

Computer Engineering CBRT 16th July 2017

AN (2-4) PM

1. Consider the following statements:
 1. A mouse listener can keep other mouse listeners from receiving a mouse event by invoking the consume () method on Mouse Event Object
 2. To enable events for a component, one must first invoke enable Events () with the appropriate flags

Which of the above statement(s) is / are correct?

- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
-
2. When an exception is thrown but not caught in a particular scope, the method-call stack is 'unwound', and an attempt is made to catch the exception in the next outer try block. This process is called
 - (a) Rethrowing Exception
 - (b) Stack Unwinding
 - (c) Stack Unwounding
 - (d) Stack Tracing

3. Consider the following tables:

CITY

City
<i>a</i>
<i>b</i>
<i>c</i>

LANGUAGES

City	Languages
<i>a</i>	Hindi
<i>b</i>	English
<i>c</i>	Hindi
<i>a</i>	Punjabi
<i>b</i>	Hindi

The result of the division LANGUAGES / CITY in relational algebra is:

- (a) A table containing first three rows of LANGUAGES
- (b) A table with a single column LANGUAGE and a single row "Hindi"
- (c) A table with two columns CITY and LANGUAGE and a single row = "*a*", "Hindi"
- (d) A table having the first, third and fifth rows of LANGUAGES

4. Consider the following statements:

In *RDBMS*, the second normal form(s) is/are:

1. A composite attributes is converted to individual attributes
2. Non key attributes are functional dependent on key attributes
3. The non key attributes functionally dependent on not a part of key attributes

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) 3 only
- (d) 1, 2 and 3

5. In a relation (table) if a non key attribute is fully functionally dependent on composite key, then the relation (table) is in:

- (a) *DKNF* (Domain Key Normal Form)
- (b) *BCNF* (Boyce - Codd Normal Form)
- (c) Fourth Normal Form
- (d) Third Normal Form

6. Consider the following relational Schema for a library database:

Book (Title, Author, Catalog_no, Publisher, Year, Price)

Collection (Title, Author, Catalog_no)

With the following functional dependencies:

1. Title, Author \rightarrow Catalog_no
2. Catalog_no \rightarrow Title, Author, Publisher, Year
3. Publisher, Title, Year \rightarrow Price

Assume (Author, Title) is the key for both the schema which one of the following statements is correct?

- (a) Both book and collection are in *BCNF* only
- (b) Both book and collection are in *3 NF* only
- (c) Book is in *2 NF* and collection is in *3 NF*
- (d) Both book and collection are in *2 NF* only

7. The simple object model that is frequently used for database applications and which is easier to understand and use than *OLE DB* is:

- (a) *ADO*
- (b) *ASP*
- (c) *XML*
- (d) *ODBC*

8. Which one of the following *CPU* scheduling algorithms suffers from starvation?
- (a) Round Robin
 - (b) *FCFS* (First Come First Serve)
 - (c) *SJF* (Shortest Job First)
 - (d) Multilevel Queues
9. An operating system uses swapping. A running process encounters the need to wait for an event. The correct sequence of states for the process to re-enter its running stage is:
- (a) Blocked → Blocked - Ready → Blocked - suspended → Ready → Running
 - (b) Blocked - suspended → Blocked - Ready → Blocked → Ready → Running
 - (c) Ready → Running → Blocked → Ready → Running
 - (d) Blocked → Blocked-suspended → Blocked-Ready → Ready → Running
10. What is the maximum possible disk space for a cluster size of 2 *kbytes* for a *MS-DOS* disk system?
- (a) 128 *Mbytes*
 - (b) 512 *Mbytes*
 - (c) 512 *bytes*
 - (d) 128 *bytes*

11. Consider the following consistency semantics:

1. Writes to an open file by a user are visible immediately to other users that have this file open.
2. Once a file is closed, the changes made to it are visible only in sessions starting later. Already open instances of the file do not reflect these changes.
3. A file has a single image that interleaves all accesses regardless of their origin.

Which of the above are used in *UNIX* file system?

- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

12. If a host broadcasts a frame that includes a source and destination hardware address, and its purpose is to assign *IP* addresses to itself, which protocol at the Network layer does the host use?

- (a) *RARP*
- (b) *ARPA*
- (c) *ICMP*
- (d) *TCP*

13. What range of addresses can be used in the first octet of a class *B* network address?
- (a) 1 – 126
 - (b) 1 – 127
 - (c) 128 – 190
 - (d) 128 – 191
14. The transport layer protocols used for real time multimedia, file transfer, *DNS* and *E-mail* respectively are
- (a) *TCP, UDP, UDP and TCP*
 - (b) *TCP, UDP, TCP and UDP*
 - (c) *UDP, TCP, UDP and TCP*
 - (d) *UDP, TCP, TCP and UDP*
15. In a *LAN* network every system is identified by
- (a) Name
 - (b) *MAC* Address
 - (c) *IP* Address
 - (d) Serial number given by manufacturer
16. Maximum data rate of a channel for a noiseless *3-kHz* binary channel is
- (a) 3000 *bps*
 - (b) 6000 *bps*
 - (c) 9000 *bps*
 - (d) 15000 *bps*

17. Which of the following can be used for digital fingerprint of a file?
- (a) *Netstart*
 - (b) *Cryptcat*
 - (c) *Md5sum*
 - (d) All of these
18. If a password hacker devised a system trying a password entry system by a program which ran once a second. How much time it would take to crack a password consisting of 4 out of the 24 alphabet letters?
- (a) 40 hrs approximately
 - (b) 46 hrs approximately
 - (c) 52 hrs approximately
 - (d) 58 hrs approximately
19. Trojan-Horse programs are
- (a) Legitimate programs that allow unauthorized access
 - (b) Hacker programs that do not show up on the system
 - (c) Do not work
 - (d) Immediately discovered

20. Consider the following statements regarding the block encryption algorithms:

1. Columnar Transportation Cipher is an example of block Cipher
2. One Cipher text block may depend on several plaintext letters
3. An error in the encryption process affects only that character

Which of the above statements are correct?

- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

21. *ATM* (Asynchronous Transfer Mode) is fundamentally a:

1. Circuit switching
2. Packet switching
3. Narrow band

Which of the above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) 3 only
- (d) 1, 2 and 3

22. In C ++, a container is
- (a) A data structure composed of objects
 - (b) A holder object that stores and manipulates a collection of objects
 - (c) An object that contains housekeeping information
 - (d) An interface for binary search tree implemented as a class
23. There are three classes A, B and C. An object of class B is passed as a parameter to a method in class A. An object of class C is created in class B as private member. The relation between A, B and C are:
- (a) B aggregates A, and C aggregates B
 - (b) B aggregates A, and C composed of B
 - (c) A aggregates B, and B is composed of C
 - (d) A is composed of B, and B aggregates C
24. There are two variables A and B. Variable A is used by several functions of program. Variable B's value is changed in successive calls of a single function, in which it is declared.
- 1. A is global and static
 - 2. B is local and static
 - 3. A is global and external
 - 4. B is local and external

Which of the above statements are correct?

- (a) 1 and 3
- (b) 1 and 4
- (c) 2 and 4
- (d) 2 and 3

25. Consider the following statements:

1. A pointer to a base class can point to an object of its derived class
2. A pointer to a derived class can point to an object of the base class
3. A base class pointer can access extra added members in a derived class
4. A base pointer cast into a derived pointer can access it fully

Which of the above statements are correct?

- (a) 1 and 3
- (b) 2 and 3
- (c) 1 and 4
- (d) 2 and 4

26. Array is a structured data type in C programming language. It may be defined as, a finite:

- (a) Collection of data items, not necessarily ordered, but of the same data type
- (b) Collection of data items, not necessarily ordered, but of different data type
- (c) Ordered collection of data items of different data type
- (d) Ordered collection of data items of the same data type

27. The average successful search time for sequential search on n item is:

(a) $\frac{n}{2}$

(b) $\frac{(n-1)}{2}$

(c) $\frac{(n+1)}{2}$

(d) $\log(n) + 1$

28. A binary tree of depth d is a complete binary tree if:

1. Each leaf in the tree is either at level d or at level $(d - 1)$

2. For any node n_d in the tree with a right descendent at level d all the left descendents of n_d that are leaves are also at level d

Which of the above statements is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

29. A binary tree has n levels and the root level is zero. Then the maximum total number of nodes will be:

(a) $2^n - 2n$

(b) $2^{n+1} - 1$

(c) 2^n

(d) 2^{2n}

30. A complete binary tree having n leaf nodes has how many nodes of degree 2?

- (a) $\log_2 n$
- (b) $(n - 1)$
- (c) n
- (d) 2^n

31. Which one of the following registers facilitates referencing parameters passed on the stack in 8086 architecture?

- (a) *DI* and *SI* index registers
- (b) *CS* and *DS* segment registers
- (c) *SP* and *BP* pointer registers
- (d) *AX* and *DX* general purpose registers

32. Consider the following statements:

1. Clear instruction register
2. Clear accumulator
3. Initialize program counter
4. Reset the processor
5. Clear all flags

Which of the above statements is/are essential in a program which uses subroutines?

- (a) 1 only
- (b) 1 and 4 only
- (c) 5 only
- (d) 1, 2, 3, 4 and 5

33. The contents of *DE* and *HL* register pairs after the execution of the following instructions are:

LXI H, 2500H

LXI D, 0200H

DAD D

XCHG

- (a) *0200H, 2700H*
(b) *2700H, 0200H*
(c) *2500H, 0200H*
(d) *0200H, 2500H*
34. How many times does the loop execute before coming out of the loop from the following instructions?

MOV AL, 00H

AGAIN: INC AL

JNZ AGAIN

- (a) 0
(b) 255
(c) 256
(d) 555

35. The instruction format for a processor has 1 bit for indirection, 6 bits for opcode and 9 bits for address of an operand. What is the maximum number of possible instructions, theoretically?

- (a) $2^6 = 64$
- (b) $2^9 = 512$
- (c) $2^6 + 2^{10} = 1088$
- (d) $2^7 = 128$

36. For a 32 bit processor with a 32 bit instruction format in which the first 10 bits contain the opcode and the remaining bits contain an operand address. What is the maximum directly addressable memory space?

- (a) 16 MB
- (b) 4 GB
- (c) 1 KB
- (d) 4 MB

37. Consider the following statements:

1. Vertical micro-programmed control unit operates faster than horizontal micro-programmed control unit
2. Direct microprogramming results in very short micro-instructions
3. Hardwired control unit operates fastest
4. Micro-programming enables backward compatibility of programs

Which of the above statements are correct?

- (a) 3 and 4
 - (b) 1 and 2
 - (c) 2 and 3
 - (d) 1 and 4
38. If an instruction requires ' i ' microseconds for execution and page fault requires ' j ' microseconds for resolving, and average page fault occurs every ' k ' instruction, then effective instruction time will be
- (a) $(i + j) * k$
 - (b) $(i + j)/k$
 - (c) $i + (j/k)$
 - (d) $i + j * k$
39. The cache memory of $1\ k$ words uses direct mapping with a block size of 4 words. How many blocks can the cache accommodate?
- (a) 128 words
 - (b) 256 words
 - (c) 512 words
 - (d) 1024 words

40. How many *NAND* Gates are required to implement the Boolean function?

$$F = BC' + A(B + CD)$$

- (a) 3
- (b) 4
- (c) 5
- (d) 6

41. Which of the following is/are not the general attributes of horizontal micro-instructions?

1. Short formats
2. Ability to express a high degree of parallelism
3. Little encoding of the control information

- (a) 1 only
- (b) 2 only
- (c) 3 only
- (d) 1, 2 and 3

42. If each address space represents one byte of storage space, how many address lines are needed to access *RAM* chips arranged in an 4×6 array, where each chip is $8k \times 4$ bits?

- (a) 14
- (b) 15
- (c) 16
- (d) 17

43. A 3 bit $R/2R$, DAC has a reference of 5 V. If the values of R and the binary input are $15\text{ k}\Omega$ and 110 V respectively what is the output voltage?
- (a) 0.375 V
 - (b) 3.75 V
 - (c) 4.25 V
 - (d) 4.28 V
44. A 8086 microprocessor is interfaced to 8253 programmable interval timer. The maximum number by which the clock frequency on one of the timers is divided by
- (a) 2^{10}
 - (b) 2^{16}
 - (c) 2^{20}
 - (d) 2^{26}
45. When installing a *SCSI CD-ROM* drive, one must set the adapter to:
- (a) B0007
 - (b) Unused *SCSI* address
 - (c) Same address as the *SCSI* device
 - (d) *SCSI* identify as 1

46. Which Novell NetWare Utility Program allows one to recover deleted files from network drives only?
- (a) Map
 - (b) Salvage
 - (c) Filter
 - (d) Capture
47. What type of problem can be caused by the electromagnetic field of speakers?
- (a) Distortion of video display
 - (b) RAM errors
 - (c) Computer shut down
 - (d) Read / write problem on magnetic disks and tapes
48. In a 100 % modulated *AM* signal with carrier power 100 *W*, the power in the upper sideband is:
- (a) 75 *W*
 - (b) 66 *W*
 - (c) 50 *W*
 - (d) 25 *W*

49. A high frequency carrier signal is frequency modulated using a modulating signal, $v_m(t) = V_m \sin(10000 \pi t)$. The FM signal has a frequency deviation of 5 kHz. Its modulation index is:

- (a) 0.5
- (b) 1
- (c) 2
- (d) 4

50. The minimum length of antenna for efficient transmission of signals of wavelength λ required is

- (a) $\frac{\lambda}{2}$
- (b) $\frac{\lambda}{3}$
- (c) $\frac{\lambda}{4}$
- (d) $\frac{\lambda}{5}$

51. The total power of an AM-modulated carrier wave is 1160 W while that of each side-band is 80 W. The modulation index is

- (a) 0.08
- (b) 0.2
- (c) 0.4
- (d) 0.81

52. The intermediate frequency IF in standard AM receiver is:
- (a) 455 Hz
 - (b) 455 kHz
 - (c) 4.55 MHz
 - (d) 45.5 MHz
53. A complex band pass signal has bandwidth of 500 kHz and the lowest frequency of 200 kHz, then the Nyquist minimum sampling rate will be
- (a) 14,00,000 Samples / sec
 - (b) 10,00,000 Samples / sec
 - (c) 7,00,000 Samples / sec
 - (d) 4,00,000 Samples / sec
54. The chemical composition of a quartz crystal is
- (a) Germanium oxide
 - (b) Silicon dioxide
 - (c) Sodium silicate
 - (d) Mixture of Germanium oxide and Sodium silicate
55. An object falling through air will fall faster than the one falling through water, because:
- (a) Air has much less fluid resistance than water
 - (b) Weight of the object in water is more than that in air
 - (c) Air has much more friction than water
 - (d) Size of the object in water is more than that in air

56. For which of the following regions, a transistor as a switch will be stable?

- (a) Saturation and active
- (b) Active and cutoff
- (c) Cutoff and saturation
- (d) Active and saturation

57. Which of the following is a current controlled device?

- (a) *JFET*
- (b) *MOSFET*
- (c) *BJT*
- (d) *Zener diode*

58. What is the value of an inductance when an inductor filter is connected to a full wave rectifier operating at 60 Hz for providing a dc output voltage with 4 % ripple at 100 Ω load?

- (a) 1.5625 H
- (b) 2.3525 H
- (c) 1.3525 H
- (d) 2.5625 H

59. An amplifier of gain 1000 has a gain-change of 20 % due to temperature variation. If a negative feed-back of 0.1 is introduced into the above amplifier, the change in gain of the feedback amplifier due to the temperature variation would be

- (a) 0.01 %
- (b) 0.2 %
- (c) 5 %
- (d) 7.5 %

60. Consider the Unix shell command:

Sort studentmarks | more

It means:

- (a) Use the 'sort' command as a pipe for file 'students', and filter to command 'more'
 - (b) Use the 'sort' filter on file 'studentmarks', and pipe to the command 'more'
 - (c) Output the sorted 'studentmarks', to file 'more'
 - (d) Request more input for file 'studentmarks' in order to sort it
61. Which one of the following is an error reporting protocol?
- (a) *ARP*
 - (b) *TCP*
 - (c) *ICMP*
 - (d) *UDP*

62. What is the probability of getting a number greater than 4 while single throw of a dice?
- (a) $\frac{1}{4}$
 - (b) $\frac{2}{3}$
 - (c) $\frac{1}{2}$
 - (d) $\frac{1}{3}$
63. Three sections of a class have respectively 25, 50, 25 students. The mean marks obtained by the first two sections are respectively 60 and 55. The overall mean of all three sections is 58. The mean of the third section is
- (a) 52
 - (b) 57
 - (c) 58
 - (d) 62
64. A shop keeper sold product *A* at Rs. 266 after giving a discount of 5 % on the marked price. Without this discount he could have earned a profit of 12 % on the cost price. The cost price of *A* is
- (a) 200
 - (b) 227
 - (c) 250
 - (d) 275

65. Let B be base class and D be derived class in $C++$.

Let: bc : base constructor

bd : base destructor

dc : derived constructor

dd : derived destructor

When an object of derived class is created and then deleted, the correct sequence of invocations is:

(a) bc, bd, dc, dd

(b) dc, bc, dd, bd

(c) bc, dc, dd, bd

(d) dc, dd, bc, bd

66. Two skills associated with being a good listener are the ability

(a) To listen to more than one message at a time and to provide constructive criticism

(b) To pay attention and to provide feedback

(c) To pay attention and to mask your disinterest when necessary

(d) To pay attention and to provide a strong point of view in response to a given message

67. Which one of the following communication style is the most effective and healthiest?

(a) Passive style

(b) Aggressive style

(c) Passive-aggressive style

(d) Assertive style

68. What is the correct assignment of the following properties to the 8086 instructions to *RET* or *IRET* or *Both*?
1. Works in conjunction with *INT*
 2. Retrieves flags
 3. Retrieves Return Address
 4. Works in conjunction with *CALL*
- (a) 1 → *IRET* 2 → *RET* 3 → *IRET* 4 → *Both*
(b) 1 → *IRET* 2 → *IRET* 3 → *Both* 4 → *RET*
(c) 1 → *RET* 2 → *IRET* 3 → *IRET* 4 → *Both*
(d) 1 → *IRET* 2 → *Both* 3 → *IRET* 4 → *RET*
69. The NASSCOM, an organization for Indian Information Technology is
- (a) National Association for Computing
 - (b) National Association of Software and Services Companies
 - (c) National Association for Science, Software and Communication
 - (d) National Aim for Software, Services Communication Management
70. The Shanti Swarup Bhatnagar prize for Science and Technology is awarded annually by
- (a) Ministry of Science and Technology
 - (b) Tata Institute of Fundamental Research
 - (c) Indian Institute of Science Bangalore
 - (d) Council of Scientific and Industrial Research

71. The complexity for: $T(n) = T(n - 1) + n$, is
- (a) n
 - (b) n^2
 - (c) $\log n$
 - (d) $n \log n$
72. Which one of the following algorithmic approaches is followed in Floyd-Warshall shortest path algorithm?
- (a) Divide and conquer
 - (b) Dynamic programming
 - (c) Greedy approach
 - (d) Backtracking
73. The worst-case complexity to sort an array of integers in non-decreasing order, by using quicksort is
- (a) $O(n^2)$ and occurs when the array is pre-sorted in non-increasing order
 - (b) $O(n \log n)$ and occurs when the array is pre-sorted in non-decreasing order
 - (c) $O(n^2)$ and occurs for any ordering of the array
 - (d) $O(n^2 \log n)$ and occurs for any ordering of the array

74. What allows the Java programmer to destroy an object A?
- (a) a. delete ()
 - (b) a. finalize ()
 - (c) Runtime. GetRuntime (). gc ()
 - (d) Only the garbage collection system can destroy an object
75. In which order a Binary search tree should be traversed to obtain the output sequence in descending order?
- (a) Root, left and right
 - (b) Right, root and left
 - (c) Right, left and root
 - (d) Left, root and right
76. The total number of comparisons made in Bubble sort algorithm is
- (a) $O(\lg n)$
 - (b) $O(n^2)$
 - (c) $O(n^2 \lg n)$
 - (d) $O(\lg n^2)$

77. The recurrence relation for the optimal execution time of the Tower of Hanoi problem having n discs is

(a) $T(n) = 2 T (n - 2) + 2$

(b) $T(n) = 2 T (n - 1) + n$

(c) $T(n) = 2 T \left(\frac{n}{3} \right) + 1$

(d) $T(n) = 2 T (n - 1) + 1$

78. The running time of an algorithm $T(n)$ where n the input size is given by:

$$T(n) = 8 T \left(\frac{n}{2} \right) + qn, \text{ if } n > 1$$

$$= p, \text{ if } n = 1$$

where, p and q are constants.

What is the complexity (order) of the algorithm?

(a) n^2

(b) n^n

(c) n^3

(d) n

79. Consider the following statements regarding automata theory:

1. The pumping length must always be equal to the number of states in a machine
2. A non-regular expression can have a finite pumping length
3. In a regular language/expression, a string of pumping length can be repeated arbitrarily
4. The language $B = \{0^n 1^n \mid n \geq 0\}$ has a pumping length

Which of the above statements is/are correct?

- (a) 1, 2 and 4
- (b) 1, 3 and 4
- (c) 2 only
- (d) 3 only

80. Consider the following machines regarding Finite automatas:

1. *DFA*
2. *NFA*
3. *E-NFA*
4. Any automaton

Which of the above are correct about the applicability of Arden's Theorem?

- (a) 1 and 4
- (b) 1 and 2
- (c) 2 and 3
- (d) 3 and 4

81. In C programming, the qualifiers 'signed' and 'unsigned' apply to
1. Char
 2. Float
 3. Int
 4. Double
- (a) 1 and 4
(b) 2 and 3
(c) 1 and 3
(d) 2 and 4
82. When a compiler encounters a function parameter for a single-subscripted array of the form `int a []`, it converts the parameter to:
- (a) `Int a`
(b) `Int & a`
(c) `Int * a`
(d) No conversion is required
83. The dominator node in *DAG* represents
- (a) Any node of *DAG* which represents start of loop
(b) Last node of *DAG*
(c) Node with highest degree of *DAG*
(d) Isolated node of *DAG*

84. Which of the following is used for grouping of characters into tokens?

- (a) Parser
- (b) Code optimization
- (c) Code generator
- (d) Lexical analyzer

85. Consider the following contents of different registers:

Offset (displacement) = 5000 H

[AX] – 1000 H, [BX] – 2000H, [SI] – 4000H, [DI] – 3000H

[BP] – 5000 H, [SP] – 6000H, [CS] – 0000H, [DS] – 2000H

[SS] – 3000 H, [IP] – 7000H,

What is the effective address of the data for the following instruction?

MOV AX, [BX] [SI]

- (a) 20000H
- (b) 25000H
- (c) 26000H
- (d) 30000H

86. In a C program, a programmer has written following line in a function.

`x = 100 + "hello"; //x defined as integer data type`

Which part of compiler will detect the error?

- (a) Lexical Analyzer
- (b) Syntax Analyzer
- (c) Semantic Analyzer
- (d) Intermediate code Generator

87. In a program, dead code occurs because of
- (a) Aliasing
 - (b) Function in-lining and macros
 - (c) Loop invariant instructions and loop peeling
 - (d) Constant folding, constant propagation and copy propagation
88. In which method a Parse tree is created, a depending graph is drawn and then the semantic rules of the Parse tree nodes are evaluated in topological sorted order?
- (a) Parse tree method
 - (b) Bottom up translation
 - (c) Top-down translation
 - (d) Recursive evaluator model
89. The Capability Maturity Model (CMM) level 5 defines:
- (a) Initial mature work processes in software development organization
 - (b) Managed work processes in software development organization
 - (c) Optimizing work processes in software development organization
 - (d) Repeatable work processes in software development organization

90. Consider the following statements:

The *UML* sequence diagram shows

1. Lifelines of processes along vertical lines
2. Sequence of operations within a process
3. Interactions among processes

Which of the above statements are correct?

- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

91. Black box testing is also called

- (a) Data flow testing
- (b) Loop testing
- (c) Behavioral testing
- (d) Graph based testing

92. The Wireless Application Protocol (*WAP*) is:

- (a) A product of *W3C*-World Wide Web Consortium
- (b) A data link layer of the OSI model
- (c) Aims to ensure Interoperability among service providers
- (d) Incurs high overheads of protocol stack

93. The *XML DOM* object is
- (a) Entity
 - (b) Entity Reference
 - (c) Comment Reference
 - (d) Comment Data
94. Which one of the following characteristics is satisfied by websites without the attached database?
- (a) The ability to generate data via *SQL*
 - (b) The inability to use a browser to display WebPages
 - (c) Static information using *HTML* or JavaScript
 - (d) The need to use *TCP/IP* as the network protocol
95. Each computer connected to the Internet is assigned a unique compound number which is:
- (a) An 8-bit number
 - (b) A 32-bit number but is expressed as four single byte values, each in the range of 0 to 255
 - (c) A 64-bit number but is expressed as eight single byte values, each in the range of 0 to 65536
 - (d) A 16-bit number and is expressed as a four single byte values, each one in the range of 0 to 128.

96. Which of the following is the appropriate format for graphics that are to be embedded within an Internet document?

- (a) *BMP*
- (b) *TIFF*
- (c) *GIF*
- (d) *HTML*

97. Consider the following test processes:

1. Acceptance testing
2. System testing
3. Verification
4. Unit testing
5. Integration testing

What is the correct order of conducting, these tests?

- (a) 3, 4, 5, 2 and 1
- (b) 4, 3, 5, 2 and 1
- (c) 3, 2, 5, 4 and 1
- (d) 4, 2, 5, 3 and 1

98. Consider the following statements:

1. Condition coverage is Black-Box testing
2. Boundary analysis is Black-Box testing
3. Decision coverage is White-Box testing
4. Data Equivalence partitioning is Black-Box testing

Which of the above statements are correct?

- (a) 2, 3 and 4
- (b) 1, 2 and 4
- (c) 1, 2 and 3
- (d) 1, 3 and 4

99. Consider the following statements regarding maintenance testing:

1. It need not be done for emergency bug fixes
2. It is a testing to show how easy it will be to maintain the system
3. Additional new tests may be required apart from re-test and regression test
4. It needs careful risk and impact analysis as its scope is difficult

Which of the above statements are correct?

- (a) 1 and 2
- (b) 3 and 4
- (c) 2 and 3
- (d) 1 and 4

100. Consider the following test methods:

1. Code walkthrough
2. Integration testing
3. Design reviews
4. Requirement reviews
5. User acceptance testing

Which of the above tests are Verification (Vr) and Validation (Vd)?

- (a) 1(Vd), 2(Vd), 3(Vd), 4(Vr), and 5(Vr)
- (b) 1(Vr), 2(Vd), 3(Vd), 4(Vr), and 5(Vr)
- (c) 1(Vd), 2(Vd), 3(Vr), 4(Vd), and 5(Vd)
- (d) 1(Vr), 2(Vd), 3(Vr), 4(Vr), and 5(Vd)