type of ambiguity? |
| Option A: | Lexical Ambiguity |
| Option B: | Semantic Ambiguity |
| Option C: | Syntactic Ambiguity |
| Option D: | Pragmatic Ambiguity |
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| 17. | Sentiment analysis is also called as \_\_\_\_ |
| Option A: | Summarization |
| Option B: | Question-Answering |
| Option C: | Opinion Mining |
| Option D: | Named-Entity Recognition. |
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| 18. | What is the task of Robust Word Sense Disambiguation (WSD) for word in given sentence? |
| Option A: | Define a concept or word meaning |
| Option B: | Measure overlap between sense definitions for all words in context |
| Option C: | Define word without senses |
| Option D: | selecting the correct sense for a word in a given sentence |
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| 19. | "Please maintain silence" is the example of \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Wh-subject Question |
| Option B: | Yes-No Question |
| Option C: | Imperative sentence |
| Option D: | Declarative sentence |
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| 20. | Select correct constraint on coreference for given example “John and Mary have Hyundai cars. They love them". |
| Option A: | Number agreement |
| Option B: | Gender agreement |
| Option C: | Person and Case agreement |
| Option D: | Syntactic constraint. |
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| 21. | Natural language processing is a sub-domain of, |
| Option A: | Networking |
| Option B: | Artificial Intelligence |
| Option C: | Algorithms |
| Option D: | Databases |
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| 22. | Which of this is not an application of NLP? |
| Option A: | Speech Understanding |
| Option B: | Chatbot |
| Option C: | Scanned Image Classification |
| Option D: | News Clustering |
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| 23. | This kind of ambiguity occurs when a sentence is parsed in different ways. |
| Option A: | Lexical Ambiguity |
| Option B: | Syntactic Ambiguity |
| Option C: | Semantic Ambiguity |
| Option D: | Pragmatic Ambiguity |
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| 24. | “Appoint🡪Appointee” is an example of ------------- morphology. |
| Option A: | Derivational |
| Option B: | Inflectional |
| Option C: | Compounding |
| Option D: | Cliticization |
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| 25. | The stemming algorithm is used to, |
| Option A: | Form complex words from base form |
| Option B: | Generats the parse tree of a sentence |
| Option C: | Check meaning of a word in dictionary |
| Option D: | Reduce inflected form of a word to a single base form |
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| 26. | P(dog | the big) is an example of ------ model |
| Option A: | Unigram |
| Option B: | Bigram |
| Option C: | Trigram |
| Option D: | Quadrigram |
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| 27. | Which of this is not true about Morphology? |
| Option A: | Provides systematic rules for forming new words in a language |
| Option B: | Provide rules for forming sentences in a language |
| Option C: | Can be used to verify if a word is legitimate in a language |
| Option D: | Group words into classes |
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| 28. | CFG captures ------------------------ |
| Option A: | Constituency and ordering |
| Option B: | word meaning |
| Option C: | relation between words |
| Option D: | sentence meaning |
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| 29. | Which of the following is a Rule based POS tagger? |
| Option A: | HMM Tagger |
| Option B: | Ngram Tagger |
| Option C: | ENGTWOL Tagger |
| Option D: | Brill Tagger |
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| 30. | Syntax analysis concerns with: |
| Option A: | the way words are built up from smaller meaning bearing units |
| Option B: | what words mean and how these meanings combine in sentences to form sentence meanings |
| Option C: | how the immediately preceding sentences affect the interpretation of the next sentence |
| Option D: | how words are put together to form correct sentences and what structural role each word has |
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| 31. | Which of the following is not a sequence labeling technique? |
| Option A: | Maximum Entropy |
| Option B: | Context Free Grammar |
| Option C: | Conditional Random Fields |
| Option D: | Hidden Markov Model |
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| 32. | Which of the following is an example of “hyponym-hypernym” semantic relationship? |
| Option A: | Car-Vehicle |
| Option B: | Car-Wheel |
| Option C: | Wheel-Car |
| Option D: | Car-Ford |
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| 33. | The root form of a word in Wordnet dictionary is called |
| Option A: | Stem |
| Option B: | Sense |
| Option C: | Gloss |
| Option D: | Lemma |
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| 34. | Roughly, Semantic analysis is------------ |
| Option A: | Language Understanding |
| Option B: | Language Generation |
| Option C: | Language Preprocessing |
| Option D: | Language Translation |
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| 35. | “All boys love cricket ”. How is this sentence represented in First Order Logic form? |
| Option A: | ∃x boys(x)🡪love(x,cricket) |
| Option B: | ∀x boys(x)🡪love(x,cricket) |
| Option C: | ∃x,y love(x) ∧ cricket(y) |
| Option D: | ∀x boys(x) ∧ love(x,cricket) |
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| 36. | Pragmatic refers to |
| Option A: | Literal meaning |
| Option B: | Intended meaning |
| Option C: | Structural meaning |
| Option D: | Wordnet dictionary meaning |
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| 37. | “John bought an Acura Integra today, but the engine seemed noisy.”  Which of the following is an Inferrable referent? |
| Option A: | John |
| Option B: | Acura |
| Option C: | Engine |
| Option D: | Noisy |
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| 38. | Shivaji🡪 शिवाजी  Is an example of: |
| Option A: | Translation |
| Option B: | Transfer |
| Option C: | Transliteration |
| Option D: | Generation |
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| 39. | In which of the summarization technique, summary contains the sentences from the given document only? |
| Option A: | Extractive Summarization |
| Option B: | Abstractive summarization |
| Option C: | Mixed Summarization |
| Option D: | Copied summarization |
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| 40. | Which of this is not a reference resolution algorithm? |
| Option A: | Hobb’s Algorithm |
| Option B: | Lappin and Leass’s Algorithm |
| Option C: | Centering Algorithm |
| Option D: | Lesk’s Algorithm |

**Descriptive Questions**

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| Explain how word sense disambiguation will be useful for resolving ambiguity |
| Explain the text preprocessing steps of Natural language processing with an example |
| Explain machine translation and its types |
| What is language model? Explain N gram model |
| What is parsing? Explain Top-down and Bottom-up approach of parsing with suitable example. |
| Discuss various approaches to perform Part-Of-Speech (POS) tagging |
| Explain derivational and inflectional morphology in detail with suitable example |
| Explain following Relations among lexemes & their senses, Homonymy, Synonymy, Hyponymy with example |
| What are the five types of referring expression? Explain with example |
| What are the stages of NLP? Explain with example. |
| What are basic regular expression patterns? Give brief answer for each with example. |
| What are the attachments for fragment of English? Explain with example. |
| Differentiate between Derivational and Inflectional morphemes. |
| Define POS tagging. Explain rule-based POS tagging with example. |
| What are the reference phenomenons? Explain types of referring expression. |
| Differentiate between closed classes and open classes with example. |
| Show derivation of “The boy likes a girl” in parse tree, consider following grammar rule:  S🡪NP VP  VP 🡪Verb NP  NP🡪 Det NOM  NOM 🡪 Noun  Noun🡪 boy | girl  Verb 🡪 sees | likes  Adj 🡪 big | small  Adv 🡪 very  Det 🡪 a | the |
| What is information retrieval and machine translation in applications? Give brief answer on both. |

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| Discuss various challenges in processing natural language. |
| What is the role of FSA in Morphological analysis? |
| What is WordNet? How is “sense” defined in WordNet? Explain with example. |
| What do you mean by stemming? Explain Porter’s stemming algorithm in detail. |
| How HMM is used for POS tagging? Explain in detail. |
| Explain use of CFG in Natural Language Processing with suitable example. |
| Consider a suitable training data and show the Bigram probability calculation for the same*.* |
| Compare Information Retrieval with Information Extraction system. |
| What is Word Sense Disambiguation? Illustrate with example how Dictionary-based approach identifies correct sense of an ambiguous word. |
| Discuss in detail any application considering any Indian regional language of your choice. |