Sample Questions

Computer Engineering

Subject Name: System Programming and Compiler Construction **Semester: VI**

Multiple Choice Questions

	Choose the correct option for following questions. All the Questions carry equal marks
1.	Which of the following is designed to control the operations of a computer?
Option A:	Application Software
Option B:	**System Software**
Option C:	Utility Software
Option D:	User
2.	A person who designs the programs in a software package is called :
Option A:	User
Option B:	Software Manager
Option C:	System Developer
Option D:	**System Programmer**
3.	Assembler is used as a translator for?
Option A:	**Low level language**
Option B:	High Level Language
Option C:	COBOL
Option D:	C
4.	They normally interact with the system via the user interface provided by the application software.
Option A:	Programmers
Option B:	Developers
Option C:	**Users**
Option D:	Testers
5.	Storage mapping is done by_____
Option A:	Linker
Option B:	**Compiler**
Option C:	Loader
Option D:	Operating system
6.	Interpreter is used as a translator for _____
Option A:	Low level language
Option B:	**High Level Language**
Option C:	COBOL
Option D:	C

7.	A system program that set up an executable program in main memory ready for execution is
Option A:	**Loader**
Option B:	Linker
Option C:	Assembler
Option D:	load and go
8.	The __ of a system includes the program s or instructions.
Option A:	Icon
Option B:	**Software**
Option C:	Hardware
Option D:	Information
9.	Instructions which won't appear in the object program are called as _____
Option A:	Redundant instructions
Option B:	Exceptions
Option C:	Mnemonic opcode
Option D:	**Assembler Directives**
10.	The last statement of the assembly program should be _____
Option A:	STOP
Option B:	RETURN
Option C:	TERMINATE
Option D:	**END**
11.	Translator for low level programming language were termed as
Option A:	**Assembler**
Option B:	Compiler
Option C:	Linker
Option D:	Loader
12.	The Macro processor is also called as _____
Option A:	**Preprocessor**
Option B:	Postprocessor
Option C:	Debugger
Option D:	Translator
13.	In parameterised macro , the parameter is mapped using____
Option A:	**by position**
Option B:	by keyword
Option C:	by reference
Option D:	by string
14.	The linker is a software that is used for_____
Option A:	**Creating signle executable load module**
Option B:	Excecuting the program
Option C:	Creating link between program and data
Option D:	Helping loader to load program in memory

15.	Which is not a function of a loader
Option A:	Allocation
Option B:	**Translation**
Option C:	Relocation
Option D:	Loading
16.	Which of the following software always resides in main memory?
Option A:	Text editor
Option B:	Assembler
Option C:	Linker
Option D:	**Loader**
17.	**What type of data structure is used by shift reduce parser**
Option A:	linked list
Option B:	**Stack**
Option C:	Queue
Option D:	Pointer
18.	We can optimize code by
Option A:	**Dead code elimination**
Option B:	Common subprogram
Option C:	Copy intermediate loop
Option D:	Loop declaration
19.	Local and loop optimization in turn provide motivation for
Option A:	**Data flow analysis**
Option B:	Constant folding
Option C:	Pee hole optimization
Option D:	DFA
20.	Compiler can check _____ error
Option A:	Logical
Option B:	**Syntax**
Option C:	both a and b
Option D:	Content

Descriptive Questions

What is the forward reference problem? Explain single pass assembler with flowchart.
Explain multi pass assembler in detail
Show machine code generated for following assembly level program along with data structures entries
Explain single pass macro processor
Explain the working of macro processor along with the data structures used in it
Explain the working of DLL loader in detail.

Draw and Explain the various phases of compilers with suitable example.
Modify the given grammar and construct a Predictive parser table explaining each step. E->E+T|T T->T*V|V V-> id.
For a given grammar below, Construct operator precdence relation matrix, assuming *, + are binary operators and 'id' is terminal symbol, and E as Non terminal. E->E+E E->E*E E->id Apply operator precedence parsing algorithm for the statement ' id + id * id'
Consider the following grammar: S --> aSbS | bSaS | Epcillon. 1. Frame the transition table and action / goto table of the given grammar. 2. Demonstrate if the grammar is LR(0) or not.
Explain the working of shift reduce parser along with suitable example
Explain the different forms of intermediate codes used by Compiler.
What is code optimization? Explain machine dependent code optimisation techniques with suitable example
Explain machine independent code optimization techniques with suitable example
Discuss various issues that occur in the code generation phase of the compiler.
Explain the difference between Compiler and Interpreter
Define the various system softwares used in compilers
What is the need of system softwares?
Explain various data structures used in assembler design
What is the need of an assembler to be multi pass?
Explain various types of statements used in assembler design
What are the different functions performed by macroprocessor?
Explain Parameterized macro with suitable example
Explain conditional macro with suitable example.
What are the different functions performed by loader
Enlist different types of noodles and explain compile and go loader in detail
Explain the working of absolute loader.
What do you mean by relocation? Explain relocating loader in detail.
Explain the difference between linking loader and linkage editor.
Explain the working of compiler phases for following expression Position = initial + rate * 60.
Explain the role of finite automata in lexical analysis
Design DFA for given finite automata. (a+b)*abb
Differentiate between top down and bottom up parser.
Define synthesized and inherited attributes used in Syntactic analysis of compiler.
Generate three address code for the following logical expression. If a<b then 1 else 0
Design quadruple and triple for following expression a=(b+c)*(d+e)
Design DAG representation for given expression. a=(a+b)*(a-c)
Explain flow graphs and basic blocks in detail.
Write a short note on LEX and YACC.