

Compiler Design CS1703

SN	Questions	Ans	Marks
1.	<p>In a compiler, keywords of a language are recognized during</p> <ul style="list-style-type: none"> a) Parsing of the program b) Code generation c) Lexical analysis of program d) Type checking 	c)	1
2.	<p>It generates the target program with the help of intermediate source code representation and symbol table.</p> <ul style="list-style-type: none"> a) Scanner b) Analysis c) Synthesis d) Front end 	c)	1
3.	<p>A programmer, by mistake, writes an instruction to divide, instead of a multiply, such error can be detected by a Semantic analyser.</p> <ul style="list-style-type: none"> a) True b) False c) Sometimes correct d) Can't say 	a)	1
4.	<p>Which of the following does not stores information about the entire source program and is used by all phases of the compiler?</p> <ul style="list-style-type: none"> a) Parsing table b) Symbol table c) Both the tables are used d) None of tables are used 	a)	1
5.	<p>Which of the statement is not true?</p> <p>I. In a compiler, the source code is translated to into an object code successfully if it is free of errors.</p> <p>II. Synthesis phase creates an intermediate representation from the given source code.</p> <p>III.A compiler can have many phases but no passes.</p> <ul style="list-style-type: none"> a) I and II 	b)	1

	b) II and III c) I and III d) I,II and III		
6.	An individual token is called _____ a) Lexeme b) Lex c) Lexeme & Lex d) None of the mentioned	a)	1
7.	Input to Lexical Analyser is _____ a) Source Code b) Object Code c) Lexeme d) None of the mentioned	a)	1
8.	What goes over the characters of the lexeme to produce value? a) Scanner b) Parser c) Evaluator d) Lexical generator	a)	1
9.	The following is/are the role of Lexical Analyser: a) Classify program substrings according to the role. b) Communicate tokens to the parser. c) Only a d) Both a and b	d)	1
10.	During error recovery in lexical analysis, converting fi to if to get a valid token by the compiler is called as: a) Panic Mode b) Replacing erroneous character by a correct one c) Deleting extra erroneous character d) Transposing adjacent characters	d)	1
11.	Top down parsing method cannot handle ----- grammar. a) left recursive b) right recursive c) both a & b d) None of the mentioned	a)	1
12.	The grammar $S \rightarrow (S) \mid SS \mid \epsilon$ is not suitable predictive parsing because: a) The grammar is left recursive b) The grammar is right recursive c) The grammar is ambiguous d) None of the above.	c)	1

13.	<p>Grammar of the programming is checked at _____ phase of compiler.</p> <p>a) Semantic analysis</p> <p>b) Syntax analysis</p> <p>c) Code generation</p> <p>d) Code optimization</p>	b)	1
14.	<p>Consider the grammar given below:</p> <p>$S \rightarrow Aa$</p> <p>$A \rightarrow BD$</p> <p>$B \rightarrow b \mid \epsilon$</p> <p>$D \rightarrow d \mid \epsilon$</p> <p>Follow(D) will contain:</p> <p>a) $\{\\$ \}$</p> <p>b) $\{a, \\$ \}$</p> <p>c) $\{a \}$</p> <p>d) $\{d, \\$ \}$</p>	c)	1
15.	<p>Consider the grammar given below:</p> <p>$E \rightarrow T X$</p> <p>$X \rightarrow + E$</p> <p>$X \rightarrow \epsilon$</p> <p>$T \rightarrow \text{int } Y$</p> <p>$T \rightarrow (E)$</p> <p>$Y \rightarrow * T$</p> <p>$Y \rightarrow \epsilon$</p> <p>Follow(T) will contain:</p> <p>a) $\{), \\$, + \}$</p> <p>b) $\{(, \\$, * \}$</p> <p>c) $\{\\$, *, + \}$</p> <p>d) None of the above.</p>	a)	1

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1.	<p>.....which stores information about the entire source program, is used by all phases of the compiler.</p> <p>a) Source program</p> <p>b) Token</p> <p>c) Symbol Table</p> <p>d) Intermediate code</p>	c)	1
2.	<p>Which of the statement is true?</p> <p>I. The compilation process is a sequence of various phases</p> <p>II. Each phase takes input from its previous stage</p> <p>III. A compiler can have many phases and passes</p> <p>a) Only I</p> <p>b) Only II</p> <p>c) Only III</p> <p>d) I,II and III</p>	d)	1
3.	<p>Which of the statement is not the correct option?</p> <p>a) Compiler report any error in the high level language.</p> <p>b) Compiler are used in programming languages, machine architecture, language theory, algorithms and software engineering.</p> <p>c) Compiler bridges the gap of high level and machine level language.</p> <p>d)Programs written in a low-level language are always shorter than equivalent programs written in high level language.</p>	d)	1
4.	<p>The resolves external memory addresses, where the code in one file may refer to a location in another file.</p> <p>a) Loader</p> <p>b) Linker</p> <p>c) Compiler</p> <p>d) Assembler</p>	b)	1

5.	<p>Compiler is different from interpreter:</p> <p>a) Compiled code run faster while Interpreted code run slower</p> <p>b) Interpreter outputs intermediate code.</p> <p>c) The compiled code can change the program without going back to the source code.</p> <p>d) Python programming uses compiler.</p>	a)	1
6.	<p>What is the output of a lexical analyzer?</p> <p>a) Machine Code</p> <p>b) Intermediate Code</p> <p>c) Stream of Token</p> <p>d) Parse Tree</p>	c)	1
7.	<p>It has encoded within it information on the possible sequences of characters that can be contained within any of the tokens it handles. The mentioned function is performed by?</p> <p>a) Scanner</p> <p>b) Parser</p> <p>c) Syntactic Analyser</p> <p>d) All of the mentioned</p>	a)	1
8.	<p>When expression $\text{sum}=3+2$ is tokenized then what is the token category of +?</p> <p>a) Identifier</p> <p>b) Assignment operator</p> <p>c) Integer Literal</p> <p>d) Addition Operator</p>	d)	1
9.	<p>The token for "compiler" is</p> <p>a) keyword</p> <p>b) string</p> <p>c) Identifier</p> <p>d) literal</p>	d)	1
10.	<p>The token class for If is</p> <p>a) Identifier</p> <p>b) keyword</p> <p>c) If</p> <p>d) String</p>	c)	1
11.	<p>A production of the form $A \rightarrow A\alpha$ contains -----left recursion.</p> <p>a) immediate</p> <p>b) indirect</p> <p>c) direct</p> <p>d) none of the above</p>	a)	1
12.	<p>The parsing technique that avoids backtracking is:</p> <p>a) Top down parsing</p> <p>b) Recursive descent parsing</p> <p>c) Predictive parsing</p> <p>d) Syntax tree</p>	c)	1

13.	<p>Consider the grammar given below:</p> $S \rightarrow aAbB \mid bAaB \mid \varepsilon$ $A \rightarrow S$ $B \rightarrow S$ <p>First (A) will consist of:</p> <p>a) $\{a, b, \varepsilon\}$</p> <p>b) $\{a, \\$\}$</p> <p>c) $\{a, b, \\$\}$</p> <p>d) $\{\\$\}$</p>	a)	1
14.	<p>Consider the grammar given below:</p> $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \varepsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \varepsilon$ <p>Follow(X) will contain:</p> <p>a) $\{), \\$, +\}$</p> <p>b) $\{), \\$\}$</p> <p>c) $\{\\$, *, +\}$</p> <p>d) None of the above.</p>	b)	1
15.	<p>Consider the grammar given below:</p> $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \varepsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \varepsilon$ <p>First(T) will contain:</p> <p>a) $\{\text{int}, (\}$</p> <p>b) $\{\text{int}\}$</p> <p>c) $\{\text{int}, \varepsilon\}$</p> <p>d) None of the above.</p>	a)	1

Compiler Design CS1703

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1.	<p>..... produces the relocatable machine code as its output.</p> <p>a) Loader</p> <p>b) Linker</p> <p>c) Compiler</p> <p>d) Assembler</p>	d)	1
2.	<p>In compiler, whitespace and comments in a language are recognized during</p> <p>e) Parsing of the program</p> <p>f) Code generation</p> <p>g) Lexical analysis of program</p> <p>h) Type checking</p>	c)	1
3.	<p>Which of the following statement is not true?</p> <p>I. High level programming is always slow, tedious, and error prone.</p> <p>II. Program written in low-level were hard to understand and modify</p> <p>a) Only I</p> <p>b) Only II</p> <p>c) Both I and II</p> <p>d) Sometimes II is correct</p>	b)	1
4.	<p>Which of the statement is correct?</p> <p>a) Code optimization is a machined dependent.</p> <p>b) Code optimization tries to improve the intermediate code so that better target code will result</p> <p>c) Code optimization generate three-address code</p> <p>d) Code generator takes as input a token of the source program and maps it into the target language.</p>	b)	1
5.	<p>Which one of the following pair is not correct?</p> <p>a) Scanner ↔ Regular Expression, Parser ↔ Syntax tree.</p> <p>b) Scanner ↔ Token , Top down Parser ↔ Left Most derivation.</p> <p>c) Scanner ↔ Type Checking, Semantic analyser ↔ Syntax tree.</p> <p>d) Semantic analyser ↔ Type Checking, Top down Parser ↔ Left Most derivation.</p>	c)	1

6.	Which grammar defines Lexical Syntax? a) Regular Grammar b) Syntactic Grammar c) Context free Grammar d) Lexical Grammar	d)	1
7.	When expression $\text{sum}=3+2$ is tokenized then what is the token category of 3? a) Identifier b) Assignment operator c) Integer Literal d) Addition Operator	c)	1
8.	When expression $\text{sum}=3+2$ is tokenized then what is the token category of $=$? a) Identifier b) Assignment operator c) Integer Literal d) Addition Operator	b)	1
9.	A _____ is a string of characters which form a syntactic unit. a) Lexeme b) Lex c) Lexeme & Lex d) None of the mentioned	a)	1
10.	Which of the following is not correct about attributes of a token? a) Attribute is an information about the token. b) Used to differentiate various lexemes of a token c) Attributes are used during Semantic analysis d) A token cannot have an attribute	d)	1
11.	Bottom up parsing uses ----- a) reduction b) derivation c) both a) and b) d) none of the above.	c)	1
12.	Consider the following grammar $E \rightarrow E+n \mid E \times n \mid n$ For a sentence $n + n \times n$, the handles in the right-sentential form of the reduction are----- a) $n, E + n$ and $E + n \times n$ b) $n, E + n$ and $n \times n + E$ c) $n, n + n$ and $n + n \times n$ d) $n, E + n$ and $E \times n$	d)	1
13.	Consider the grammar given below: $S \rightarrow aAbB \mid bAaB \mid \epsilon$ $A \rightarrow S$ $B \rightarrow S$	a)	1

	<p>Follow (A) will consist of:</p> <p>a) {a, b}</p> <p>b) {a, \$}</p> <p>c) {a, b, \$}</p> <p>d) {\$}</p>		
14.	<p>Consider the grammar given below:</p> $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \varepsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \varepsilon$ <p>First(Y) will contain:</p> <p>a) {ε}</p> <p>b) {$*$}</p> <p>c) {$*$, ε}</p> <p>d) None of the above.</p>	c)	1
15.	<p>Consider the grammar given below:</p> $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \varepsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \varepsilon$ <p>First(E) will contain:</p> <p>a) {int, (}</p> <p>b) {int}</p> <p>c) {int, ε}</p> <p>d) None of the above.</p>	a)	1

Compiler Design CS1703

SN	Questions	Ans	Marks
1.	Which of the following statement is true? I. Machine level programming was slow, tedious, and error prone. II. Program written in low-level were hard to understand and modify a) Only I b) Only II c) Both I and II d) Sometimes II is correct	c)	1
2.	Which of the following stores information about the entire source program and is used by all phases of the compiler? a) Parsing table b) Symbol table c) Both the tables are used d) None of tables are used	b)	1
3.	Compiler are like interpreter except a) translating high level language into low-level machine language. b) generating the error message only after scanning the whole program. c) translating source program one statement at a time. d) takes less amount of time to analyse the source code but the overall execution time is slower	b)	1
4.	Syntax trees are a form of intermediate representation: a) True b) False c) Sometimes true d) Sometimes false	a)	1
5.	Pre-processor in a language processor can perform the task: a) Expansion of shorthands and macros b) Stripping of white space c) translation of program into object file d) generation of relocatable machine code	a)	1

6.	<p>The number of tokens in the following C statement is <code>printf("i=%d, &i=%x", i&i);</code></p> <p>a) 13 b) 6 c) 10 d) 9</p>	d)	1
7.	<p>The token class for while is</p> <p>a) Identifier b) keyword c) while d) string</p>	c)	1
8.	<p>The number of tokens in the following C statement is: <code>sum = a + b;</code></p> <p>a) 6 b) 7 c) 8 d) 9</p>	a)	1
9.	<p>During error recovery in lexical analysis, converting whilf to while to get a valid token by the compiler is called as:</p> <p>a) Panic Mode b) Replacing erroneous character by a correct one c) Deleting extra erroneous character d) Transposing adjacent characters</p>	b)	1
10.	<p>When expression <code>sum=3+2</code> is tokenized then what is the token category of sum?</p> <p>a) Identifier b) Assignment operator c) Integer Literal d) Addition Operator</p>	a)	1
11.	<p>Rightmost derivation in reverse can be obtained by handle -----</p> <p>a) pruning b) optimization c) generation d) translation</p>	a)	1
12.	<p>Parsers take ___ as input from lexical analyzer.</p> <p>a) Linker b) Token c) Instructions d) None of the above.</p>	b)	1
13.	<p>Consider the grammar given below:</p> <p>$S \rightarrow aAbB \mid bAaB \mid \epsilon$</p> <p>$A \rightarrow S$</p> <p>$B \rightarrow S$</p> <p>Follow (B) will consist of:</p>	c)	1

	a) $\{a, b, \epsilon\}$ b) $\{a, \$\}$ c) $\{a, b, \$\}$ d) $\{\$\}$		
14.	<p>Consider the grammar given below:</p> $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \epsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \epsilon$ <p>First(X) will contain:</p> a) $\{\epsilon\}$ b) $\{+\}$ c) $\{+, \epsilon\}$ d) None of the above.	c)	1
15.	<p>Consider the following grammar</p> $S \rightarrow FR$ $R \rightarrow * S \mid \epsilon$ $F \rightarrow \text{id}$ <p>In the predictive parser table, M, of the grammar the entries M[S, id] and M[R, \$] respectively:</p> a) $\{S \rightarrow FR\}$ and $\{R \rightarrow \epsilon\}$ b) $\{S \rightarrow FR\}$ and $\{\}$ c) $\{S \rightarrow FR\}$ and $\{R \rightarrow * S\}$ d) $\{F \rightarrow \text{id}\}$ and $\{R \rightarrow \epsilon\}$	a)	1

Compiler Design CS1703

SN	Questions	Ans	Marks
1.	<p>Which of the statement is appropriate option?</p> <p>a) Compiler report any error in the low level language.</p>	c)	1

	<p>b) Compiler are hardly used in programming languages, machine architecture, language theory, algorithms and software engineering.</p> <p>c) Compiler bridges the gap of high level and machine level language.</p> <p>d) Programs written in a low-level language are always shorter than equivalent programs written in high level language.</p>		
2.	<p>..... puts together all of the executable object files into memory for execution.</p> <p>a) Loader</p> <p>b) Linker</p> <p>c) Compiler</p> <p>d) Assembler</p>	a)	1
3.	<p>During, operations implied by the source program are determined and recorded in a hierarchical structure called a tree.</p> <p>a) Analysis</p> <p>b) Synthesis</p> <p>c) Back end</p> <p>d) Both Front end and back end</p>	a)	1
4.	<p>Language processing system is</p> <p>a) A program fed into a series of tools and OS components to get the desired code that can be used by the machine.</p> <p>b) Converting a machine level language level into high level language.</p> <p>c) Interpreter is one of the language processing system but not compiler.</p> <p>d) Compiler, pre-processors are language processors but not an interpreter.</p>	a)	1
5.	<p>Which one of the following is the correct sequence of phases of a compiler?</p> <p>a) Lexical analyser→syntax analyser→semantic analyser→ intermediate code generator→machine-independent code optimizer→code generator→ machine-dependent code optimizer.</p> <p>b) Lexical analyser→ semantic analyser→ syntax analyser→intermediate code generator→ machine-independent code optimizer→ code generator→ machine-dependent code optimizer.</p> <p>c) Lexical analyser→ syntax analyser→ semantic analyser→ intermediate code generator→ code generator→ machine-dependent code optimizer→ machine-independent code optimizer.</p> <p>d) Lexical analyser→syntax analyser→ semantic analyser→ code generator→ intermediate code generator→ machine-dependent code optimizer→machine-independent code optimizer.</p>	a)	1
6.	<p>During error recovery in lexical analysis, converting 'whle' to 'while' to get a valid token by the compiler is called as:</p>	d)	1

	a) Panic Mode b) Replacing erroneous character by a correct one c) Inserting missing character d) Transposing adjacent characters		
7.	Which phase of the compiler is Lexical Analyser? a) First b) Second c) Third d) None of the mentioned	b)	1
8.	In a compiler, keywords of a language are recognized during: a) parsing of the program b) the code generation c) the lexical analysis of the program d) dataflow analysis	c)	1
9.	The number of tokens in the following C statement is: printf("i = %d, &i = %x", i, &i); a) 18 b) 10 c) 9 d) 8	b)	1
10.	A ----- is a special character that cannot be the part of source program. a) sentinel b) buffer pair c) input buffering d) token	a)	1
11.	A top down parser generates: a) Rightmost derivation b) Rightmost derivation in the reverse. c) Leftmost derivation d) All of the above.	c)	1
12.	Parser takes tokens from scanner and tries to generate ____ a) Lexemes b) Parse trees c) Target code d) None of the above	b)	1
13.	Consider the grammar given below: $S \rightarrow Aa$ $A \rightarrow BD$ $B \rightarrow b \mid \varepsilon$	c)	1

	$D \rightarrow d \mid \varepsilon$ Follow(A) will contain: a) { \$ } b) { a, \$ } c) { a } d) { d, \$ }		
14.	Consider the grammar given below: $E \rightarrow T X$ $X \rightarrow + E$ $X \rightarrow \varepsilon$ $T \rightarrow \text{int } Y$ $T \rightarrow (E)$ $Y \rightarrow * T$ $Y \rightarrow \varepsilon$ Follow(E) will contain: a) {), \$, + } b) { (, \$, * } c) { \$,) } d) None of the above.	c)	1
15.	Which of the following describes a handle (as applicable to LR-parsing) appropriately? a) It is the position in a sentential form where the next shift or reduce operation will occur. b) It is non-terminal whose production will be used for reduction in the next step c) It is a production that may be used for reduction in a future step along with a position in the sentential form where the next shift or reduce operation will occur d) It is the production p that will be used for reduction in the next step along with a position in the sentential form where the right hand side of the production may be found	d)	1

Compiler Design CS1703

SN	Questions	Ans	Marks
1.	Interpreter are like compiler except a) translating high level language into low-level machine language. b) generating the error message only after scanning the whole program. c) intermediate object codes are not generated d) takes large amount of time to analyse.	c)	1
2.	A source program may first be compiled into an intermediate form called bytecodes, then interpreted by a virtual machine. Such type of compiler is called a) just-in-time compilers b) Hybrid Compiler c) Simple Compiler d) Interpreter	b)	1
3.	Which of the statement is not true? I. The compilation process is a sequence of various phases. II. Each phase takes input explicitly from the user. III. A compiler can many phases. a) Only I b) Only II c) Only III d) I,II and III	b)	1
4.	Synthesis compilation process are: a) Code Optimizer b) Intermediate Code Generator c) Semantic Analyser d) Syntax Analyser	a)	1
5.	What is the name of the process that determining whether a string of tokens can be generated by a grammar? a) Scanning b) Parsing c) Translating d) Analysing	b)	1

6.	<p>What is another name for Lexical Analyser?</p> <ul style="list-style-type: none"> a) Linear Phase b) Linear Analysis c) Scanning d) All of the mentioned 	d)	1
7.	<p>Which one is a type of Lexeme?</p> <ul style="list-style-type: none"> a) Identifiers b) Constants c) Keywords d) All of the mentioned 	d)	1
8.	<p>The analysis part collects information about the source program and stores it in a data structure called a -----</p> <ul style="list-style-type: none"> a) symbol table b) lexical analyser c) parsing table d) syntax analyser 	a)	1
9.	<p>The disadvantages of input buffering scheme is:</p> <ul style="list-style-type: none"> a) Input buffering scheme works well most of the time, but the amount of lookahead is limited. b) The limited lookahead may make it impossible to recognize tokens in situations where the distance that the forward pointer must travel is more than the length of the buffer. c) In the program DECLARE (ARG1, ARG2, . . . , ARGn), it cannot determine whether the DECLARE is a keyword or an array name until the character that follows the right parenthesis. d) All of the above 	d)	1
10.	<p>The process of forming tokens from an input stream of characters is called _____</p> <ul style="list-style-type: none"> a) Liberalisation b) Characterisation c) Tokenization d) None of the mentioned 	c)	1
11.	<p>Shift reduce parser belongs to a class of:</p> <ul style="list-style-type: none"> a) Bottom up parsing b) Top down parsing c) Predictive parsing d) None of the above. 	a)	1
12.	<p>Consider the grammar given below:</p> $S \rightarrow (L) \mid a$ $L \rightarrow L, S \mid S$ <p>Follow(L) contains:</p> <ul style="list-style-type: none"> a) { (} b) {) } c) { \$ } 	c)	1

	d) None of the above.		
13.	<p>What is the name of the process that determining whether a string of tokens can be generated by a grammar?</p> <p>a) Analyzing</p> <p>b) Recognizing</p> <p>c) Translating</p> <p>d) Parsing.</p>	d)	1
14.	<p>Consider the grammar given below:</p> <p>$S \rightarrow Aa$</p> <p>$A \rightarrow BD$</p> <p>$B \rightarrow b \mid \epsilon$</p> <p>$D \rightarrow d \mid \epsilon$</p> <p>Follow(S) will contain:</p> <p>a) $\{\\$ \}$</p> <p>b) $\{a, \\$ \}$</p> <p>c) $\{a \}$</p> <p>d) $\{\epsilon \}$</p>	a)	1
15.	<p>Consider the grammar given below:</p> <p>$S \rightarrow UVW$</p> <p>$U \rightarrow (S) \mid aSb \mid d$</p> <p>$V \rightarrow aV \mid \epsilon$</p> <p>$W \rightarrow cW \mid \epsilon$</p> <p>First(S) will consist of:</p> <p>a) $\{(, a, d\}$</p> <p>b) $\{(, a\}$</p> <p>c) $\{(, a, \epsilon\}$</p> <p>d) None of the above.</p>	a)	1

Compiler Design CS1703

		Marks
1.	Java Language processors uses..... a) Compiler b) Interpreter c) Both compiler and interpreter d) Neither compiler nor interpreter	c) 1
2.	Which one of the following pair is correct? I. Lexical Analysis ↔ Regular Expression, Top-down parsing ↔ Type checking. II. Lexical Analysis ↔ Regular Expression, Top-down parsing ↔ Left Most derivation. III. Semantic analysis ↔ Type Checking, Parser ↔ Syntax tree. IV. Semantic analysis ↔ Type Checking, Parser ↔ Regular expressions. a) I and II b) II and III c) III and IV d) I and IV	b) 1
3.	A programmer, by mistake, writes an instruction to divide, instead of a multiply, such error can be detected by a/an. a) compiler b) interpreter c) compiler or interpreter d) Neither compiler nor interpreter	d) 1
4.	Expansion of shorthand into source language statements is done by a) Loader b) Pre-processor c) Compiler d) Assembler	b) 1
5.	What is the name of the process that is used for determining whether a string of tokens can be generated by a grammar? a) Scanning b) Parsing c) Translating d) Analysing	b) 1
6.	When expression sum=3+2 is tokenized then what is the token category of sum? a) Identifier b) Assignment Operator c) Integer Literal d) Addition Operator	a) 1
7.	The process of forming tokens from an input stream of characters is called a) Liberalisation b) Characterisation c) Tokenization	c) 1

d) Categorization

8. The number of tokens in the following C statement is: c) 1
while(a= =10){
a) 11
b) 10
c) 7
d) 8
9. Which of the following is not correct about attributes of a token? d) 1
a) Attribute is an information about the token
b) Used to differentiate various lexemes of a token
c) Attributes are used during Semantic analysis
d) A token cannot have an attribute
10. During error recovery in lexical analysis, converting *whle* to *while* to get a valid token by the compiler is called as: d) 1
a) Panic Mode
b) Replacing erroneous character by a correct one
c) Inserting missing character
d) Transposing adjacent characters
11. Top down parsing uses ----- a) 1
a) Derivation
b) Reduction
c) Shift
d) None of the mentioned
12. A----- is a substring that matches the body of a production. a) 1
a) handle
b) Lexeme
c) token
d) stream
13. Consider the grammar given below: a) 1
$$S \rightarrow (L) \mid a$$
$$L \rightarrow L, S \mid S$$

First (S) will contain the set:
a) {(, a}
b) {(,)}
c) {a}
d) None of the above.
14. Given the grammar: c) 1

$S \rightarrow ABc, A \rightarrow a \mid \epsilon, B \rightarrow b \mid \epsilon$

Then FOLLOW(A) is the set:

- a) {\$}
- b) {b}
- c) {b, c}
- d) {a, b, c}

15. A given grammar is not in LL(1) if the parsing table of a grammar contain: d) 1

- a) Any blank field
- b) Any epsilon entry
- c) Duplicate entry of same production
- d) More than one production rule

Marks

1. A _____ is a software utility that translates code written in higher language into a low level language. a) 1

- a) compiler
- b) assembler
- c) loader
- d) neither compiler nor interpreter

2. Which one of the following pair is correct? d) 1

- a) Scanner \leftrightarrow Regular Expression, Parser \leftrightarrow Type checking.
- b) Scanner \leftrightarrow Regular Expression, Parser \leftrightarrow Intermediate code.
- c) Scanner \leftrightarrow Type Checking, Semantic analyser \leftrightarrow Regular expression.
- d) Semantic analyser \leftrightarrow Type Checking, Scanner \leftrightarrow Regular expression.

3. A programmer, by mistake, writes an instruction to divide, instead of a multiply, such error can be detected by a/an. c) 1

- e) Lexical analyser
- f) Parser
- g) Semantic analyser
- h) Intermediate code generator

4. Calling of macros into source language statements is done by b) 1

- a) Loader
- b) Pre-processor
- c) Compiler
- d) Assembler

5. What is the name of the process that is used for determining whether a string of tokens can be generated by a grammar? b) 1

- a) Scanning
- b) Parsing
- c) Translating

d) Analysing

- 6 Consider the following statements: d) 1
(I) The output of a lexical analyzer is groups of characters.
(II) Total number of tokens in `printf("i=%d, &i=%x", i, &i);` are 11.
(III) Symbol table can be implementation by using array and hash table but not tree.
Which of the following statement(s) is/are correct?
a) Only (I)
b) Only (II) and (III)
c) All (I), (II), and (III)
d) None of these
7. A ----- is a special character that cannot be the part of source program. a) 1
a) sentinel
b) buffer pair
c) input buffering
d) token
8. During error recovery in lexical analysis, converting fi to if to get a valid token by the compiler is called as: d) 1
a) Panic Mode
b) Replacing erroneous character by a correct one
c) Deleting extra erroneous character
d) Transposing adjacent characters
- 9 The token for "compiler" is d) 1
a) keyword
b) string
c) Identifier
d) literal
- 10 In predictive parsing table, the rows represent ____ b) 1
a) Terminals
b) Non terminals

- c) Instructions
- d) None of the above.

11 Consider the following grammar a) 1

$S \rightarrow FR$
 $R \rightarrow * S \mid \varepsilon$
 $F \rightarrow id$

In the predictive parser table, M, of the grammar the entries $M[S, id]$ and $M[R, \$]$ respectively:

- a) $\{S \rightarrow FR\}$ and $\{R \rightarrow \varepsilon\}$
- b) $\{S \rightarrow FR\}$ and $\{ \}$
- c) $\{S \rightarrow FR\}$ and $\{R \rightarrow * S\}$
- d) $\{F \rightarrow id\}$ and $\{R \rightarrow \varepsilon\}$

12 Consider the grammar: b) 1

$A \rightarrow B C D$
 $B \rightarrow h B \mid \varepsilon$
 $C \rightarrow C g \mid g \mid C h \mid i$

FIRST(B) will contain the elements:

- a) $\{h, i\}$
- b) $\{h, \varepsilon\}$
- c) $\{g\}$
- d) None of the above.

13 Which of the following statement is not true? d) 1

- a) A non-recursive predictive parser is a top-down parsing technique.
- b) A non-recursive predictive parser maintains a stack implicitly rather, than explicitly via recursive calls.
- c) A non-recursive predictive parser does not mimic right most derivation.
- d) A non-recursive predictive parser is a table driven parser has an input buffer, a stack containing a sequence of grammar symbols, a parsing table and an output stream.

14 If **R** is a regular expression given as: **R= X|Y|Z**, if the expression is re-written as **[XYZ]** which variant of regular expression would be considered? c) 1

- a) One or more instance regular expression.
- b) Zero or more instance regular expression
- c) Character classes regular expression
- d) None of the above

15. The grammar $S \rightarrow aSA \mid bS \mid c$ is LL(1). a) 1
- a) True.
- b) False
- c) Can't say
- d) Some productions right recursive

Marks

1.is a low-level programming language that consists of instructions that are mnemonic codes for corresponding machine language instructions. b) 1
- a) Compiler
- b) Assembler
- c) Loader
- d) Neither compiler nor interpreter
2. Which one of the following pair is not correct? c) 1
- a) Scanner \leftrightarrow Regular Expression, Parser \leftrightarrow Syntax tree.
- b) Scanner \leftrightarrow Token , Top down Parser \leftrightarrow Left Most derivation.
- c) Scanner \leftrightarrow Type Checking, Semantic analyser \leftrightarrow Syntax tree.
- d) Semantic analyser \leftrightarrow Type Checking, Top down Parser \leftrightarrow Left Most derivation.
3. A programmer, by mistake, writes an instruction to divide, instead of a multiply, such error can be detected by a Semantic analyser. a) 1
- a) True
- b) False
- c) Sometimes correct
- d) Can't say
4. Pre-processor in a language processor can perform the task: a) 1
- a) Expansion of shorthands and macros
- b) Stripping of white space
- c) translation of program into object file
- d) generation of relocatable machine code
5. uses the syntax tree and the information in the symbol table to check the source program for semantic consistency with the language definition? d) 1
- a) Lexical Analyser
- b) Parser
- c) Translator
- d) Semantic analyser

6. The main drawbacks of using the Two-way buffer scheme is: c) 1
 a) For each character read, the *forward* pointer needs to check the end of buffer.
 b) For each character read, the *forward* pointer needs to determine what character is read.
 c) Both a) and b)
 d) None of the above.
7. The following is/are the role of Lexical Analyser: d) 1
 a) Communicate tokens to the parser.
 b) Lookahead may be required to decide where one token ends and the next token begins.
 c) Classify program substrings according to the role.
 d) All of the listed
8. The number of tokens in the following C statement is: a) 1
`printf("i = %d, &i = %x", ++i);`
 a) 8
 b) 9
 c) 10
 d) 11
9. Lexical Analysis Identifies Different Lexical Units in a _____ a) 1
 a) Source Code
 b) Object Code
 c) Lexeme
 d) None of the mentioned
10. The token class for **IF** is a) 1
 a) Identifier
 b) keyword
 c) String
 d) literal
11. Consider the grammar given below: a) 1

$$S \rightarrow aAbB \mid bAaB \mid \epsilon$$

$$A \rightarrow S$$

$$B \rightarrow S$$

First (B) will consist of:
 a) {a, b, ϵ }

- b) {a, \$}
- c) {a, b, \$}
- d) {\$}

12. Shift reduce parser announces successful completion of parsing if action is: c) 1
- a) shift
 - b) Reduce
 - c) Accept
 - d) Error
13. A top down parser generates: c) 1
- a) Rightmost derivation
 - b) Rightmost derivation in the reverse.
 - c) Leftmost derivation
 - d) Left most derivation in reverse
14. Consider the grammar given below: a) 1
- $E \rightarrow T X$
 $X \rightarrow + E$
 $X \rightarrow \epsilon$
 $T \rightarrow \text{int } Y$
 $T \rightarrow (E)$
 $Y \rightarrow * T$
 $Y \rightarrow \epsilon$
- Follow(Y) will contain:
- a) {), \$, +}
 - b) {(, \$, *}
 - c) {\$, *, +}
 - d) {\$}
15. Replacing with a comma by a semicolon, deleting an extraneous semicolon, or inserting a missing semicolon is a recovery strategies of b) 1
- a) Panic mode recovery
 - b) Phrase level recovery
 - c) Error production recovery
 - d) Global correction recovery