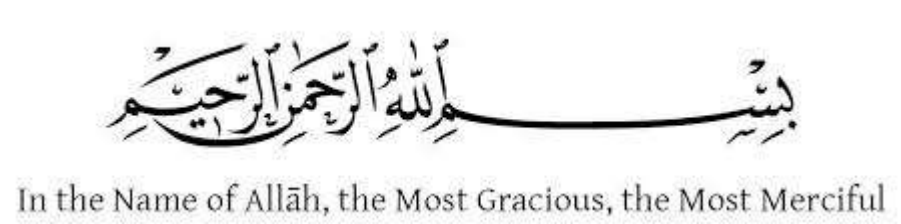

Final-Term Papers Solved MCQS with Reference (1 to 45 lectures)

1. _____ convert the relocatable machine code into absolute machine code by linking library and relocatable object files.

   - Assembler
   - **Loader/link-editor**
   - Compiler
   - Preprocessor

2. Parsers take ____ as input from lexical analyzer.

   - Linker
   - **Token**
   - Instruction
   - None of the given

3. The regular expression _____denotes, the set of all strings of a's and b's of length two

- a*
- (a*|b*)*
- (a*b*)*
- **(a|b)(a|b)**

4. _____ is a regular expression for the set of all strings over the alphabet {a} that has an even number of a's.

- aa*
- **(aa)***
- aa*a
- a(aa)*

5. _____ Phase supports macro substitution and conditional compilation.

- Semantic
- Syntax
- **Preprocessing** **Click Here For More Detail**
- None of given

6. In LL(1) parsing algorithm, ____ contains a sequence of grammar symbols.

- **Stack** **PG # 62**
- Link List
- Array
- None of the given.

7. Consider the grammar

A → B C D
B → h B | €
C → C g | g | C h | i

- **h, g, i**
- g
- h
- None of the given.

8. _____ parsers never shifts into an error state.

- LS
- LT
- **LR**
- LP

9. In parser, the two LL stand for _____ .

- Left-to-right scan of input
- left-most derivation
- **Left-to-right scan of input and left-most derivation** **PG # 54**
- None of the given

10. _____ is elaborated to produce bindings.

- **Declaration** Click Here For More Detail
- Expression
- Command
- None of the given

11. A lexical analyzer generated by ____ is essentially a FSA.

- Dex
- Mex
- Fex
- **Lex**

12. A lexical analyzer generated by **lex** is essentially a PDA (Push Down Automaton).

- True
- **False**

13. The actions (shift, reduce) in a SLR(1) parser depend on a look ahead symbol (_____) .

- **Current input token**
- Next Input Token
- Previous output Token
- Previous Input Token.

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14. The following grammar contains a _____ conflict. S → *A* | *xb*

- **Shift-Reduce**
- First-Reduce
- Shift-First
- Reduce-Reduce

15. S → A | xb

A → aAb | x

This grammar contains a _____ conflict.

- **Shift-Reduce**
- First-Reduce
- Shift-First
- Reduce-Reduce

16. Considering the following grammar:

S → AB
A → € | aA
B → b | bB

- 1
- **2**
- **3**
- 4

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17. Simple code generation considers one AST node at the time. When the target is a *stack* machine, the code can be generated in one _____ traversal of the AST.

- **Depth-first**
- Breadth-first
- First-first
- Shift-Reduce

18. _____ is a register allocation technique that *always* finds the minimal number of registers needed for a procedure.

- Dangling reference
- **Graph coloring**
- Left Factoring
- Right Recursion

19. **Graph coloring** is a register allocation technique that operates at *individual* basic blocks.

- True
- **False**

20. **Graph coloring** is a register allocation heuristic that *usually* finds the minimal number of registers needed for a procedure.

- **True**
- False

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21. S → a S | Sa | c

This grammar is ambiguous.

- **True**
- False

22. When generating code at the basic block level, the dependency graph must be converted to target code. By identifying _____, instruction selection and instruction ordering can be performed efficiently in a single pass.

- **Ladder sequences**
- Physical sequences
- Logical sequences
- Token sequences

23. _____ can be considered a small compiler since it transforms a source language (assembly) into a less abstract target language (binary object code)

- Parser
- Assembler
- **Lexical analyzer**
- Scanner

24. When memory allocator operates on chunks which include some administrative part and a block of user data. The administrative part includes _____ flag for marking the chunk as free or in-use.

- **One**
- Two
- Three
- Four

25. A parser transforms a stream of tokens into an _____.

- **AST**
- IST
- EST
- ATS

26. The parser generator yacc can handle _____ grammars

- **LL(1)**
- LT(1)
- LS(1)
- LF(1)

27. The parser generator **yacc** can handle LL(1) grammars.

- **True**
- False

28. The **yacc** parser generator can handle LALR(1) grammars.

- **True**
- False

29. Simple code generation considers one AST node at a time. If the target is a *register* machine, the code can be generated in one _____ traversal of the AST, possibly introducing temporaries when running out of registers.

- **Depth-first**
- Breadth-first
- Depth-second
- Breadth-second

30. Attributes whose values are defined in terms of a node's own attributes, node's siblings and node's parent are called _____.

- **Inherited attributes** **PG # 100**
- Physical attributes
- Logical attributes
- Un-synthesized attributes

31. A linker combines multiple object files into a _____ executable object.

- **Single**
- Double
- Triple
- Quadruple

32. The notation _____ instructs YACC to push a computed attribute value on the stack.

- **$$** **PG # 106**
- &&
- ##
- --

33. The following two items

A → P • Q

B → P • Q

can co-exist in an _____ item set

- **LR**
- LS
- LT
- PR

34. When generating a lexical analyzer from a _____ description, the item sets (states) are constructed by two types of "moves": character moves and € moves.

- Character
- Grammar
- **Token**
- Sentence

35. Hybrid IRs combine elements of _____.

- Graphical (structural)
- Linear IRs
- **Both graphical and linear IRs** **PG # 108**
- Non-Linear IRs

36. x[i] = y This is _____ .

- Prefix assignment
- Postfix assignment
- **Index assignment** **PG # 115**
- Non-Index assignment

37. A lexical analyzer generator automatically constructs a _____ that recognizes tokens.

- **FA** **PG # 18**
- PDA
- DP
- Unidirectional Graph

38. if x relop y goto L Above statement is _____

- Abstract jump
- **Conditional jump** **PG # 115**
- While loop
- Unconditional jump

39. In a CFG (Context Free Grammar) the set of terminal and non-terminal symbols must be _____.

- **Disjoint**
- Logical
- Relational
- Joint

40. S → a | B

B → Bb | €

The non-terminal B is left recursive.

- **True**
- False

41. YACC contains built-in support for handling ambiguous grammars resulting in _____ conflicts.

- **Shift-reduce**
- Shift-Shift
- Reduce-reduce
- Reduce-Shift

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42. The _____ translation statements can be conveniently specified in YACC.

- **Syntax-directed** **PG # 128**
- Image-directed
- Sign-directed
- Segment-directed

43. When constructing an LR(1) parser we record for each item exactly in which context it appears, which resolves many conflicts present in _____ parsers based on FOLLOW sets.

- **SLR(1)**
- LRS(1)
- RLS(1)
- SLL(1)

44. Code generation module has to tackle _____.

- Memory management
- Instruction selection
- Instruction scheduling
- **All of the given** **PG # 129**

The code generation module has to tackle a number of issues. Memory management, Instruction selection, Instruction scheduling, Register allocation

45. For convenience, lexical analyzers should read the complete _____ program into memory.

- **Input**
- Output
- Input and output
- Tokens

46. Considering the following grammar:

S → A | x
A → aAb | x

The grammar contains a _____ conflict.

- **Reduce-reduce**
- First-first
- Shift-shift
- Shift-reduce

47. SLR (1) parsers only reduce a production rule when the current input token is an element of the FOLLOW set of that rule.

S → A B

A → € | aA

B → b | bB

- FOLLOW (A) contains 2 elements.

- True
- **False**

48. SLR (1) parsers only reduce a production rule when the current input token is an element of the FOLLOW set of that rule.

S → A B

A → a | aA

B → € | bB

- FOLLOW (A) contains 2 elements.

- **True**
- False

49. The order in which the DAG is traversed can lead to _____ code

- **Better** **PG # 143**
- Worse
- Large
- Garbage

50. Register allocation problem uses the strategy of _____.

- **Graph coloring** **PG # 144**
- Graph nodding
- Graph edging
- Graph patching

51. Typical compilation means programs written in high-level languages to low-level _____.

- **Object code** **PG # 06**
- Byted code
- Unicode
- Object code and byte code

52. In compilation process, Hierarchical analysis is also called _____.

- Parsing
- **Syntax analysis.** **Click here for more detail**
- Parsing and syntax analysis
- None of the given

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53. IR (Intermediate Representation) stores the value of its operand in _____.

- **Registers** **PG # 10**
- Memory
- Hard disk
- None of the given

54. A lexeme is a sequence of characters in the source program that is matched by the pattern for a _____.

- Linker
- **Token**
- Control flow
- None of the given

55. Parsers take _____ as input from lexical analyzer.

- Linker
- **Token**
- Instruction
- None of the given

56. What kind of abstract machine can recognize strings in a regular set?

- **DFA**
- NFA
- PDA
- None of the given

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57. In multi pass compiler, during the first pass it gathers information about _____.

- **Declaration**
- Bindings
- Static information
- None of the given

58. In DFA minimization, we construct one _____ for each group of states from the initial DFA.

- **State** **PG # 30**
- NFA
- PDA
- None of the given

59. _____ (Lexical Analyzer generator), is written in java.

- Flex
- **Jlex** **PG # 31**
- Complex
- None of the given

60. In Flex specification file, different sections are separated by _____.

- **%%** **PG # 31**
- &&
- ##
- None of the given

61. Recursive _____ parsing is done for LL(1) grammar.

- **Decent**
- Ascent
- Forward
- None of the given

62. Alternative of the backtrack in parser is Look ahead symbol in _____.

- **Input**
- Output
- Input and output
- None of the given

63. Parser takes tokens from scanner and tries to generate _____.

- Binary search tree
- **Parse tree**
- Binary search tree and parse tree.
- None of the given

64. In predictive parsing table, the rows represents _____.

- Terminals
- Both non-terminal and terminal
- **Non-terminal**
- None of the given

65. A **predictive parser** is a **top-down** parser.

- **True**
- False

66. In LL(1) parsing algorithm, _____ contains a sequence of grammar symbols.

- **Stack** **PG # 62**
- Link list
- Array
- None of the given

67. Bottom-up parsing uses only _____ kinds of actions.

- **Two** **PG # 71**
- Three
- Four
- Five

Bottom-up parsing uses only two kinds of actions: 1. Shift, 2. Reduce

68. Bottom-up parsers handle a _____ class grammars.

- **Large** **PG # 49**
- Small
- Medium
- None of the given

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69. The shift action _____ a terminal on the stack.

- **Pushes** **PG # 73**
- Pops
- Both push and pops
- None of the given

70. Reduce action _____ zero or more symbols from the stack.

- Pushes
- **Pops** **PG # 73**
- Both push and pops
- None of the given

71. In compilers, linear analysis is also called _____.

- Lexical analysis
- Scanning
- **Lexical analysis and scanning**
- None of the given

72. Back End of two-pass compiler uses _____ algorithm.

- O(n)
- O(n log n)
- **NP Complete**
- None of the given

73. The Back End of a compiler consist of _____.

- **Instruction selection**
- Register allocation
- Instruction scheduling
- All of the given

74. In Back End module of compiler, optimal register allocation uses _____.

- O(log n)
- O(n log n)
- **NP-Complete**
- None of the given

75. A lexeme is a sequence of characters in the source program that is matched by the pattern for a _____.

- Linker
- **Token**
- Control flow
- None of the given

76. _____ is a regular expression for the set of all strings over the alphabets **{a}** that has an even number of **a**'s.

- aa*
- (aa)*
- **aa*a**
- a(aa)*

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77. _____algorithm is used in DFA minimization.

- James's
- Robert's
- **Hopcroft's** **PG # 25**
- None of the given

78. _____ is an important component of semantic analysis.

- Code checking
- **Type checking** **PG # 39**
- Flush checking
- None of the given

79. In _____, certain checks are performed to ensure that components of a program fit together meaningfully.

- Linear analysis
- Hierarchical analysis
- **Semantic analysis**
- None of the given

80. _____ read the input character and produce sequence of tokens as output.

- **Lexical analyzer**
- Parser
- Symbol table
- None of the given

81. _____ of a two-pass compiler is consist of instruction selection, Register allocation and instruction scheduling.

- **Backend**
- Frontend
- Start
- None of the given

82. _____ is evaluated to yield a value.

- Command
- **Expression**
- Declaration
- None of the given

83. A parser transforms a stream of tokens into an AST (Abstract Syntax Tree).

- **True**
- false

84. A parser transforms a stream of characters into a stream of tokens.

- True
- **False**

85. A lexical analyzer transforms a stream of characters into a stream of tokens.

- **True**
- False

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86. S → a | A

A → Aa | a

This grammar is ambiguous.

- **True**
- False

87. The regular expressions **(a+|b)?** and **a+|b?** describe the same set of strings.

- **True**
- False

88. The regular expressions **a*|b*** and **(a|b)*** describe the same set of strings.

- True
- **False**

89. The regular expressions **a+a** and **a*aa** describe the same set of strings.

- **True**
- False

90. A lexical analyzer *generator* automatically construct a FSA (Finite State Automaton) that recognizes tokens.

- The generator is driven by a **regular description**

- **True**
- False

91. The transition table in a lexical analyzer records for each state (row) which token, if any, is recognized in that state. - For each token there may be more than one "recognizing" row in the table.

- **True**
- False

92. A **recursive descent** parser is based on a PDA (Push Down Automaton).

- **True**
- False

93. A **bottom-up** parser creates the nodes in the AST in pre-order.

- True
- **False**

94. A **top-down** parser creates the nodes in the AST (Abstract Syntax Tree) in preorder.

- **True**
- False

95. A _____ parser creates the nodes in the AST in preorder.

- **Top – Down**
- Bottom – Up
- Middle – Ware
- Straight

96. The stack used in a bottom-up parser contains an alternating sequence of states and grammar symbols.

- **True**
- False

97. The following two items

A→ P • Q

B → P Q •

Can coexist in an LR item set.

- True
- **False**

98. The following two items

A → x • B

B → • y

Can coexist in an LR item set.

- **True**
- False

99. The following two items

A → P • P

B → Q • Q

Can coexist in an LR item set.

- True
- **False**

100. S → A | xb

A → aAb | x

This is an LALR(1) grammar.

- **True**
- False

101. A **linker** combines multiple object files into a single executable object.

- **True**
- False

102. **Data-flow equations** can be solved efficiently by using bitwise boolean instructions (AND, OR, etc.).

- **True**
- False

103. **Data-flow equations** operate with IN, OUT, GEN, and KILL sets.

- **True**
- False

104. When **threading** an AST it might be necessary to introduce additional (join) nodes to ensure that each language construct has a single exit point.

- **True**
- False

105. An **iterative** interpreter operates on a threaded AST.

- **True**
- False

106. S → A | B

A → € | aA

B → b | bB

FIRST(S) contains _____ elements.

- 2
- **3**
- 4
- None

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107. The following set

S → • A x {$}

A → • a {x}

A→ • a A {x}

is a valid LR(1) item set

- **True**
- False

108. S → Ab

A → Aa | €

FIRST(S) contains 3 elements.

- True
- **False**

109. The regular expressions **a(b|c)** and **ab|ac** describe the same set of strings.

- **True**
- False

110. S → a | B

B → Bb | E

The non-terminal _____ is left recursive.

- **B**
- a
- E
- None of the given

111. In PASCAL _____ represent the inequality test.

- :=
- =
- **<>**
- None of the given

112. In parser the two LL stand(s) for _____.

- Left-to-right scan of input
- left-most derivation
- **All of the given**
- None of the given

113. Consider the grammar

A →B C D
B → h B | epsilon
C → C g | g | C h | i
D → A B | epsilon

First of C is _____.

- **g, I look down for reference**
- g
- h , i
- i

خوبصورتی علم و ادب سے ہوتی ہے لباس و حسن سے نہیں

114. Three-address codes are often implemented as a _____.

- **Set of quadruples** **PG # 104**
- Set of doubles
- Set of Singles
- None of the given

115. What does following statement represent? x[i] = y

- Prefix assignment
- Postfix assignment
- **indexed assignment** **PG #107**
- None of the given

116. _____ convert the reloadable machine code into absolute machine code by linking library and reloadable object files.

- Assembler
- **Loader/link-editor**
- Compiler
- Preprocessor

117. Consider the following grammar,

A → B C D

B → h B | episilon

C → C g | g | C h | i

D → A B | episilon

First of A is _____.

- **h, g, i**
- g
- h
- None of the given

118. One of the core tasks of compiler is to generate fast and compact executable code.

- **True** **PG # 14**
- False

119. Compilers are sometimes classified as.

- Single pass
- Multi pass
- Load and go
- **All of the given** **Click here for more detail**

120. In multi pass compiler during the first pass it gathers information about _____.

- **Declaration** **Click here for more detail**
- Bindings
- Static information
- None of the given

121. We can get an LL(1) grammar by _____ .

- Removing left recurrence
- Applying left factoring
- **Removing left recurrence and Applying left factoring** **Click for more detail**
- None of the given

122. Consider the following grammar, S --> aTUe T --> Tbc/b U --> d And suppose that string "abbcde" can be parsed bottom-up by the following reduction steps:

(i) aTbcde
(ii) aTde
(iii) aTUe
(iv) S

So, what can be a handle from the following?

- **The whole string, (aTUe)** **PG # 68**
- The whole string, (aTbcde)
- The whole string, (aTde)
- None of the given

123. When generating a lexical analyzer from a token description, the item sets (states) are constructed by two types of "moves": character moves and ____ moves.

- **E (empty string)** **P # 18**
- #
- @
- none of given

124. Which of the following statement is true about Two pass compiler.

- Front End depends upon Back End
- **Back End depends upon Frond End** **PG # 5**
- Both are independent of each other
- None of the given

125. _____avoid hardware stalls and interlocks.

- Register allocation
- **Instruction scheduling** **PG #10**
- Instruction selection
- None of given

126. Front end of two pass compiler takes_____ as input.

- **Source code** **PG # 5**
- Intermediate Representation (IR)
- Machine Code
- None of the Given

127. In Three-pass compiler _____ is used for code improvement or optimization.

- Front End
- **Middle End** **PG # 10**
- Back End
- Both Front end and Back end

128. _____ of a two-pass compiler is consists of Instruction selection, Register allocation and Instruction scheduling.

- **Back end** **PG # 9**
- Front end
- Start
- None of given

129. NFA is easy to implement as compared to DFA.

- True
- **False** **PG # 19**

130. In a transition table cells of the table contain the _____ state.

- Reject state
- **Next state** **PG #18**
- Previous state
- None of the given

131. The regular expressions a*|b* and (a|b)* describe the _____set of strings.

- Same
- **Different**
- Onto

132. A canonical collection of sets of items for an augmented grammar, C is constructed as _____

- For each set / in C and each grammar symbol X where goto (C, X) is empty and not in C add the set goto (C, X) to C.
- **The first set in C is the closure of {[S' --> .S]}, where S' is starting symbol of original grammar and S is the starting non-terminal of augmented grammar.** **PG # 72**
- The first set in C is the closure of {[S' --> .S]}, where S is starting symbol of original grammar and S' is the Starting non-terminal of original grammar.

133. The _____translation statements can be conveniently specified in YACC

- **Syntax-directed** **PG # 120**
- Image-directed
- Sign-directed
- None of the given.

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134. Attributes whose values are defined in terms of a node's own attributes, node's siblings and node's parent are called _____.

- **Inherited attributes** **PG # 92**
- Physical attributes
- Logical attributes
- Un-synthesized attributes

135. Consider the grammar

A → B C D

B → h B | epsilon

C → C g | g | C h | i

D → A B | epsilon

Follow of B is _____.

- **h**
- g, h, i, $
- g, i
- g

136. Consider the grammar A --> B C D

B --> h B | epsilon

C --> C g | g | C h | i

D --> A B | epsilon

Follow of C is _____.

- **g, h, i, $** **PG # 47**
- g, h, $
- h, i, $
- h, g, $

137. The test of string is described by a rule called a _____, associated with token.

- Character
- Loader
- **Pattern**
- None of the given

138. Bottom up parsing is also called _____.

- **LR Parsing** **PG # 70**
- LT Parsing
- LS Parsing
- None of the given

Bottom-up parsing is more general than top-down parsing. Bottom-up parsers handle a large class of grammars. It is the preferred method in practice. It is also called *LR* parsing;

139. A DFA can be reconstructed from NFA using the subset construction, similar to one used for_____

- **Lexical Analysis** **PG # 82**
- Physical Analysis
- Logical Analysis
- Parsing

140. Which of the following system software resides in the main memory always?

- Text editor
- Assembler
- Linker
- **Loader**

141. _____ plays an important role in code optimization.

- **DAG** **PG # 143**
- Lexical Analyzer
- AGD
- Memory Management

142. LR parsers can handle _____ grammars.

- **Left-recursive** **PG # 63**
- file-recursive
- End-recursive
- Start-recursive

143. Performing common sub expression elimination on a dependency graph requires the identification of nodes with the same operator and operands. When using a hash table (with a hash function based on operator and operands) all_____ nodes can be identified in linear time.

- **Common**
- Uncommon
- Next
- Previous

144. Linear IRs resembles pseudo-code for same _____.

- Automated Machine
- Mechanical machines
- Token machines
- **Abstract machine** **PG # 100**

145. S → A B

A → € | aA

B → € | bB

- FIRST(S) contains ___ elements

- **3** **PG # 46**

First{S} = {e,a,b}

146. Dotted items (T→ α • β) record which part of a token has already been matched. Integer? ([0-9])+ • this is a _____ item.

- **Reduced**

147. A _____ is a top down parser.

- **Predictive Parsing** **PG # 46**

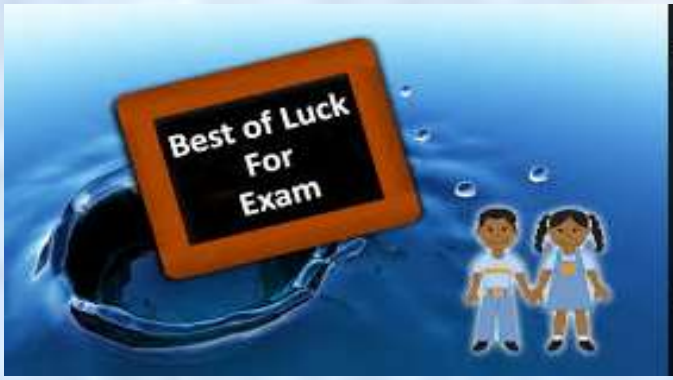
148. Dotted items (T→ α • β) record which part of a token has already been matched. There are two kinds of basic items: **shift items** and **reduce items**. Integer! (•[0-9])+

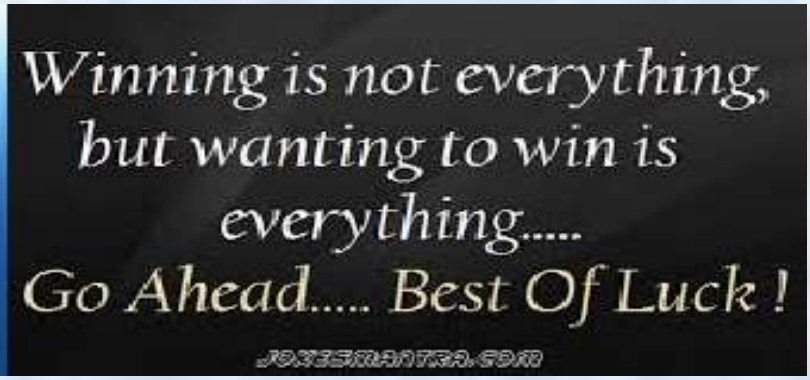
- This is a shift item.

- **True**
- False

ایماندار کو غصہ دیر سے آتا ہے اور جلدی دور ہو جاتا ہے

Note: Give me a feedback and your Suggestion also If you find any mistake in mcqz please mail at above mentioned email address. And tell me your answer with references.





please pray for me
and I will pray for you too

THE END

Campus (AKMP01)

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