Mention the basic issues in parsing.

There are two important issues in parsing.

- Specification of syntax
- Representation of input after parsing.

3. Replacing an incorrect character by a correct character
4. Transposing two adjacent characters

What are the Error-recovery actions in a lexical analyzer?

1. Deleting an extraneous character
2. Inserting a missing character

19. ***Differentiate tokens, patterns, lexeme.***

Tokens- Sequence of characters that have a collective meaning.

Patterns- There is a set of strings in the input for which the same token is produced as output. This set of strings is described by a rule called a pattern associated with the token.

Lexeme- A sequence of characters in the source program that is matched by the pattern for a token.

18. ***Write short notes on buffer pair.***

Concerns with efficiency issues. Used with a lookahead on the input It is a specialized buffering technique used to reduce the overhead required to process an input character. Buffer is divided into two N-character halves. Use two pointers. Used at times when the lexical analyzer needs to look ahead several characters beyond the lexeme for a pattern before a match is announced.

COMPILER CONSTRUCTION TOOL.

1. Parser Generator (Syntax Analyzer) used for eg YACC
2. Scanner generator (Lexical Analyzer) used for
3. Syntax - Directed Translation (used for intermediate code generation)
4. Automatic code generators (used for code generation)
5. Data Flow Engines. (used for code optimization)

8. *State the general phases of a compiler*

(*i*) Lexical analysis

(*ii*) Syntax analysis

(*iii*) Semantic analysis

(*iv*) Intermediate code generation

(*v*) Code optimization

(*vi*) Code generation

What is a lexeme? Define a regular set.

- A Lexeme is a sequence of characters in the source program that is matched by the pattern for a token.
- A language denoted by a regular expression is said to be a regular set

What are the problems with top down parsing?

The following are the problems associated with top down parsing:

Backtracking

Left recursion

Left factoring

Ambiguity

FIRST and FOLLOW.

What are the main two parts of compilation? What are they performing?

The two main parts are

- Analysis part breaks up the source program into constituent pieces and creates an intermediate representation of the source program.
- Synthesis part constructs the desired target program from the intermediate representation

PHASES OF COMPILER
VERSUS
PASSES OF COMPILER

PHASES OF COMPILER	PASSES OF COMPILER
Units or steps in the compilation process	Total number of times the compiler goes through the source code before converting it into the target machine code
There are six main phases in the compilation process	There are single pass and multi-pass compilers