Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021

Course Name - –Compiler Design
Course Code - PCC-CS601
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○ M.SC.(MATH)

○ M.SC.(MB)

○ MCA

○ M.SC.(MSJ)

○ M.SC.(AM)

○ M.SC.CS)

○ M.SC.(ANCS)

○ M.SC.(MM)

○ B.A.(Eng)

Answer all the questions. Each question carry one mark.

9.   1. A grammar that produces more than one parse tree for some sentence is called as

Mark only one oval.

○ Ambiguous

○ Unambiguous

○ Regular

○ All of these

10.   2. Lexical analysis is about breaking a sequence of characters into

Mark only one oval.

◯ Groups

◯ Packets

◯ Lines

◯ Tokens

11.   3. _____ is the most general phase structured grammar.

Mark only one oval.

◯ Context sensitive

◯ Regular

◯ Context free

◯ All of these

12.   4. Compiler translates the source code to

Mark only one oval.

◯ Executable code

◯ Machine code

◯ Binary code

◯ Machine code & Binary code

13. 5. How many parts of compiler are there?

Mark only one oval.

⬭ 1

⬭ 2

⬭ 4

⬭ 8

14. 6. _____ is considered as a sequence of characters in a token.

Mark only one oval.

⬭ Mexeme

⬭ Lexeme

⬭ Pattern

⬭ Texeme

15. 7. What is the name of the process that determining whether a string of tokens can be generated by a grammar?

Mark only one oval.

⬭ Analysing

⬭ Recognizing

⬭ Translating

⬭ Parsing

16.   8. The role of the preprocessor is

Mark only one oval.

- ⬭ produce input to compilers
- ⬭ produce output data
- ⬭ produce output to compilers
- ⬭ none of these

17.   9. The regular expression 1*(01*01*)* denotes

Mark only one oval.

- ⬭ set of all strings of 0's and 1's with even number of 0's
- ⬭ set of all strings of 0's and 1's
- ⬭ set of all strings of 0's and 1's with odd number of 1's
- ⬭ none of these

18.   10. If x is a terminal, then FIRST(x) is

Mark only one oval.

- ⬭ €
- ⬭ {x}
- ⬭ x*
- ⬭ none of these

19. 11.The regular expression a+ =?

Mark only one oval.

- {a,aa,aaa,....}
- {€,a,aa,aaa,...}
- {€,a}
- None of these

20. 12. The set of all strings over ∑ = {a,b} in which all strings having bbbb as substring is

Mark only one oval.

- (a+b)* bbbb (a+b)*
- (a+b)* bb (a+b)*bb
- bbb(a+b)*
- bb (a+b)*

21. 13. The set of all strings over ∑ ={a,b} in which a single a is followed by any number of b's a single b followed by any number of a's is

Mark only one oval.

- ab* + ba*
- ab*ba*
- a*b + b*a
- none of these

22.   14. Which of the following error will not be detected by the compiler?

Mark only one oval.

  ◯ Lexical error

  ◯ Syntactic error

  ◯ Semantic error

  ◯ Logical error

23.   15. YACC builds up

Mark only one oval.

  ◯ SLR parsing table

  ◯ LALR parsing table

  ◯ Canonical LR parsing table

  ◯ None of these

24.   16. The edges in flow graph whose heads dominate their tails are called

Mark only one oval.

  ◯ Back edges

  ◯ Front edges

  ◯ Flow edges

  ◯ None of these

25.　17. Parse tree is generated in the phase of

Mark only one oval.

○ Syntax analysis

○ Semantic analysis

○ Code optimization

○ Intermediate code optimization

26.　18. White spaces and tabs are removed in

Mark only one oval.

○ Semantic analysis

○ Lexical analysis

○ Syntax analysis

○ None of these

27.　19. Left factoring guarantees

Mark only one oval.

○ Error free target code

○ Cycle free parse tree

○ Not occurring of backtracking

○ Correct LL(1) parse table

28.   20. If the attribute of the parent node depends on its children, then its attributes
       are called

Mark only one oval.

( ) TAC

( ) Synthesized

( ) Inherited

( ) Directed

29.   21. What is a process of finding a parse tree for a string of tokens

Mark only one oval.

( ) Tokenizing

( ) Recognizing

( ) Analysing

( ) Parsing

30.   22.Given the grammar S → ABc, A → a|€, B → b|€ FOLLOW(A) is the set

Mark only one oval.

( ) {$}

( ) {b}

( ) {b,c}

( ) {a,b,c}

31.   23. A grammar that produces one parse tree for some sentence is called as

Mark only one oval.

⬭ Ambiguous

⬭ Unambiguous

⬭ Regular

⬭ All of these

32.   24. S → AB , A → a , B → b To check whether the string "ab" is the language of the
above grammar (using shift-reduce parser) we need at least

Mark only one oval.

⬭ 3 shift 3 reduces

⬭ 2 shift 3 reduces

⬭ 2 shift 2 reduces

⬭ 3 shift 2 reduces

33.   25. The grammar S → ab is given. FOLLOW(S)=?

Mark only one oval.

⬭ {a}

⬭ {b}

⬭ {$}

⬭ {a,$}

34.   26. The intersection of a regular language and a context free language is

Mark only one oval.

◯ always a regular language

◯ always a context free language

◯ always a context sensitive language

◯ None of these

35.   27. The following production of a regular grammar generates a language L. S → aS |
bS |a | b The regular expression for L is

Mark only one oval.

◯ A+b

◯ (a+b)*

◯ (a+b)(a+b)*

◯ (aa+bb)a*

36.   28. Which one is a lexer generator

Mark only one oval.

◯ ANTLR

◯ DRASTAR

◯ FLEX

◯ All of these

37.   29. The output of the lexical analyzer is

Mark only one oval.

◯ Stream of tokens

◯ Machine code

◯ Intermediate code

◯ Parse tree

38.   30. Which of the following identity is true?

Mark only one oval.

◯ € + RR* = R* = € + R*R

◯ (R1R2)*R1 = R1(R2R1)*

◯ R*R* = R*

◯ All of these

39.   31. The 1 in the parenthesis in LL(1) parsing means

Mark only one oval.

◯ left to right scanning

◯ left to right mapping

◯ Both a nd b

◯ number of look ahead character

40.   32. € never contains in

Mark only one oval.

◯ FIRST

◯ FOLLOW

◯ Both a and b

◯ None of these

41.   33. LR parser uses

Mark only one oval.

◯ Stack

◯ Queue

◯ Linked List

◯ None of these

42.   34. If L1 and L2 are regular languages is/are also regular language(s).

Mark only one oval.

◯ L1 + L2

◯ L1 L2

◯ L1

◯ All of these

43.　　35. Which data structure is mainly used during shift-reduce parsing?

Mark only one oval.

◯ pointers

◯ arrays

◯ stacks

◯ queues

44.　　36. The optimization which avoids test at every iteration is

Mark only one oval.

◯ loop unrolling

◯ loop jamming

◯ constant folding

◯ none of these

45.　　37. The peep-hole optimization is

Mark only one oval.

◯ Strength Reduction

◯ constant folding

◯ Strength Reduction & constant folding

◯ None of this

46.   38. The objective of peephole optimization is

Mark only one oval.

⬭ To improve performance

⬭ To reduce memory footprint

⬭ To reduce code size

⬭ All of these

47.   39. A compiler that runs on one machine and produces code for a different machine is called

Mark only one oval.

⬭ Cross compilation

⬭ One pass compilation

⬭ 2 pass compilation

⬭ None of these

48.   40. Which of the following is not an intermediate code form?

Mark only one oval.

⬭ Quadruples

⬭ Triples

⬭ Abstract syntax tree

⬭ Indirect triples

49.   41. Which table is a permanent database that has an entry for each terminal
        symbol?

        Mark only one oval.

        ( ) Reductions

        ( ) Identifier table

        ( ) Literal table

        ( ) Terminal table

50.   42. Synthesized attribute can be easily simulated by a

        Mark only one oval.

        ( ) LR grammar

        ( ) LL grammar

        ( ) Ambiguous grammar

        ( ) None of these

51.   43. Which of the following techniques is used to replace run-time computations by
        compile time computations?

        Mark only one oval.

        ( ) Constant folding

        ( ) Code hoisting

        ( ) Pee phole optimization

        ( ) Invariant computation

52.   44. A compiler is preferable to an interpreter because

Mark only one oval.

◯ Debugging can be faster and easier

◯ If one changes a statement, only that statement needs re-compilation

◯ It is much helpful in the initial stages of program development

◯ It can generate stand alone programs that often take less time for execution

53.   45. The linker _____

Mark only one oval.

◯ Is similar to interpreter

◯ Uses source code as its input

◯ Is required to create a load module

◯ None of the mentioned

54.   46. A language L from a grammar G = { VN, Σ, P, S} is?

Mark only one oval.

◯ Set of symbols over VN

◯ Set of symbols over Σ

◯ Set of symbols over P

◯ Set of symbols over S

55.　47. The process manager has to keep track of _____

Mark only one oval.

◯ Status of each program

◯ Information to a programmer using the system

◯ Status of each program & Information to a programmer using the system

◯ None of the mentioned

56.　48. Pass I _____

Mark only one oval.

◯ Assign address to all statements

◯ Save the values assigned to all labels for use in pass 2

◯ Perform some processing

◯ All of the mentioned

57.　49. Syntax Analyser is also known as _____

Mark only one oval.

◯ Hierarchical Analysis

◯ Hierarchical Parsing

◯ None of the mentioned

◯ Hierarchical Analysis & Parsing

58.   50. A grammar for a programming language is a formal description of
       _____

Mark only one oval.

◯ Syntax

◯ Semantics

◯ Structure

◯ Library

59.   51. Choose the correct statement.

Mark only one oval.

◯ CFG is not LR

◯ Ambiguous Grammar can never be LR

◯ CFG is not LR & Ambiguous Grammar can never be LR

◯ None of the mentioned

60.   52. Which one of the following is a top-down parser?

Mark only one oval.

◯ Recursive descent parser

◯ Operator precedence parser

◯ An LR(k) parser

◯ An LALR(k) parser

61. 53. The grammar A → AA | (A) | e is not suitable for predictive-parsing because the grammar is?

Mark only one oval.

◯ Ambiguous

◯ Left recursive

◯ Right recursive

◯ An operator grammar

62. 54. Which of the following suffices to convert an arbitrary CFG to an LL(1) grammar?

Mark only one oval.

◯ Removing left Recursive alone

◯ Factoring the grammar alone

◯ Along with removing left recursion we also perform the factoring of the grammar

◯ None of the mentioned

63. 55. Assume statements S1 and S2 defined as: S1: L2-L1 is recursive enumerable where L1 and L2 are recursive and recursive enumerable respectively. S2: The set of all Turing machines is countable. Which of the following is true?

Mark only one oval.

◯ S1 is correct and S2 is not correct

◯ Both S1 and S2 are correct

◯ Both S1 and S2 are not correct

◯ S1 is not correct and S2 is correct

64. 56. A context free language is called ambiguous if _____

Mark only one oval.

○ It has 2 or more left derivations for some terminal string ɯ ɛ L (G)

○ It has 2 or more right derivations for some terminal string ɯ ɛ L (G)

○ It has 2 or more left & right derivations for some terminal string ɯ ɛ L (G)

○ None of the mentioned

65. 57.Which of the following statement is false?

Mark only one oval.

○ The CFG can be converted to Chomsky normal form

○ The CFG can be converted to Greibach normal form

○ CFG is accepted by pushdown automata

○ None of the mentioned

66. 58. The context free grammar S → SS | 0S1 | 1S0 | ε generates _____

Mark only one oval.

○ Equal number of 0's and 1's

○ Unequal number of 0's and 1's

○ Number of 0's followed by any number of 1's

○ None of the mentioned

67.   59. Push down automata accepts which language?

Mark only one oval.

⬭ Push down automata accepts which language?

⬭ Context free language

⬭ Recursive language

⬭ None of the mentioned

68.   60. Which of these does not belong to CFG?

Mark only one oval.

⬭ Terminal Symbol

⬭ Non terminal Symbol

⬭ Start symbol

⬭ End Symbol

69.   61. Compiler can diagnose _____

Mark only one oval.

⬭ Grammatical errors only

⬭ Logical errors only

⬭ Grammatical and logical errors

⬭ None of the mentioned

70. 62.A system program that set-up an executable program in the main memory ready for execution is?

Mark only one oval.

○ Assembler

○ Linker

○ Loader

○ Text editor

71. 63. The computer language generally translated to pseudocode is _____

Mark only one oval.

○ Assembly

○ Machine

○ Pascal

○ FORTRAN

72. 64. The best way to compare the different implementations of symbol table is to compare the time required to _____

Mark only one oval.

○ Add a new name

○ Make an enquiry

○ Add a new name and make an enquiry

○ All of the mentioned

73.   65.Relocation bits used by relocating loader are specified by _____

Mark only one oval.

( ) Relocating loader itself

( ) Linker

( ) Assembler

( ) Macro processor

74.   66. Which Type of Grammar is it? S → Aa A → Aab | λ

Mark only one oval.

( ) Right Linear

( ) Left Linear

( ) None of the mentioned

( ) Right & Left Linear

75.   67. Consider a program P that consists of two source modules M1(contains reference to a function defined in M2) and M2 contained in two different files.

Mark only one oval.

( ) Edit time

( ) Compile time

( ) Link time

( ) Load time

76.   68. Which of the following statements is false?

Mark only one oval.

    ◯ Left as well as right most derivations can be in Unambiguous grammar

    ◯ An LL (1) parser is a top-down parser

    ◯ LALR is more powerful than SLR

    ◯ Ambiguous grammar can't be LR (k)

77.   69. What is CFG?

Mark only one oval.

    ◯ Compiler

    ◯ A language expression

    ◯ Regular Expression

    ◯ None of the mentioned

78.   70. Transition of finite automata is _____

Mark only one oval.

    ◯ Finite Diagram

    ◯ State Diagram

    ◯ Node Diagram

    ◯ E-R Diagram