**FLAT SHORT ANSWER QUESTIONS**

**UNIT - I**

1. The prefix of abc is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. c

b. b

c. bc

d. a

2. Which of the following is not a prefix of abc? (d)

a. e

b. a

c. ab

d. bc

3. Which of the following is not a suffix of abc ? (d)

a. e

b. c

c. bc

d. ab

4. Which of the following is not a proper prefix of doghouse ? (d)

a. dog

b. d

c. do

d. doghouse

5. Which of the following is not a proper suffix of doghouse ? (d)

a. house

b. se

c. e

d. doghouse

6. If then the number of possible strings of length 'n' is \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. n

b. n \* n

c. n n

d. 2 n

7. The concatenation of e and w is \_ \_ \_ \_ \_ \_ (b)

a. e

b. w

c. ew

d. can’t say

8. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ is a set of strings . (a)

a. Language

b. grammar

c. NFA

d. DFA

9. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ is a finite sequence of symbols. (c)

a. Language

b. grammar

c. string

d. NFA

10. Let a is any symbol, x is a palindrome then which of the following is not a Palindrome. (d)

a. e

b. a

c. axa

d. xa

11. Let a is any symbol , x is a palindrome then which of the following is a palindrome. (a)

a. e

b. xa

c. ax

d. aax

12. The basic limitation of FSM is that \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. it can't remember arbitrary large amount of information

b. it sometimes recognizes grammars that are not regular

c. it sometimes fails to recognize grammars that are regular

d. it can remember arbitrary large amount of information

14. We formally denote a finite automaton by ( Q, ,q0 , F) Where is the transition Function mapping from Q X to \_ \_ \_ (a)

a. Q

b.S

c. q0

d. F

15. Application of Finite automata is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Lexical analyzer

b. parser

c. scanner

d. semantic analyzer

16. An FSM can be used to add two given integers .This is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. true

b. false

c. may be true

d. can't say

17. We formally denote a finite automaton by a \_ \_ \_ \_ \_ \_ \_ \_ tuple. (c)

a. 3

b. 4

c. 5

d. 6 164

18. We formally denote a finite automaton by Where Q is \_ \_ \_ (a)

a. a finite set of states

b. finite input alphabet

c. initial state

d. A set of final states

19. We formally denote a finite automaton by Where is \_ \_ \_ (b)

a. a finite set of states

b. finite input alp

c. ihniatbiaelt state

d. A set of final states

20. We formally denote a finite automaton by Where Q is \_ \_ \_ (c)

a. a finite set of states

b. finite input alphabet

c. initial state

d. A set of final states

21. We formally denote a finite automaton by Where F is \_ \_ \_ (d)

a. a finite set of states

b. finite input alphabet

c. initial state

d. A set of final states

22. An automation is a \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ device (b)

a. generative

b. cognitive

c. acceptor

d. can't say

23. A grammar is a \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ device (a)

a. generative

b. cognitive

c. acceptor

d. can't say

24. An FSM can be used to add two given integers .This is \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. true

b. false

c. may be true

d. can't say

25. An FSM can be used to perform subtracttion of given two integers .This is \_ \_ (b)

a. true

b. false

c. may be true

d. can't say

26. The word formal in formal languages means \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. the symbols used have well defined meaning

b. they are unnecessary in reality

c. only the form of the string of symbols is significant

d. only the form of the string of symbols is not significant

27. The recognizing capability of NDFSM and DFSM [04S02] (c)

a. may be different

b. must be different

c. must be same

d. may be same

28. Any given transition graphs has an equivalent \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. RE

b. DFA

c. NFA

d. DFA, NFA, RE

29. Finite state machine \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ recognize palindromes (b)

a. can

b. can't

c. may

d. may not

30. FSM can recognize \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. any grammar

b. only CFG

c. any unambiguous grammar

d. only regular grammar

31. Palindromes can \_ t be recognized by any FSM because (a)

a. FSM can't remember arbitrarily large amount of

b. FSM cannot deterministically fix the mid point

c. even of the mid-point is known, an FSM cannot find whether the second half of the string matches the first half

d. FSM can remember arbitrarily large amount of information

32. Let M = ( Q,S, ,q0 , F) , F= { q0 } , S= {0,1 }. : Then ( q0 , 110101 ) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. q0

b. q1

c. q2

d. q3

33. Let M = ( Q,S, ,q0 , F) , F= { q0 } , S= {0,1 }. : Then L(M) is the set of strings with \_ \_ \_ \_ number of 0's and \_ \_ \_ \_ \_ \_ \_ \_ \_ Number of 1's . (c)

a. odd, odd

b. odd, even

c. even, even

d. even, odd

34. Let M = ( Q,S, ,q0 , F) , F= { q0 } , S= {0,1 }. : Then ( q0 , 110) \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. q0

b. q1

c. q2

d. q3

35. Let M = ( Q,S, ,q0 , F) , F= { q0 } , S= {0,1 }. : Then which of the following is accepted \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. 110101

b. 11100

c. 00011

d. 111000

36. Let M = ( Q,S, ,q0 , F) , F= { q0 } , S= {0,1 }. : Then which of the following is not accepted \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. 11101

b. 110001

c. 0011

d. 1101

37. In transition diagrams states are represented by \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. ellipses

b. circles

c. triangles

d. rectangles

38. In transition diagrams a state pointed by an arrow represents the \_ \_ \_ \_ \_ \_ \_ state. (c)

a. final

b. interior

c. start

d. final or start

39. In transition diagrams a state encircled by another represents \_ \_ \_ \_ \_ \_ \_ state. (a)

a. final

b. interior

c. start

d. final or start

40. NFA stands for \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Non deterministic finite automaton

b. Non deterministic finite analysis

c. Non deterministic finite acceptance

d. Non deterministic finite authorization

41. Consider the following NFA Now ( q0, 01 ) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. {q0, q1}

b. {q0 , q3,q4 }

c. {q0 , q1, q4 }

d. {q4 }

42. Consider the following NFA Now ( q0, 010) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. {q0 , q1 }

b. {q0 q3}

c. {q0 , q1, q4 }

d. {q4 }

43. Consider the following NFA Now ( q0, 01001 ) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. {q0 , q1 }

b. {q0 , q3 }

c. {q0 , q1,q4}

d. {q4 }

44. Consider the following NFA Now ( q0, 0 ) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. {q0 , q1 }

b. {q0 , q3 }

c. {q0 , q1,q4}

d. {q4 }

45. Let NFA has a finite number n of states ,the DFA will have at most \_ \_ \_ \_ \_ \_ \_ \_ states. (d)

a. 2n

b. n/2

c. n 2

d. 2 n

46. Let NFA has a finite number 6 of states ,the DFA will have at most \_ \_ \_ \_ \_ \_ \_ \_ states. (d)

a. 12

b. 2 168

c. 36

d. 64

47. Can a DFA simulate NFA ? [08S01] (b)

a. No

b. Yes

c. sometimes

d. depends on NFA

48. The DFA start state = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. NFA start state

b. NFA final state

c. closure( NFA start state )

d. closure ( NFA final state)

49. Let maximum number of states in a DFA =64 . Then it's equivalent NFA has \_ \_ \_ \_ \_ \_states. (d)

a. 2

b. 4

c. 8

d. 6

50. Let maximum number of states in a DFA =128 . Then its equivalent NFA has \_ \_ \_ \_ \_ \_ states. (b)

a. 5

b. 7

c. 8

d. 9

51. Let maximum number of states in a DFA =1024. Then it's equivalent NFA has \_ \_ \_ \_ \_ states. (c)

a. 5

b. 7

c. 10

d. 11

52. Choose the wrong statement (d)

a. Moore and mealy machines are FSM's with output capability

b. Any given moore machine has an equivalent mealy machine

c. Any given mealy machine has an equivalent moore machine

d. Moore machine is not an FSM

53. Choose the wrong statement (d)

a. A mealy machine generates no language as such

b. A Moore machine generates no language as such

c. A Mealy machine has no terminal state

d. A Mealy machine has terminal state 169

54. The major difference between a mealy and a moore machine is that (b)

a. The output of the former depends on the present state and present input

b. The output of the former depends only on the present stste

c. The output of the former depends only on the present input

d. The output of the former doesn't depends on the present state

55. In moore machine shows \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. states

b. input alphabet

c. output alphabet

d. Final state

56. A melay machine is a \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ tuple. (d)

a. 4

b. 5

c. 7

d. 6

**UNIT- II**

57. In case of regular sets the question ' is the intersection of two languages a language of the same type ?' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. Decidable

b. Un decidable

c. trivially decidable

d. Can't say

58. In case of regular sets the question 'is the complement of a language also a language of the same type ? ' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. Decidable

b. Un decidable

c. trivially d

d.e Cciadna'tb slaey

59. In case of regular sets the question ' is L1 n L2 = F ? ' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

60. In case of regular sets the question ' is L=R where R is a given regular set ?' is \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

61. In case of regular sets the question ' is L regular?' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

62. In case of regular sets the question 'Is w in L? 'Is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

63. In case of regular sets the question 'is L = F? 'Is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

64. In case of regular sets the question 'is L = \*? Is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

65. In case of regular sets the question ' is L1 = L2? ‘is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

66. In case of regular sets the question 'is L1subset or equal to L2? ‘Is \_ \_ \_ \_ \_ \_ (a)

a. Decidable

b. Undecidable

c. trivially decidable

d. Can't say

67. The regular expression (1 + 10) \* denotes all strings of 0's and 1's beginning with \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ and not having two consecutive \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. 1, 0's

b. 0, 1's

c. 0, 0's

d. 1, 1's

68. Let r and s are regular expressions denoting the languages R and S. Then (r + s) denotes \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. RS

b. R\*

c. RUS

d. R+

69. Let r and s are regular expressions denoting the languages R and S. Then (r s) denotes \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. RS

b. R\*

c. RUS

d. R+

70. Let r and s are regular expressions denoting the languages R and S. Then ( r\*) denotes \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. RS

b. R\*

c. RUS

d. R+

71. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ denotes all strings of 0,s and 1,s. (d)

a. ( 0+1)

b. 01

c. 0\* 1

d. ( 0+ 1)\*

72. (0+1) \* 011 denote all strings of 0's and 1's ending in \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. 0

b. 0111

c. 011

d. 111

73. Let r, s, t are regular expressions. (r\* s \*) \* = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. ( r-s)\*

b. (r s)\*

c. ( r +s)\*

d. (s-r)\*

74. Let r, s, t are regular expressions. ( r + s)\* = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. r \*s\*

b. (rs)\*

c. (r\* s \*) \*

d. r \*+s\*

75. Let r, s, t are regular expressions. ( r\* )\* = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. r

b. r\*

c. F

d. can’t say

76. Let r, s, t are regular expressions. ( e + r )\* = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c) 172

a. r

b. e

c. r\*

d. e r

77. Let r, s, t are regular expressions. r + s = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. r s

b. s + r

c. s r

d. r / s

78. Let r, s, t are regular expressions. ( r + s) +t = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. r +(s +t)

b. r s t

c. r t

d. s t

79. Let r, s, t are regular expressions. ( r s ) t = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. r s

b. r t

c. r(st)

d. s t

80. Let r, s, t are regular expressions. r( s+ t) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. r s

b. r t

c. rs - r t

d. rs +r t

81. Let r, s, t are regular expressions. (r + s) t = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. r t +st

b. (r-s)t

c. (rs) t

d. t(rs)

82. In NFA for r=e the minimum number of states are \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. 0

b. 1

c. 2

d. 3

83. In NFA for r=F the minimum number of states are \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. 0 173

b. 1

c. 2

d. 3

84. In NFA for r=a the minimum number of states are \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. 0

b. 1

c. 2

d. 3

85. ( e + 00 )\* = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. e

b. 0

c. e 0

d. (00 )\*

86. 0 (00)\* ( e + 0)1 + 1 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. 00\* 1 + 1

b. 00\* 1

c. 0 \*1 +1

d. 00\*+1

87. 1 + 01 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. e + 0

b. (e + 0) 1

c. 1 (e +0)

d. 101

88. Let f(0) =a and f(1) =b\* Then f(010) = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (c)

a. a

b. b\*

c. a b\* a

d. aba

89. Let f(0)=a and f(1) = b\* If L is the language 0\*(0+1)1\* then f(L)= \_ \_ \_ \_ (d)

a. ab

b. a b\*

c. b\*

d. a\* b\*

90. Let L1 be 0\*10\* and L2 be 1 0\* 1 The quotient of L1 and L2 is \_ \_ \_ \_ \_ \_ \_ (a)

a. empty

b. 0\*

c. 1

d. 10\*

91. Let L1 be 0\*10\* and L2 be 0\* 1 The quotient of L1 and L2 is \_ \_ \_ \_ \_ \_ \_ (b)

a. empty

b. 0\*

c. 1

d. 10\*

92. Let L1 be 10\* 1 and L2 be 0\* 1 The quotient of L1 and L2 is \_ \_ \_ \_ \_ \_ \_ (d) a. empty

b. 0\*

c. 1

d. 10\*

93. 'The regular sets are closed under union' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a) a. True

b. False

c. True or False

d. can't say

94. 'The regular sets are closed under concatenation' is \_ \_ \_ \_ \_ \_ \_ \_ (a) a. True

b. False

c. True or False

d. can't say

95. 'The regular sets are closed under kleene closure' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a) a. True

b. False

c. True or False

d. can't say

96. 'The regular sets are closed under intersection' is \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. True

b. False

c. True or False

d. can't say

97. The class of regular sets is closed under complementation .That is if L is a regular set and L is subset or equal to \* then \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ is regular set (d)

a. -

b. \*

c. \* + L

d. \* - L

**UNIT – III**

98. Regular grammars also known as \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ grammar. (d)

a. Type 0

b. Type 1

c. Type 2 d. Type3

99. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ grammar is also known as Type 3 grammar. (d)

a. un restricted

b. context free

c. context sensitive

d. regular grammar

100. Which of the following is related to regular grammar ? (c)

a. right linear

b. left linear

c. Right linear & left linear

d. CFG

101. Regular grammar is a subset of \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ grammar. (d)

a. Type 0 .

b. Type 1

c. Type 2

d. Type 0,1 &2

102. P,Q, R are three languages .If P and R are regular and if PQ=R then (c)

a. Q has to be regular

b. Q cannot be regular

c. Q need not be regular

d. Q has to be a CFL

103. Let A = {0,1 } L= A \* Let R = { 0 n1n , n >0 } then LUR is regular and R is \_ \_ (b)

a. regular

b. not regular

c. regular or not regular

d. can`t say 104. Let L1 =(a+b) \* a L2 =b\*(a+b) L1 intersection L2 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. (a+b) \* ab

b. ab ( a+b) \*

c. a ( a+b) \* b

d. b( a+b)\*a 176

105. Let L denote the language generated by the grammar S0s0100 then (c) a. L= 0 + b. L is CFL but not regular c. L is regular but not 0 + d. L is not context free 106. Let A = {0,1 } L= A \* Let R = { 0 n1n , n >0 } then LUR \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (a)

a. regular

b. not regular

c. regular or not regular

d. can`t say

107. Which of the following are regular? (d)

a. string of 0`s whose length is a perfect square

b. set of all palindromes made up of 0`s and 1`s

c. strings of 0`s whose length is prime number

d. string of odd number of zeros

108. Pumping lemma is generally used for proving (b)

a. a given grammar is regular

b. a given grammar is not regular

c. whether two given regular expressions are equivalent are not

d. a given grammar is CFG

109. Pick the correct statement the logic of pumping lemma is a good example of (a)

a. the pigeon hole principle

b. divide and conquer

c. recursion

d. iteration

110. The logic of pumping lemma is a good example of \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ (d)

a. iteration

b. recursion

c. divide and conquer

d. the pigeon hole principle

111. Let L1 = { n.m =1,2,3 .... } L2 = { n ,m=1,2,3 .... } L3 = { n =1,2,3 .... } Choose the correct answer

(a) a. L3= L1 intersection L2

b. L1, L2 , L3 are CFL

c. L1, L2 not CFL L3 is CFL

d. L1 is a subset of L3

112. Choose the wrong statement (a)

a. All languages can be generated by CFG

b. Any regular language has an equivalent CFG

c. Some non regular languages can \_ t be generated by CFG

d. Some regular languages can be simulated by an FSM

113. In CFG each production is of the form Where A is a variable and is string of Symbols from \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ ( V, T are variables and terminals )

(d) a. V b. T c. VUT d. \*(VUT) 114. Any string of terminals that can be generated by the following CFG (d) a. has atleast one b

b. should end in a 'a'

c. has no consecutive a's or b's

d. has atleast two a's

115. CFG is not closed under (c)

a. union

b. kleene star

c. complementation

d. product

116. The set A= { n=1,2,3 ..... } is an example of a grammar that is (c

a. regular

b. context free

c. not context free

d. can`t say

117. Let G=(V,T,P,S) be a CFG. A tree is a derivation (or parse) tree for G if If vertex n has label ? then n is a \_ \_ \_ \_ node (d)

a. root

b. interior

c. root or interior

d. leaf

118. The vernacular language English ,if considered a formal language is a (b)

a. regular language

b. context free language

c. context sensitive language

d. can`t say

119. The language constructs which are most useful in describing nested structures such as balanced parentheses matching begin ends etc are \_ \_ \_ \_ \_ \_ \_ \_ (b)

a. RE

c. NM CFG

d. CSG

120. CFL are closed under (c )

a. Union, intersection

b. kleene closure

c. Intersection, complement

d. complement, kleene closure

121. Recursively enumerable languages are accepted by? (a)

a. TM

b. FA

c. PDA

d. None

122. The statement –‘ATM can’t solve halting problems (a)

a. true

b. false

c. still an open question

d. none of the above

123. The language { 1n 2n 3n / n>=1} is recognized by? (c)

a. FA

b. PDA

c. TM

d. None of the above

124. The language L (0^n 1^n 2^n where n>0) is a (b)

a. context free language

b. context sensitive language

c. regular language

d. recursively enumerable language

125. Recursively enumerable languages are not closed under. (c)

a. Union

b. Intersection

c. Complementation

d. concatenation

126. The class of languages generated by ---- grammar is exactly the linear bounded languages. (b)

a. RG

b. CFG

c. CSG

d. PSG

127. Which of the following is the most general phase-structured grammar? (b)

a. regular

b. context-sensitive

c. context free

d. none of the above

128. The number of internal states of a UTM should be atleast (b) a. 1

b.2

c. 3

d.4

129. Context Sensitive Grammar (CSG) can be recognized by (b) a. Finite state automata

b. 2-way linear bounded automata

c. push down automata

d. none of the above

130. The language L= (0^n 1^n 2^R 3^R where n, R>0) is a (a)

c. context free language

d. context sensitive language

c. regular language

d. recursively enumerable language

130.A Pushdown automata is.....if there is at most one transition applicable to each configuration ?

a. Deterministic (a)

b. Non Deterministic

c. Finite

d. Non Finite

131. The idea of automation with a stack as auxiliary storage? (b)

a. Finite automata

b. Push down automata

c. Deterministic automata

d. None of these

133. Which of the following is not accepted by DPDA but accepted by NDPDA ()

a. Strings end with a particular alphabet

b. All strings which a given symbol present at least twice

c. Even palindromes d. None

134. PDA maintains (d)

a. Tape

b. Stack

c. Finite Control Head

d. All the above

**UNIT - IV**

135.A Turing machine can be used to (c)

a. Accept languages

b. Compute functions

c. a & b

d. none

136. Any turing machine is more powerful than FSM because (c) a.Tape movement is confined to one direction

b.It has no finite state control

c.It has the capability to remember arbitrary long input symbols

d. TM is not powerful than FSM

137.In which of the following the head movement is in both directions (d)

a. TM

b.FSM

c.LBA

d.a& c

138. A turing machine is (a)

a. Recursively enumerable language

b. RL

c.CFL

d.CSL

139. Any Turning machine with m symbols and n states can be simulated by another TM with just 2 s symbols and less than (d)

a. 8mn states b.4mn+8states

c. 8mn+ 4 states

d. mn states

**UNIT - V**

134. Push down automata represents

a. Type 0 Grammar

b. Type 1 Grammar

c. Type 2 Grammar

d. Type 3 Grammar

135. If every string of a language can be determined whether it is legal or illegal in finite time the language is called

a. Decidable

b.undecidable

c.Interpretive

d. Non deterministic

136. PCP having no solution is called (b)

a. undecidability of PCP b

.decidability of PCP

c.Semi-decidability of PCP

d None35135 5135

137. Which of the following is type- 2 grammar? (b)

a. A→ α where A is terminal

b. A→ α where A is Variable

c. Both

d. None