UNIT 1

1. A word is best defined as:

A. A sequence of letters between spaces
B. The smallest linguistic unit that can form a complete utterance
C. A group of morphemes only
D. A syntactic structure

2. A token refers to:

A. The dictionary meaning of a word
B. The grammatical category
C. A concrete occurrence of text
D. A root morpheme

3. How many tokens are there in “Stop! Go! Go!”?

A. 3
B. 4
C. 5
D. 6

4. Which primarily helps identify tokens in English?

A. Semantics
B. Whitespace and punctuation
C. Phonology
D. Syntax

5. In the word “cats”, how many morphemes are present?

A. 1
B. 2
C. 3
D. 4

6. Which of the following is NOT a morpheme?

A. un–
B. –ness
C. pp (from happy)
D. –ly

7. A free morpheme:

A. Cannot stand alone
B. Must attach to a root
C. Can stand independently as a word
D. Is always derivational

8. Which of the following is a bound morpheme?

A. run
B. child
C. -ness
D. book

9. Derivational morphemes:

A. Add tense only
B. Change grammatical number
C. Change meaning or part of speech
D. Never create new words

10. Inflectional morphemes:

A. Create new lexemes
B. Add grammatical information
C. Always change meaning
D. Are always prefixes

11. Which of the following is an example of suppletion?

A. book → books
B. happy → happier
C. go → went
D. cat → cats

12. Which morphological process repeats part or whole of a word?

A. Suppletion
B. Reduplication
C. Compounding
D. Clipping

13. “brunch” (breakfast + lunch) is an example of:

A. Compounding
B. Clipping
C. Blending
D. Suppletion

14. In dictionary lookup models, unknown words:

A. Are automatically decomposed
B. Are guessed statistically
C. Fail to be analyzed
D. Are corrected automatically

15. Finite State Automata (FSA) recognize:

A. Context-free languages
B. Regular languages
C. Context-sensitive languages
D. All languages

16. Finite State Transducers (FST) are used to:

A. Recognize only
B. Translate between lexical and surface forms
C. Remove ambiguity
D. Replace dictionaries

17. Unification in morphology:

A. Deletes features
B. Merges compatible feature structures
C. Ignores grammatical constraints
D. Always succeeds

18. In unification, failure occurs when:

A. Types match
B. Features are compatible
C. Conflicting values exist
D. Root is missing

19. Functional morphology models morphology as:

A. Graphs only
B. Lookup tables
C. Pure mathematical functions
D. Random processes

20. In functional morphology, which is invalid?

A. plural(cat) → cats
B. past(play) → played
C. past(cat)
D. plural(dog)

21. Morphology induction aims to:

A. Manually list morphemes
B. Automatically discover word structure
C. Replace syntax
D. Eliminate ambiguity completely

22. An isolating language typically:

A. Uses many suffixes
B. Packs many morphemes in one word
C. Uses mostly single-morpheme words
D. Has unclear morpheme boundaries

23. In agglutinative languages:

A. One morpheme expresses many features
B. Morphemes are clearly separable
C. Words contain only one morpheme
D. There are no affixes

24. A lexeme represents:

A. A single token occurrence
B. A dictionary page
C. The abstract concept grouping word forms
D. Only the root

25. The lemma of “mice” is:

A. mice
B. mices
C. mouse
D. rodent

Solution: 1-(B), 2-(C), 3-(D), 4-(B), 5-(B), 6-(C), 7-(C), 8-(C), 9-(C), 10-(B), 11-(C), 12-(B), 13-(C), 14-(C), 15-(B), 16-(B), 17-(B), 18-(C), 19-(C), 20-(C), 21-(B), 22-(C), 23-(B), 24-(C), 25-(C)

UNIT 2

1. Syntax parsing primarily aims to:

A. Translate sentences
B. Identify word meanings
C. Analyze grammatical structure of a sentence
D. Count tokens

2. POS tagging alone is insufficient because:

A. It ignores word frequency
B. It does not determine syntactic relationships

C. It cannot identify nouns
D. It removes ambiguity completely

3. In a Context-Free Grammar (CFG), the typical rule for a sentence is:

A. S → VP NP
B. S → NP VP
C. NP → VP S
D. S → V NP

4. In CFG terminology, words such as “bought” and “shirt” are:

A. Non-terminals
B. Phrase labels
C. Terminals
D. Roots

5. Structural ambiguity occurs when:

A. A word has multiple dictionary meanings
B. A sentence has more than one valid parse tree
C. A sentence is grammatically incorrect
D. Words are misspelled

6. The number of possible binary parse trees is related to:

A. Fibonacci numbers
B. Prime numbers
C. Catalan numbers
D. Square numbers

7. A treebank is:

A. A dictionary of words
B. A collection of annotated syntactic trees
C. A grammar rule book
D. A POS tagger

8. Dependency syntax represents structure using:

A. Phrase-based grouping only
B. Word-to-word relationships
C. Only CFG rules
D. Semantic roles

9. A projective dependency tree is one in which:

A. All arcs cross
B. There is more than one root
C. Dependency arcs do not cross
D. Each word has two heads

10. Which type of languages typically show higher non-projectivity?

A. Fixed word-order languages
B. Morphologically poor languages
C. Free word-order languages
D. Isolating languages

11. Phrase structure syntax represents sentences as:

A. Word-to-word links only
B. Flat sequences of tokens
C. Hierarchical constituent trees
D. Semantic graphs

12. In phrase structure grammar, NP and VP are:

A. Terminals
B. Non-terminals
C. Dependency labels
D. Lexical entries

13. A chart parser improves efficiency by:

A. Ignoring ambiguity
B. Storing intermediate parsing results
C. Using only greedy decisions
D. Removing recursion

14. The main advantage of chart parsing is that it:

A. Avoids recomputing the same substructures
B. Works only for dependency grammar
C. Eliminates ambiguity
D. Requires no grammar

15. Shift-reduce parsing is classified as:

A. Top-down parsing
B. Bottom-up parsing
C. Semantic parsing
D. Graph parsing

16. In shift-reduce parsing, the "shift" operation:

A. Combines stack elements
B. Moves input token to the stack
C. Removes a rule
D. Assigns probabilities

17. A common problem in shift-reduce parsing is:

A. Infinite loops
B. Data sparsity
C. Shift-reduce conflicts
D. Lack of grammar rules

18. Maximum Spanning Tree (MST) parser is mainly used for:

A. Phrase structure parsing
B. Dependency parsing
C. Semantic role labeling
D. Tokenization

19. The MST parser selects the dependency tree that:

A. Has minimum depth
B. Has maximum total edge weight
C. Has no ambiguity
D. Is projective only

20. One limitation of PCFG (Probabilistic CFG) is that it:

A. Cannot generate sentences
B. Assumes independence between rules
C. Cannot handle recursion
D. Does not use probabilities

21. In PCFG, the probability of a parse tree is computed by:

A. Adding rule probabilities
B. Multiplying rule probabilities
C. Counting tokens
D. Using only lexical rules

22. Max-rule parsing selects the parse tree that:

A. Has the most nodes
B. Maximizes individual rule probabilities
C. Minimizes ambiguity
D. Ignores grammar

23. A discriminative parser differs from generative PCFG because it:

A. Models joint probability P(sentence, tree)
B. Models conditional probability P(tree | sentence)
C. Ignores features
D. Does not require training data

24. Discriminative parsers resolve ambiguity by:

A. Ignoring context
B. Using rich contextual and structural features
C. Applying only CFG rules
D. Avoiding probabilities

25. The Penn Treebank-based statistical parser is trained using:

A. Handwritten grammar rules only
B. Unannotated text
C. Annotated treebank data
D. Dictionary lookup

Solution: 1-(C), 2-(B), 3-(B), 4-(C), 5-(B), 6-(C), 7-(B), 8-(B), 9-(C), 10-(C), 11-(C), 12-(B), 13-(B), 14-(A), 15-(B), 16-(B), 17-(C), 18-(B), 19-(B), 20-(B), 21-(B), 22-(B), 23-(B), 24-(B), 25-(C)

UNIT 3

1. Semantic analysis primarily aims to:

A. Translate text into another language
B. Represent sentence meaning in a formal, machine-understandable way
C. Identify grammatical errors
D. Tokenize sentences

2. Lexical semantics focuses on:

A. Sentence structure
B. Meaning of individual words
C. Logical inference
D. Parsing trees

3. The Principle of Compositionality states that:

A. Words have only one meaning
B. Sentence meaning is independent of word meaning
C. Sentence meaning is derived from meanings of parts and their combination
D. Idioms always follow literal meaning

4. Which of the following is an example where compositionality fails?

A. Anita loves music
B. Ravi booked a flight

C. Kick the bucket
D. Murthy likes music

5. In predicate-argument structure, the predicate represents:

A. Only nouns
B. An action, event, or relation
C. The subject only
D. Word order

6. In “Ravi ate mango,” mango plays which thematic role?

A. Agent
B. Experiencer
C. Theme
D. Instrument

7. Selectional restrictions ensure that:

A. Sentences are grammatically correct
B. Arguments satisfy semantic constraints
C. All words are unambiguous
D. Only verbs are analyzed

8. Lambda calculus in semantics is mainly used for:

A. Tokenization
B. Syntax tree generation
C. Systematic semantic composition
D. Word sense disambiguation

9. Word Sense Disambiguation (WSD) refers to:

A. Removing stop words
B. Choosing the correct meaning of an ambiguous word
C. Translating between languages
D. Identifying sentence boundaries

10. In model-theoretic semantics, a sentence is considered true when:

A. It is grammatically correct
B. It matches dictionary definitions
C. It holds within a given model of the world
D. It is spoken by a native speaker

Solution: 1-(B), 2-(B), 3-(C), 4-(C), 5-(B), 6-(C), 7-(B), 8-(C), 9-(B), 10-(C)