

PART 08 — COMPUTER SCIENCE AND ENGINEERING

(Answer ALL questions)

76. Which of the following languages cannot be expressed using regular expression?
- I. A string of a's followed by an equal number of b's
 - II. All possible strings consisting of a's and b's
 - III. A string with zero or more occurrences of a's followed by zero or more occurrences of b's
 - IV. A string in which every occurrence of 'a' is followed by an even number of b's
1. I
 2. II
 3. III
 4. IV
77. The contrapositive of the formula $P \rightarrow Q$ is
1. $Q \rightarrow P$
 2. $\neg P \rightarrow Q$
 3. $\neg Q \rightarrow P$
 4. $\neg Q \rightarrow \neg P$
78. Given the premises $H1: P \rightarrow Q$ and $H2: P$, the conclusion is
1. Q
 2. P
 3. $\neg Q$
 4. $\neg P$
79. The instructions for which equivalent object code are not generated during assembling are
1. machine operations
 2. pseudo operations
 3. binary operations
 4. macro operations
80. The tool Yacc in UNIX generates
1. lexer
 2. parser
 3. code generator
 4. code optimizer
81. Top down parsers cannot be built for the following grammar
1. left factored
 2. right factored
 3. left recursive
 4. right recursive
82. The term 'dead code' refers to that section of the source program that is
1. dead
 2. reentrant
 3. unreachable
 4. redundant
83. The descriptor table registers are used for implementing
1. task switches
 2. interrupt transfers
 3. virtual memory
 4. control transfers
84. Call gates are used for Accessing
1. higher privileged code
 2. interrupt service routines
 3. subroutines
 4. control segments
85. Which of the following cannot be used to connect external devices?
1. PCI
 2. SCSI
 3. USB
 4. Firewire
86. Masking of an interrupt
1. enables the interrupt
 2. disables the interrupt permanently
 3. changes the priority of the interrupt
 4. temporarily hides the interrupt from the processor

87. Pick out the odd one
1. 8087
 2. 80287
 3. 80387
 4. 8257
88. The Intel family of microprocessors supports _____ number of privilege levels
1. 2
 2. 3
 3. 4
 4. 1
89. The ASSUME assembler directive is used to
1. load the segment registers with their appropriate values
 2. indicate which logical segment is to be associated with the physical segment
 3. make the assembler assume certain default settings
 4. tell the assembler to ignore certain default settings
90. The value represented by the hex number 411000, representing a floating point number, with 1 is
1. 4.5
 2. 45000000
 3. 2.5
 4. 0.22
91. A microprogramme control unit is better than a hardwired control unit, because it is
1. flexible
 2. faster
 3. easier to design manually
 4. cheaper
92. Which of the following is not part of a microprogrammed control unit?
1. Micro PC
 2. Control store
 3. Clock
 4. Control step counter
93. A delayed branch
1. is a branch that is executed after a certain delay
 2. is the penalty paid for speculating a branch
 3. refers to placing useful instructions after the branch instructions
 4. none of the above
94. A superscalar processor is
1. a vector processor
 2. a processor which issues more than one instruction per cycle
 3. a number of scalar processors working together
 4. all of the above
95. Segmentation results in
1. internal fragmentation
 2. external fragmentation
 3. both external and internal fragmentation
 4. neither external nor internal fragmentation
96. A computer with a 32-bit address uses a two level page table. Virtual addresses are split into a 9-bit top level page table field, a 11-bit second level page table field and an offset. How large are the pages?
1. 9 K
 2. 11 K
 3. 12 K
 4. 4 K
97. Consider a swapping system in which memory consists of the following hole sizes in memory order :
10 K, 4 K, 20 K, 18 K, 7 K, 9 K, 12 K and 15 K
Which hole is taken for successive segment requests of 12 K, 10 K, 9 K for best fit?
1. 10 K, 20 K, 18 K
 2. 20 K, 18 K, 10 K
 3. 12 K, 10 K, 9 K
 4. 20 K, 10 K, 18 K

1. **Disk** requests come into the disk driver for cylinders 10, 22, 20, 2, 40, 6 and **38** in that order. A seek takes 4 m sec per cylinder moved. How much seek time is needed for First Come First Served disk scheduling? The arm is initially at cylinder 15.
1. 569 m sec
 2. 564 m sec
 3. 596 m sec
 4. 112 m sec
99. The system call to create a process in UNIX is
1. `execve`
 2. `wait`
 3. `creat`
 4. `fork`
100. Process P_1 holds resource R_1 and waits for resource R_2 . Process P_2 holds resource R_2 and waits for resource R_1 . There are only single instances of R_1 and R_2 . The system is said to be
1. synchronized
 2. deadlocked
 3. waiting
 4. running
101. A running process makes a read system call. Then the process will
1. move to ready state
 2. remain in running state
 3. move to blocked state
 4. move to terminated state
102. MAR register maintains the
1. address of data values in the memory
 2. address of the current instruction being executed
 3. contents of the word being addressed
 4. address of the next instruction to be executed
103. Pseudocode
1. is a counterfeit and abbreviated version of actual computer instruction
 2. is used for machine level programming
 3. is used to solve complex logical programming
 4. is used in transmission of signals
104. The output of assembler in **machine** code is referred to as
1. assembly program
 2. object program
 3. source program
 4. macro instructions
105. The speed of computers used for AI application is measured in _____ per second
1. cycles
 2. instructions
 3. logical inferences
 4. revolutions
106. **LISP** machines are known as
1. AI work stations
 2. Super mini computers
 3. Time sharing terminals
 4. Graphic work stations
107. Which of the following value for SQLCODE indicates successful execution of embedded SQL statements
1. Negative
 2. Zero
 3. Positive
 4. Hundred
108. Recovery in distributed databases uses the
1. Two phase **locking** protocol
 2. Two phase commit protocol
 3. Three phase commit protocol
 4. Mobile **locking** protocol
109. Which of the following is not a recovery technique?
1. Deferred update
 2. Immediate update
 3. Shadow paging
 4. Write ahead logging

110. Which of the following is an integrity constraint?
1. Domain constraint
 2. Entity integrity
 3. Referential integrity
 4. All of the above
111. Which of the following is not a front end tool?
1. Oracle
 2. Visual Basic
 3. VC++
 4. Power Builder
112. The physical layer protocol directly specified for the X.25 protocol is
1. RS 232
 2. X.21
 3. DB-15
 4. DB 37
113. In frame relay which bit in the address field is set to one to signify the last address byte?
1. DE (discard eligibility)
 2. EA (extended address)
 3. C/R (command/response)
 4. FECN (forward explicit congestion notification)
114. A bridge has access to the _____ address of a station on the same network
1. physical
 2. network
 3. service access point
 4. IP
115. A device that has two IP addresses is
1. a computer
 2. a router
 3. a gateway
 4. any of the above