Question 1.) What are the different parts of speech. Explain with the help of examples.

There are 8 different parts of speech.

1.) Noun: It is a word used to name a person, place, thing or idea. Its types are with eg:

- Common Noun: dog, book, city, etc.
- Proper Noun: London, Samuel, iPhone.
- Singular Noun: car, house, boy.
- Plural Noun: cars, houses, boys.
- Concrete Noun: tree, rock, water.
- Abstract Noun: love, freedom, beauty.

2.) Pronoun: It is a word used in place of noun to avoid repetitions. Types of pronoun with ex

- Personal Pronoun: I, you, he, it.
- Possessive Pronoun: mine, yours, his, hers.
- Reflexive Pronoun: myself, yourself, himself.
- Demonstrative Pronoun: this, that, these, those.
- Interrogative Pronouns: who, whom, whose, what, which.

3.) Verb: It is used to express an action, occurrence or state of being.

Verbs can be transitive or intransitive, and they can have different tenses and moods.

- Action Verb : run, jump, sing.
- Linking Verb : am, is, are, was
- Helping Verb : have, has, had, do
- Modal Verb : can, could, may, might

4.) Adjective: It is a word used to describe or modify a noun or pronoun.

- Quality Adjective : happy, sad, kind
- Size Adjective : big, small, tall
- Age Adjective : young, old, new
- Shape Adjective : round, square, flat
- Colour Adjective : red, yellow, green
- Origin Adjective : french, chinese, indian

5.) Adverb: It is a word used to describe or modify a verb, adjective or other adverb.

- Time Adverb : now, later, yesterday
- Manner Adverb : quickly, slowly, happily
- Degree Adverb : very, quite
- Place Adverb : here, there
- Frequency Adverb : always, never

6.) **Preposition:** It is a word that shows the relationship btw noun or pronoun and other words in a sentence.

- Time Preposition: after, before, during
- Place Preposition: in, on, at.
- Direction Preposition: to, from
- Manner Preposition: with, by
- Purpose Preposition: for, to, in

7.) **Conjunction:** It is a word used to connect words, phrases or clauses.

- Co-ordinating conjunction: and, but, or, so
- Sub-ordinating conjunction: although, because, if

8.) **Interjection:**
It is a word or phrase used to express strong emotion or Surprise

eg: wow!, oops!, hurray!

Question 2.) What do you mean by Phrase structure? Explain diff phrases types in english with example.

In linguistics, phrase structure refers to the way words are organized and combined to form larger units of meaning, such as phrases and sentences. Phrases are group of words that work together as single unit, often consisting of a head and one or more modifiers.

There are several types of phrases:

1.) Noun Phrase: a group of words centered around a noun or pronoun. eg:
   The big red apple on the table is mine.

2.) Verb Phrase: a group of words centered around a verb. eg:
   She will be taking her a dog for a walk in the park.

3.) Adjective Phrase: a group of words centered around adjective. eg:
   The girl with long blonde hair is my sister.

4.) Adverb phrase : a group of words centered around an adverb. eg :

   He speaks english fluently and with great confidence.

5.) Prepositional Phrases : a group of words that includes a preposition and its object.

   eg : She arrived at the airport with her luggage.

6.) Participial Phrase : group of words centered around a participle.

   eg : Crying uncontrollably, she ran out of the room.

7.) Gerund phrase : a group of words centered around a verb that ends with 'ing' and functions as a noun.

   eg : Swimming is a great way to stay in shape

8.) Infinitive Phrase : a group of words centered around an infinitive (base form of verb preceded by 'to').

   eg : He went to store to buy some milk.

9.) Appositive Phrase: a group of words that renames or explains a noun or pronoun.

eg: My best friend, the one with the curly chair, is coming over tonight.

10.) Absolute Phrase: a group of word that modifies an entire sentence or clause, often consisting of a noun and a participle.

eg: The sun having set, we decided to head back to the hotel.

Question 3.) Briefly explain the history of NLP.

→ The term natural language processing was first coined by John Pierce in 1955.

→ The first NLP system, called the Georgetown - IBM experiment, was developed in 1954-55 and involved machine translation from Russia to English.

→ In the 1960's, researchers at MIT developed the first computer program that could understand natural language, called the "ELIZA" program.

→ In the 1970s researchers began to experiment with statistical approaches with NLP, which involved analyzing large amounts of data to identify pattern and relationships.

→ In 1980's, the development of the Hidden Markov Model (HMM) revolutionized speech recognition and led to the first commercially successful speech recognition systems.

→ In 1990's saw the development of more sophisticated NLP systems including those that could recognize speech and understand spoken language.

→ In the 2000's, the rise of the internet and social media led to an explosion in the amount of text data available for NLP research.

→ In 2011, IBM's Watson system made history by defeating two humans champions on the quiz show Jeopardy!, Showcasing the power of NLP and AI.

→ In recent years, deep learning techniques such as neural networks have pushed the boundaries, enabling breakthrough in areas such as machine translation and language generation eg: chat GPT.