

University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering

Curriculum Scheme: Rev2016

Examination: Third Year Semester VI

Course Code: **CSC602** and Course Name: **System Programming and Compiler Construction**

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	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
Q2.	A loader is a program that _____
Option A:	places programs into memory and prepares them for execution.
Option B:	automates the translation of assembly language into machine language.
Option C:	accepts a program written in a high level language and produces an object program.
Option D:	convert low level program to high level program
Q3.	The data size of a word is _____
Option A:	2-byte
Option B:	4-byte
Option C:	8-byte
Option D:	16-byte
Q4.	The assembler stores the object code in _____
Option A:	Main memory
Option B:	Cache
Option C:	RAM
Option D:	Magnetic disk
Q5.	In a two pass assembler the object code generation is done during the?
Option A:	Second pass
Option B:	First pass
Option C:	Zeroth pass
Option D:	Not done by assembler
Q6.	In a two-pass assembler, the task of the Pass II is to
Option A:	separate the symbol, mnemonic opcode and operand fields

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Option B:	build the symbol table
Option C:	construct intermediate code
Option D:	synthesize the target program
Q7.	A model statement contains call for another macro is called as
Option A:	referential macro call
Option B:	inbuilt macro call
Option C:	Nested macro call
Option D:	inherited macro call
Q8.	----- table holds the name of all the parameters appear in the macros
Option A:	MNT
Option B:	MDT
Option C:	ALA
Option D:	GEST
Q9.	During macro expansion each statement is replaced by
Option A:	the original program
Option B:	the sequence of assembly statement
Option C:	by specific symbols
Option D:	actual machine code
Q10.	Copying the statements and instructions of macro definitions, directly at the place of the macro name call, is known as _____-
Option A:	expanding macro
Option B:	inserting a macro
Option C:	initializing a macro
Option D:	defining macro
Q11.	In which type of loading scheme, the object file is not stored as a backup?
Option A:	Absolute loader
Option B:	Relocating loader
Option C:	Dynamic linking loader
Option D:	Compile-and-go loader
Q12.	Which of the following software always resides in main memory?
Option A:	Text editor
Option B:	Assembler
Option C:	Linker
Option D:	Loader

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Q13.	Which loader gets executed when you start the computer for the first time?										
Option A:	Compile-and-Go loader										
Option B:	Bootstrap loader										
Option C:	Dynamic loader										
Option D:	Absolute loader										
Q14.	Which of the following data structures is used by Dynamic Linking loader ?										
Option A:	Public & Extern table										
Option B:	Transfer Vector table										
Option C:	Literal table										
Option D:	Argument List Array table										
Q15.	$S \rightarrow aSbSb$ The language generated by the above grammar over the alphabet {a,b} is the set of										
Option A:	all even length palindromes										
Option B:	all odd length palindromes.										
Option C:	all palindromes.										
Option D:	strings that begin and end with the same symbol										
Q16.	Match all items in Group 1 with correct options from those given in Group 2.										
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">Group 1</td> <td style="width: 50%; text-align: center;">Group 2</td> </tr> <tr> <td style="text-align: center;">P. Regular expression</td> <td style="text-align: center;">1. Syntax analysis</td> </tr> <tr> <td style="text-align: center;">Q. Pushdown automata</td> <td style="text-align: center;">2. Code generation</td> </tr> <tr> <td style="text-align: center;">R. Dataflow analysis</td> <td style="text-align: center;">3. Lexical analysis</td> </tr> <tr> <td style="text-align: center;">S. Register allocation</td> <td style="text-align: center;">4. Code optimization</td> </tr> </table>	Group 1	Group 2	P. Regular expression	1. Syntax analysis	Q. Pushdown automata	2. Code generation	R. Dataflow analysis	3. Lexical analysis	S. Register allocation	4. Code optimization
Group 1	Group 2										
P. Regular expression	1. Syntax analysis										
Q. Pushdown automata	2. Code generation										
R. Dataflow analysis	3. Lexical analysis										
S. Register allocation	4. Code optimization										
Option A:	P-4, Q-1, R-2, S-3										
Option B:	P-3, Q-1, R-4, S-2										
Option C:	P-3, Q-4, R-1, S-2										
Option D:	P-2, Q-1, R-4, S-3										
Q17.	Consider the following two statements: P: Every regular grammar is LL(1) Q: Every regular set has a LR(1) grammar Which of the following is TRUE?										
Option A:	P is false and Q is true										
Option B:	P is true and Q is false										
Option C:	Both P and Q are false										
Option D:	Both P and Q are true										

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Q18.	What is the maximum number of reduce moves that can be taken by a bottom-up parser for a grammar with no epsilon- and unit-production (i.e., of type $A \rightarrow \epsilon$ and $A \rightarrow a$) to parse a string with n tokens?
Option A:	$n/2$
Option B:	$n-1$
Option C:	$2n-1$
Option D:	2^n
Q19.	The number of tokens in the following C statement is <code>printf("i = %d, &i = %x", i, &i);</code>
Option A:	3
Option B:	26
Option C:	10
Option D:	21
Q20.	Consider the grammar $S \rightarrow (S) \mid a$ Let the number of states in SLR(1), LR(1) and LALR(1) parsers for the grammar be n_1 , n_2 and n_3 respectively. The following relationship holds good
Option A:	$n_1 < n_2 < n_3$
Option B:	$n_1 = n_3 < n_2$
Option C:	$n_1 = n_2 = n_3$
Option D:	$n_1 \geq n_3 \geq n_2$
Q21.	Type checking is normally done during
Option A:	Lexical analysis
Option B:	Syntax analysis
Option C:	Syntax directed translation
Option D:	Code optimization
Q22.	Three address statement is abstract form of _____
Option A:	Source program
Option B:	Machine code
Option C:	Target program
Option D:	Intermediate code
Q23.	Local and loop optimization in turn provide motivation for
Option A:	Data flow analysis
Option B:	Constant folding

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Option C:	Peep hole optimization
Option D:	DFA
Q24.	Syntax directed translation scheme is desirable because
Option A:	It is based on the syntax
Option B:	Its description is independent
Option C:	It is easy to modify
Option D:	It is based on the syntax and semantics
Q25.	The optimization which avoids test at every iteration is
Option A:	Loop unrolling
Option B:	Loop jamming
Option C:	Constant folding
Option D:	dead code elimination

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	A
Q3.	A
Q4	D
Q5	A
Q6	D
Q7	C
Q8.	C
Q9.	B
Q10.	A
Q11.	D
Q12.	D
Q13.	B
Q14.	A
Q15.	B
Q16.	B
Q17.	A
Q18.	B
Q19.	C
Q20.	B
Q21.	C
Q22.	D
Q23.	A
Q24.	C
Q25.	A