1. Which of the following is not a task in natural language processing?
a) Sentiment analysis
b) Speech recognition
c) Image classification
d) Named entity recognition

2. What is the primary goal of natural language processing?
a) **Understanding and generating human language**
b) Translating languages
c) Analyzing data patterns
d) Creating conversational agents

3. Which of the following techniques is commonly used in text classification tasks?
a) Latent Semantic Analysis (LSA)
b) Convolutional Neural Networks (CNN)
c) Principal Component Analysis (PCA)
d) **Support Vector Machines (SVM)**

4. What is the process of converting words into their base or root form called?
a) Tokenization
b) **Stemming**
c) Lemmatization
d) Part-of-speech tagging

5. Which algorithm is commonly used in named entity recognition?
a) K-means clustering
b) **Hidden Markov Models (HMM)**
c) Apriori algorithm
d) Decision trees

6. What is the purpose of the Bag-of-Words (BoW) model in NLP?
a) To represent words as vectors
b) **To calculate word frequencies**
c) To identify syntactic dependencies
d) To perform sentiment analysis

7. Which NLP library in Python provides a comprehensive set of tools for natural language processing?
a) TensorFlow
b) PyTorch
c) **NLTK (Natural Language Toolkit)**
d) Scikit-learn

8. Which of the following is an example of a stop word?
a) Noun
b) Verb
c) Adjective
d) **The**

9. Which technique is used to predict the probability of a sequence of words in a given context?
a) **Language modeling**
b) Named entity recognition
c) Sentiment analysis
d) Machine translation

10. Which NLP task involves labeling words in a sentence with their respective grammatical categories?
a) Named entity recognition
b) **Part-of-speech tagging**
c) Dependency parsing
d) Sentiment analysis

11. Which neural network architecture is commonly used for sequence-to-sequence tasks like machine translation?
a) Long Short-Term Memory (LSTM)
b) Convolutional Neural Network (CNN)
c) Recurrent Neural Network (RNN)
d) **Transformer**

12. Which of the following algorithms is used for topic modeling?
a) K-means clustering
b) Naive Bayes
c) **Latent Dirichlet Allocation (LDA)**
d) Random Forests

13. Which technique aims to identify and extract the main ideas or topics from a collection of documents?
a) Sentiment analysis
b) **Text summarization**
c) Named entity recognition
d) Document clustering

14. Which metric is commonly used to evaluate machine translation systems?
a) **BLEU score**
b) F1 score
c) Precision
d) Recall

15. Which of the following is an example of a word embedding technique?
a) One-Hot Encoding
b) Bag-of-Words
c) Latent Semantic Analysis (LSA)
d) **Word2Vec**

16. Which method is used to calculate the similarity between two documents based on their content?
a) **Cosine similarity**
b) Euclidean distance
c) Jaccard similarity
d) Pearson correlation coefficient

17. Which technique is used to generate new sentences or text based on existing data?
a) Sentiment analysis
b) **Text generation**
c) Named entity recognition
d) Part-of-speech tagging

18. Which algorithm is commonly used for sentiment analysis?
a) **Naive Bayes**
b) K-nearest neighbors (KNN)
c) Decision trees
d) Support Vector Machines (SVM)

19. What is the purpose of the attention mechanism in neural networks?
a) To improve computational efficiency
b) To reduce overfitting
c) **To focus on relevant information**
d) To calculate feature importance

20. Which of the following is not a sequence labeling task?
a) Named entity recognition
b) Part-of-speech tagging
c) **Sentiment analysis**
d) Chunking

21. Which technique is used to identify the syntactic structure of a sentence by analyzing the relationships between words?
a) **Dependency parsing**
b) Sentiment analysis
c) Text classification
d) Named entity recognition

22. Which method is used to deal with the problem of out-of-vocabulary words in language modeling?
a) Word sense disambiguation
b) WordNet
c) **Byte Pair Encoding (BPE)**
d) Named entity recognition

23. Which technique is used to improve the performance of machine translation models by leveraging monolingual data?
a) Transfer learning
b) Reinforcement learning
c) Data augmentation
d) **Backtranslation**

24. Which of the following is a popular pre-trained language model developed by OpenAI?
a) **BERT**
b) Word2Vec
c) GloVe
d) ElMo

25. Which method is used to break down a sentence into its grammatical components?
a) **Chunking**
b) Lemmatization
c) Stemming
d) Tokenization

26. Which technique is used to generate word representations based on the co-occurrence patterns of words in a large corpus?
a) Word sense disambiguation
b) Named entity recognition
c) **Latent Semantic Analysis (LSA)**
d) Text summarization

27. Which of the following is an example of a deep learning model architecture used in NLP?
a) Random Forests
b) Support Vector Machines (SVM)
c) **Bidirectional LSTM**
d) K-means clustering

28. Which technique is used to handle imbalanced datasets in text classification?
a) Oversampling
b) Undersampling
c) SMOTE (Synthetic Minority Over-sampling Technique)
d) **All of the above**

29. Which method is used to assign a sentiment label to a given text?
a) Named entity recognition
b) **Sentiment analysis**
c) Part-of-speech tagging
d) Dependency parsing

30. Which technique is used to identify and extract specific pieces of information from unstructured text?
a) Sentiment analysis
b) Text classification
c) **Named entity recognition**
d) Word sense disambiguation

1. Natural language processing is a field of
Computer science
Artificial intelligence
Text mining
All the above

2. Which of the following component of language governs structural rules that make meaningful communication possible?
phonemes and morphemes
Lexeme
syntax and context
All of the above

3. Which of the following is not an application of NLP?
machine translation
chatbot
sentiment analysis
All of the above

4. What is neurolinguistics?
It is the study of how human brain processes the language.
It is the study of how computers can process natural language.
the study of the role and uses of language in human society.
All of the above

5. In linguistic morphology _____ is the process for reducing inflected words to their root form.
Rooting
Stemming
Text proofing
Both Rooting and stemming

6. Machine translation is an example of which of the following component of NLP?
NLU
NLG
Both NLU and NLG
None of the above

7. Which of the following stemmer is not used by nltk.stem?
Porterstemmer
Langstemmer
Lancasterstemmer
snowballstemmer

8. Parts-of-Speech tagging determines __
part-of-speech for each word dynamically as per meaning of the sentence
part-of-speech for each word dynamically as per sentence structure
all part-of-speech for a specific word given as input
All

9. NLU is harder than NLG because of which of the following reason
Handling ambiguity in sentences
handling parsing
Handling pos tag
Handling tokenization

10. Which of the following is not considered a text preprocessing normalization method?
Stemming
lemmatization
summerization
stopword removal

11. Which of the following is an application of nlp?
Alexa
cortana
google assistant
None

12. What is the full form of NLG?
Natural Language Generation
Natural Language Growth
Natural Language Generator
All of the above

13. Which of the following is used study of construction of words from primitive meaningful units?
Phonolgy
morphology
pragmatics
All

14. What are the input and output of an NLP system?
speech and noise
speech and text
noise and speech
Noise and value

15. Which of the following techniques can be used to compute the text similarity between two-word vectors in NLP?
jaccard distance
Cosine Similarity
euclidean distance
All of the above

16. Which of the text parsing techniques can be used for noun phrase detection, verb phrase detection, subject detection, and object detection in NLP?
Bag of words
skip gram
Pos tagging
Dependency Parsing and Constituency Parsing

17. In NLP, the algorithm decreases the weight for commonly used words and increases the weight for words that are not used very much in a collection of documents.
Term Frequency (TF)
Inverse Document Frequency (IDF)
word2vec
Latent Dirichlet Allocation

18. Many words have more than one meaning; we have to select the meaning which makes the most sense in context. This can be resolved by _____
Fuzzy Logic
Shallow Semantic Analysis
Word Sense Disambiguation
All of the above

19. Which of the following is used to mapping sentence plan into sentence structure?
Text planning
Text realization
Sentence planning
None of the above

20. Which of the following techniques can be used for keyword normalization in NLP, the process of converting a keyword into its base form?
Soundex
cosine similarity
N-grams
lemmatization

21. Which is not a POS tagging approaches
Rule based POS tagging
Stochastic POS tagging
Fuzzy logic-based Tagging
Transformation based Tagging

22. Transitive and emission events are used by which of the following module to build probabilistic model?
Hidden Markov Model
Entropy model
bayes theorem
All of the above

23. Which among the following is not an application of natural language programming (nlp)?
Chatbot
Speech recognition
Sentiment Analysis
Market Basket Analysis

24. NLU stands for
Natural Language understanding
Natural Language uniprocesasor
All of the above
None of the above

25. What is morphological segmentation?
Does disclosure analysis
is an extension of propositional logic
Separate words into individual morphemes and identify the class of the morphemes
None of the above

26. Which of the following quantifiers means "match 0 or 1 times"?
+
?
*
All of the above

27. Which of the following component of NLP?
Pragmatic analysis
Entity extraction
syntactic analysis
All of the above

28. Deep learning can be applied to which of the following NLP tasks?
Machine translation
Question answering
Sentiment analysis
All the above

29. The following areas where NLP can be useful
Automatic Text Summarization
Information Retrieval
Automatic Question-Answering Systems
All of the Above

30. Given a sound clip of a person speaking, determine the textual representation of the speech
Text to speech
Speech to text
All of the above
None

31. Computer vision is a discipline that studies how to reconstruct, interrupt and understand a 3d scene from its _____.
1d images
2d images
3d images
4d images

32. The input and output of image processing are?
signal and image
signal only
image only
depends on input

33. What enables people to recognize people, animals and inanimate objects reliably?
Speech
Vision
hear
Perception

34. Which are recognized by vision?
Objects
Activities
Motion
Both Objects & Activities

35. What can be represented by using histograms or empirical frequency distributions?
Words
Color
Texture
Both Color & Texture

36. How the distance between two shapes can be defined?
Weighted sum of the shape
Size of the shape
Shape context
None of the mentioned

37. Which of the following is a challenge when dealing with computer vision problems?
Variations due to geometric changes (like pose, scale etc)
Variations due to photometric factors (like illumination, appearance etc)
Image occlusion
All of the above

38. Finite difference filters in image processing are very susceptible to noise. To cope up with this, which of the following methods can you use so that there would be minimal distortions by noise?
Downsample the image
Convert the image to grayscale from RGB
Smooth the image
None of the above

39. Which vision includes object recognition and 3D scene Interpretation?
Low-level vision
Intermediate-level vision
High-level vision
All of the above

40. Which neural network is used for real-time object detection
SSD
YOLO
FRNN
CNN