DayTodayGK’s
MCQs PDF FOR
IBPS IT OFFICER

Covers

- DBMS
- Networking
- Operating System
- Software Engineering
- Hardware
- Machine Code etc.

Dear Readers of DayTodayGK,

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1. The loss in signal power as light travels down the fiber is called?
a) attenuation  b) propagation  c) scattering  d) interruption
Answer a) attenuation

2. How much power (roughly) a light emitting diode can couple into an optical fibre?
   a) 100 microwatts  b) 440 microwatts  c) 100 picowatts  d) 10 miliwatts
   Answer a) 100 microwatts

3. Computer system is a
   a) Hardware  b) Software  c) Bioware  d) Virtual ware
   Answer a) Hardware

4. Object model is a
   a) Rule  b) Process  c) guidance  d) System model Entity
   Answer c) Guidance

5. Software engineering is an engineering discipline concerned with
   a) Software development  b) Software production  c) Software implementation  d) All
   Answer d) All

6. A workflow model represents
   a) Sequence of activities  b) Role of users involved  c) Set of activities  d) Non
   Answer a) Sequence of activities

7. Sensor component
   a) Causes changes in system environment  b) Communicate with other components
   c) Collects information from system environment  d) Coordinate the operation of components.
   Answer c) Collects information from system environment

8. Which is the correct order?
   a) System development ? system installation? system operation
   b) System installation? system operation? system development
   c) System decomposition? system installation? system design
   d) None of these.
   Answer a) System development? system installation? system operation

9. Sensor component is a
   a) Functional component  b) Non-functional component  c) Reliability component  d) None
   Answer a) Functional component
10. Which one is not the non-functional activity?
   a) Reliability       b) Performance         c) Coordination       d) Maintainability
   Answer c) Coordination

11. Sub system is
   a) Dependent system   b) Independent system   c) Component       d) None of these
   Answer b) Independent system

12. System architecture model identifies
   a) Hardware components   b) Software components
   c) Virtual components and software components d) Hardware and software components both
   Answer d) Hardware and software components both

13. Which one is functional component?
   a) Reliability       b) Maintainability       c) Computation       d) Performance
   Answer c) Computation

14. A class room in a school is a
   a) System       b) Sub-system       c) Module       d) None of these
   Answer b) Sub-system

15. Floating point process is a
   a) Communication component   b) Computation component
   c) Coordination component   d) Sensor component
   Answer b) Computation component

16. Digital-analog converter that converter digital input into analog output is a
   a) Communication component   b) Computation component
   c) Sensor component   d) Interface component
   Answer d) Interface component

17. In software system requirements, the functional requirement for the system describes
   a) Services the system is expected to provide       b) Factors of system development
   (C) Reliability, response time or system capacity   d) None of these
   Answer b) Factors of system development

18. Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called
   a) Elementary items       b) Atoms       c) Scalars       d) All of above
Answer d) All of above

19. Which of the following statement is false?
   a) Arrays are dense lists and static data structure
   b) Data elements in linked list need not be stored in adjacent space in memory
   c) Pointers store the next data element of a list
   d) Linked lists are collection of the nodes that contain information part and next pointer
   Answer c) Pointers store the next data element of a list

20. Binary search algorithm cannot be applied to
   a) Sorted binary trees   b) Sorted linear array   c) Pointer array   d) Sorted linked list
   Answer d) Sorted linked list

21. When new data are to be inserted into a data structure, but there is no available space; this situation is usually called
   a) Houseful   b) Saturated   c) Underflow   d) Overflow
   Answer d) Overflow

22. The situation when in a linked list START=NULL is
   a) Underflow   b) Overflow   c) Houseful   d) Saturated
   Answer a) Underflow

23. The following is two-way list
   a) Grounded header list   b) Circular header list
   c) Linked list with header and trailer nodes   d) None of above
   Answer d) None of above

24. The following name does not relate to stacks
   a) FIFO lists   b) LIFO list   c) Piles   d) Push-down lists
   Answer c) Piles

25. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in tree for efficiency. These special pointers are called
   a) Leaf   b) Branch   c) Path   d) Thread
   Answer d) Thread

26. In a graph if e=(u, v) means
   a) e begins at u and ends at v   b) u is processor and v is successor
   c) both B and C are true   d) none is true
   Answer c) both B and C are true
27. If every node \( u \) in \( G \) is adjacent to every other node \( v \) in \( G \), A graph is said to be
a) Isolated b) Complete c) Finite d) Strongly connected
Answer b) Complete

28. A variable \( P \) is called pointer if
a) \( P \) points to the address of first element in DATA
b) \( P \) can store only memory addresses
c) \( P \) contain the DATA and the address of DATA
d) \( P \) contains the address of an element in DATA.
Answer d) \( P \) contains the address of an element in DATA

29. The Worst case occur in linear search algorithm when
a) Item is not in the array at all b) Item is the last element in the array
c) Item is the last element in the array or is not there at all d) None of above
Answer c) Item is the last element in the array or is not there at all

30. The Average case occur in linear search algorithm
a) When Item is somewhere in the middle of the array b) When Item is not in the array at all
c) When Item is the last element in the array d) All the above
Answer a) When Item is somewhere in the middle of the array

31. The complexity of the average case of an algorithm is
a) Much more complicated to analyze than that of worst case
b) Much more simpler to analyze than that of worst case
c) Sometimes more complicated and some other times simpler than that of worst case
d) None of the above
Answer a) Much more complicated to analyze than that of worst case

32. The following data structure allows deleting data elements from front and inserting at rear
a) Stacks b) Queues c) Deques d) Binary search tree
Answer b) Queues

33. This data structure allows deletions at both ends of the list but insertion at only one end.
a) Input-restricted deque b) Output-restricted deque c) Priority queues d) None
Answer a) Input-restricted deque
34. The following data structure is non-linear type
   a) Strings   b) Lists   c) Stacks   d) None of the above
   Answer d) None of these

35. The following data structure is linear type
   a) Strings   b) Lists   c) Queues   d) All of the above
   Answer d) All of the above

36. To represent hierarchical relationship between elements, the following data structure is suitable
   a) Deque   b) Priority   c) Tree   d) All of above
   Answer c) Tree

37. A binary tree whose every node has either zero or two children is called
   a) Complete binary tree   b) Binary search tree   c) Extended binary tree   d) None
   Answer c) Extended binary tree

38. The depth of a complete binary tree is given by
   a) Dn = n log2n   b) Dn = n log2n+1   c) Dn = log2n   d) Dn = log2n+1
   Answer d) Dn = log2n+1

39. The complexity of Binary search algorithm is
   a) O(n)   b) O(log)   c) O(n log n)   d) None of the above
   Answer b) O(log)

40. The complexity of Bubble sort algorithm is
   a) O(n)   b) O(n^2)   c) O(n log n)   d) None of the above
   Answer b) O(n^2)

41. When in order traversing a tree resulted E A C K F H D B G; the preorder traversal would return
   a) FAEKDBHG   b) FAEKCDHGB   c) EAFKHDCBG   d) FEAKDCHBG
   Answer b) FAEKCDHGB

42. When representing any algebraic expression E the following uses only binary operations in a 2-tree
   a) the variable in E will appear as external nodes and operations in internal nodes
      b) the operations in E will appear as external nodes and variables in internal nodes
      c) the variables and operations in E will appear only in internal nodes
      d) None of the above
Answer a) the variable in E will appear as external nodes and operations in internal nodes

43. When converting binary tree into extended binary tree, all the original nodes in binary tree are
a) internal nodes on extended tree   b) external nodes on extended tree
   c) vanished on extended tree       d) None of the above
Answer a) internal nodes on extended tree

44. The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal
a) ABFCDE   b) ADBFEC   c) ABDECF   d) None of the above
Answer c) ABDECF

45. Which of the following data structure is linear data structure?
   a) Trees                 b) Graphs                 c) Arrays             d) None of the above
Answer c) Arrays

46. The operation of processing each element in the list is known as
   a) Merging          b) Inserting          c) Traversal          d) All the above
Answer c) Traversal

47. Finding the location of the element with a given value is called
   a) Traversal         b) Search           c) Sort               d) All of the above
Answer b) Search

48. Arrays are best data structures for
   a) relatively permanent collections of data
   b) the size of the structure and the data in the structure are constantly changing
   c) both of above situation
   d) none of above situation
Answer a) relatively permanent collections of data

49. Linked lists are best suited for
   a) relatively permanent collections of data
   b) the size of the structure and the data in the structure are constantly changing
   c) both of above situation
   d) none of above situation
Answer b) the size of the structure and the data in the structure are constantly changing
50. Each array declaration need not give, implicitly or explicitly, the information about the
a) name of array  b) data type of array
c) first data from the set to be stored  d) index set of the array
Answer c) first data from the set to be stored

51. The complexity of merge sort algorithm is
a) O(n)  b) O(log n)  c) O(n log n)  d) None of these
Answer c) O(n log n)

52. The indirect change of the values of a variable in one module by another module is called
a) internal change  b) inter-module change  c) side effect  d) all the above
Answer c) side effect

53. Two main measures for the efficiency of an algorithm are
a) Time and space  b) Processor and memory  c) Complexity and capacity  d) Data and space
Answer a) Time and space

54. The time factor when determining the efficiency of algorithm is measured by
a) Counting the number of key operations  b) Counting the number of statements
 c) Counting the kilobytes of algorithm  d) None of the above
Answer a) Counting the number of key operations

55. The space factor when determining the efficiency of algorithm is measured by
a) Counting the maximum memory needed by the algorithm
 b) Counting the minimum memory needed by the algorithm
c) Counting the average memory needed by the algorithm
d) Counting the maximum disk space needed by the algorithm
Answer a) Counting the maximum memory needed by the algorithm

56. All the above* Which of the following data structures are indexed structures
a) linear arrays  b) linked lists  c) both of above  d) none of above
Answer a) linear arrays

57. Which of the following is not the required condition for binary search algorithm
a) there must be mechanism to delete and/ or insert elements in list
b) the list must be sorted
c) there should be the direct access to the middle element in any sublist
d) none of the above  
**Answer a) there must be mechanism to delete and/or insert elements in list**

58. Which of the following is not a limitation of binary search algorithm?
- a) binary search algorithm is not efficient when the data elements are more than 1000.
- b) must use a sorted array
- c) requirement of sorted array is expensive when a lot of insertion and deletions are needed
- d) there must be a mechanism to access middle element directly
**Answer a) binary search algorithm is not efficient when the data elements are more than 1000.**

59. Two dimensional arrays are also called
- a) tables arrays
- b) matrix arrays
- c) both of the above
- d) none of the above
**Answer c) both of the above**

60. The term “push” and “pop” is related to the
- a) Array
- b) Lists
- c) stacks
- d) all of above
**Answer c) stacks**

61. A data structure where elements can be added or removed at either end but not in the middle is referred as
- a) Linked lists
- b) Stacks
- c) Queues
- d) Deque
**Answer d) Deque**

62. The following sorting algorithm is of divide and conquer type
- a) Bubble sort
- b) Insertion sort
- c) Quick sort
- d) None of the above
**Answer b) Insertion sort**

63. An algorithm that calls itself directly or indirectly is known as
- a) Recursion
- b) Polish notation
- c) Traversal algorithm
- d) None of the above
**Answer a) Recursion**

64. The elements of an array are stored successively in memory cells because
- a) by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated
- b) the architecture of computer memory does not allow arrays to store other than serially
- c) A and B both false
- d) A and B both true
**Answer a) by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated**
65. The memory address of the first element of an array is called
   a) base address  b) floor address  c) foundation address  d) first address
   Answer a) base address

66. The memory address of fifth element of an array can be calculated by the formula
   a) LOC(Array[5])=Base(Array[5])+5-lower boun(D), where w is the number of words per
      memory cell for the array
   b) LOC(Array[5])=Base(Array[4])+5-Upper boun(D), where w is the number of words per
      memory cell for the array
   c) LOC(Array[5])=Base(Array)+w(5-lower boun(D), where w is the number of words per
      memory cell for the array
   d) None of the above
   Answer c) LOC(Array[5]=Base(Array)+w(5-lower boun(D), where w is the number of
      words per memory cell for the array

67. The following data structure can’t store the non-homogeneous data elements
   a) Arrays  b) Records  c) Pointers  d) None of the above
   Answer a) Arrays

68. ______ is used in operating system to separate mechanism from policy
   a) Single level implementation  b) Two level implementation
   c) Multi level implementation  d) None
   Answer  b) Two level implementation

69. The operating system creates _____ from the physical computer
   a) Virtual space  b) Virtual computers  c) Virtual device  d) None
   Answer b) Virtual computers

70. ______ shares characteristics with both hardware and software
   a) Operating system  b) Software  c) Data  d) None
   Answer a) Operating system

71. Multiprogramming systems:
   a) Are easier to develop than single programming systems
   b) Execute each job faster
   c) Execute more jobs in the same time period
   d) Are used only one large mainframe computers.
   Answer c) Execute more jobs in the same time period
72. Which is the first program run on a computer when the computer boots up?
   a) System software           b) Operating system        c) System operations         d) None
   Answer b) Operating system

73. Which is built directly on the hardware?
   a) Computer Environment b) Application Software c) Operating System d) Database System
   Answer c) Operating System

74. Which of the following Operating System does not implement multitasking truly?
   a) Windows 98           b) Windows NT   c) Windows XP       d) MS DOS
   Answer d) MS DOS

75. Which runs on computer hardware and serve as platform for other software to run on?
   a) Operating System       b) Application Software      c) System Software      d) All
   Answer a) Operating System

76. Which is the layer of a computer system between the hardware and the user program
   a) Operating environment    b) Operating system        c) System environment    d) None
   Answer b) Operating system

77. The primary purpose of an operating system is:
   a) To make the most efficient use of the computer hardware
   b) To allow people to use the computer,
   c) To keep systems programmers employed
   d) To make computers easier to use
   Answer a) To make the most efficient use of the computer hardware

78. When a computer is first turned on or restarted, a special type of absolute loader called ____ is executed
   a) Compile and Go loader   b) Boot loader       c) Bootstrap loader   d) Relating loader
   Answer c) Bootstrap loader

79. Which of the following Operating systems is better for implementing a Client-Server network
   a) MS DOS         b) Windows 95         c) Windows 98       d) Windows 2000
   Answer d) Windows 2000
80. The operating system manages
a) Memory          b) Processes         c) Disks and I/O devices       d) All of the above
Answer d) All of the above

81. Usually, in MSDOS, the primary hard disk drives has the drive letter ____
   a) A                b) B                   c) C             d) D
Answer c) C

82. What is the function of an operating system?
   a) Manages computer’s resources very efficiently
   b) Takes care of scheduling jobs for execution
   c) Manages the flow of data and instructions
   d) All of the above
Answer d) All of the above

83. Which is not the function of the Operating System?
   a) Memory management b) Disk management c) Application management d) Virus Protection
Answer d) Virus Protection

84. Which Operating System doesn’t support networking between computers?
Answer a) Windows 3.1

85. Which Operating System doesn’t support long file names?
   a) OS/2                   b) Windows 95         c) MS-DOS         d) Windows NT
Answer c) MS-DOS

86. Which file keeps commands to execute automatically when OS is started?
   a) command.com          b) any batch file        c) autoexec.bat          d) config.sys
Answer c) autoexec.bat

87. What should be the extension to execute files?
   a) EXE                 b) BAT                 c) COM             d) All of the above
Answer d) All of the above

88. Which of the following file format supports in Windows 7?
   a) NTFS                    b) BSD                  c) EXT                 d) All of the above
Answer a) NTFS
89. The Primary job of the operating system is
a) Manage Commands  b) Manage Users  c) Manage Programs  d) Manage Resources
Answer d) Manage Resources

90. What is the meaning of “Hibernate” in Windows XP/Windows 7?
a) Restart the Computer in safe mode
b) Restart the Computer in hibernate mode
c) Shutdown the Computer terminating all the running applications
d) Shutdown the Computer without closing the running applications
Answer d) Shutdown the Computer without closing the running applications

91. Who is called a supervisor of computer activity?
a) Memory  b) Operating System  c) I/O Devices  d) Control Unit
Answer b) Operating System

92. Virtual Memory is
a) Extremely Large Main memory  c) An illusion of extremely large secondary memory
b) Extremely Large Secondary memory  d) An illusion of extremely large main memory
Answer d) An illusion of extremely large main memory

93. Operating System manages
a) Memory  b) Processor  c) I/O devices  d) All of the above
Answer d) All of the above

94. What should be the first step while OS upgrading?
a) Delete old Operating System  b) Backup old Operating System
c) Backup Critical Data  d) Format Hard Disks
Answer c) Backup Critical Data

95. Unix Operating System is an
a) Multi User Operating System  b) Time Sharing Operating System
c) Multi Tasking Operating System  d) All the Above
Answer d) All the Above

96. In which type of the following OS, the response time is very crucial.
a) Network Operating System  b) Real Time Operating System
c) Batch Operating System  d) Unix Operating System
Answer b) Real Time Operating System
97. The file system “NTFS” stands for
a) New Type File System  
b) Never Terminated File System
c) New Technology File System  
d) Non Terminated File System
Answer c) New Technology File System

98. Which one of the following is not the function of Operating System?
a) Resource Management  
b) File Management  
c) Networking  
d) Processor Management
Answer

99. The Banker’s algorithm is used
a) to rectify deadlock  
b) to detect deadlock  
c) to prevent deadlock  
d) to solve deadlock
Answer

100. Which of the following concept is best to preventing page faults?
a) Paging  
b) The working set  
c) Hit ratios  
d) Address location resolution
Answer b) The working set

101. Which of the following memory unit that processor can access more rapidly?
a) Main Memory  
b) Virtual Memory  
c) Cache memory  
d) Read Only Memory
Answer c) Cache memory

102. A page fault occurs when
a) the Deadlock happens  
b) the Segmentation starts  
c) the page is found in the memory  
d) the page is not found in the memory
Answer d) the page is not found in the memory

103. Bringing a page into memory only when it is needed, this mechanism is called
a) Deadlock  
b) Page Fault  
c) Dormant Paging  
d) Demand Paging
Answer d) Demand Paging

104. First-in-First-Out (FIFO) scheduling is
a) Non Preemptive Scheduling  
b) Preemptive Scheduling  
c) Fair Share Scheduling  
d) Deadline Scheduling
Answer a) Non Preemptive Scheduling

105. Copying a process from memory to disk to allow space for other processes is Called
a) Swapping  
b) Deadlock  
c) Demand Paging  
d) Page Fault
Answer a) Swapping
106. The necessary conditions needed before deadlock can occur?
   a) No Mutual Exclusion, Hold and wait, Preemption, Circular Wait
   b) Mutual Exclusion, No Hold and wait, Preemption, Circular Wait
   c) Mutual Exclusion, Hold and wait, No Preemption, Circular Wait
   d) Mutual Exclusion, Hold and wait, Preemption, No Circular Wait
   Answer c) Mutual Exclusion, Hold and wait, No Preemption, Circular Wait

107. A program in execution is called
   a) A Paging  b) A Process  c) A virtual memory  d) A Demand Page
   Answer b) A Process

108. What does Belady’s Anomaly related to?
   a) Page Replacement Algorithm  b) Memory Management Algorithm
   c) Deadlock Prevention Algorithm  d) Disk Scheduling Algorithm
   Answer a) Page Replacement Algorithm

109. What are the two types of Semaphore?
   a) Digital Semaphores and Binary Semaphores b) Analog Semaphores and Octal Semaphores
   c) Counting Semaphores and Binary Semaphores d) Critical System semaphores
   Answer c) Counting Semaphores and Binary Semaphores

110. What is dispatch latency?
    a) The time taken by the dispatcher to stop one process and start another
    b) The time taken by the processor to write a file into disk
    c) The whole time taken by all processor
    d) None of Above
    Answer a) The time taken by the dispatcher to stop one process and start another

111. Which of the following is not process states?
    a) New  b) Running  c) Ready  d) Finished
    Answer d) Finished

112. What are the requirements for the solution to critical section problem?
    a) Mutual Exclusion  b) Progress  c) Bounded Waiting  d) All of Above
    Answer d) All of Above

113. Which of the following is the allocation method of a disk space?
    a) Contiguous allocation b) Linked allocation  c) Indexed allocation  d) All of the Above
    Answer d) All of the Above
114. What is the method of handling deadlocks?
a) Use a protocol to ensure that the system will never enter a deadlock state.
b) Allow the system to enter the deadlock state and then recover.
c) Pretend that deadlocks never occur in the system.
d) All of the Above
Answer d) All of the Above

115. What do you mean by Memory Compaction?
a) Combine multiple equal memory holes into one big hole
b) Combine multiple small memory holes into one big hole
c) Divide big memory hole into small holes
d) Divide memory hole by 2
Answer b) Combine multiple small memory holes into one big hole

116. What is Thrashing?
a) A high paging activity is called thrashing
d) A extremely long memory is called thrashing
b) A high activity is called thrashing
c) A extremely long process is called thrashing
Answer a) A high paging activity is called thrashing

117. What hole will allocates in “Worst-Fit” algorithm of memory management?
a) It allocates the smaller hole than required memory hole
b) It allocates the smallest hole from the available memory holes
c) It allocates the largest hole from the available memory holes
d) It allocates the exact same size memory hole
Answer c) It allocates the largest hole from the available memory holes

118. An operating system is a program or a group of programs that
a) Helps in checking the spelling of Word
b) Maintain the relationship in Database
c) Manages the resources of the Computer
d) Performs the calculations of cells in Excel
Answer c) Manages the resources of the Computer

119. What is contained in the page table?
a) Base address of each frame and corresponding page number
b) Memory address and corresponding page number
c) File name and corresponding page number
d) None of Above
Answer b) Memory address and corresponding page number
120. The chunks of a memory are known as
a) Sector   b) Offset   c) Page   d) Frame
Answer d) Frame

121. Which of the following is an essential file of a MS-DOS boot disk?
a) COMMAND.COM   b) START.COM   c) TREE.COM   d) VER.COM
Answer a) COMMAND.COM

122. Which of the following operating system reads and reacts in actual time?
a) Quick Response System   b) Real Time System   c) Time Sharing System   d) Batch Processing System
Answer b) Real Time System

123. Which of the following resources must be protected by the operating system?
a) I/O   b) Memory   c) CPU   d) All of the above
Answer d) All of the above

124. Command Interpreter is also known as
a) Prompt   b) Shell   c) Command   d) DOS Prompt
Answer b) Shell

125. Which of the following is major activities of an operating system in regard to secondary storage management?
a) Free-space management   b) Storage allocation   c) Disk scheduling   d) All
Answer d) All

126. Which of the following are System Programming Language?
a) C   b) PL/360   c) Pascal   d) All of the above
Answer d) All of the above

127. The operating system keeps the information of files in a table called
a) File Folder Table (FFT)   b) File Index Table (FIT)   c) File Allocation Table (FAT)   d) Directory Index Table (DIT)
Answer c) File Allocation Table (FAT)

128. In the relational modes, cardinality is termed as:
a) Number of tuples   b) Number of attributes   c) Number of tables   d) Number of constraints
Answer a) Number of tuples
129. Relational calculus is a
a) Procedural language b) Non- Procedural language.
c) Data definition language d) High level language.
Answer b) Non- Procedural language.

130. The view of total database content is
a) Conceptual view b) Internal view c) External view d) Physical View
Answer a) Conceptual view

131. Cartesian product in relational algebra is
a) A Unary operator b) A Binary operator c) A Ternary operator d) Not defined
Answer b) A Binary operator

132. DML is provided for
a) Description of logical structure of database.
b) Addition of new structures in the database system.
c) Manipulation & processing of database.
d) Definition of physical structure of database system.
Answer c) Manipulation & processing of database

133. ‘AS’ clause is used in SQL for
a) Selection operation. b) Rename operation.
c) Join operation. d) Projection operation.
Answer b) Rename operation. ‘AS’ clause is used in SQL for rename operation. (e.g.,
SELECT ENO AS EMPLOYEE_NO FROM EMP)

134. ODBC stands for
a) Object Database Connectivity b) Oral Database Connectivity.
(C) Oracle Database Connectivity d) Open Database Connectivity.
Answer d) Open Database Connectivity

135. Architecture of the database can be viewed as
a) Two levels b) Four levels c) Three levels d) One level.
Answer c) Three levels

136. In a relational model, relations are termed as
a) Tuples b) Attributes c) Tables d) Rows
Answer c) Tables
137. The database schema is written in
a) HLL   b) DML   c) DDL   d) DCL
Answer c) DDL

138. In the architecture of a database system external level is the
a) Physical level   b) Logical level   c) Conceptual level   d) View level
Answer d) View level

139. An entity set that does not have sufficient attributes to form a primary key is a
a) Strong entity set   b) Weak entity set   c) Simple entity set   d) Primary entity set
Answer b) Weak entity set

140. In a Hierarchical model records are organized as
a) Graph   b) List   c) Links   d) Tree
Answer d) Tree

141. In an E-R diagram attributes are represented by
a) Rectangle   b) Square   c) Ellipse   d) Triangle
Answer c) Ellipse

142. In case of entity integrity, the primary key may be
(A) Not Null   (B) Null   (C) Both Null & not Null.   (D) Any value.
Ans: A

Q.16 The way a particular application views the data from the database that the
application uses is a
(A) Module. (B) Relational model. (C) Schema. (D) Sub schema.
Ans: D

Q.17 The language used in application programs to request data from the DBMS is
referred to as the
(A) DML   (B) DDL   (C) VDL   (D) SDL
Ans: A

Q.18 A logical schema
(A) Is the entire database.
(B) Is a standard way of organizing information into accessible parts?
(C) Describes how data is actually stored on disk.
(D) Both (A) and (C)
Ans: A
Q.19 Related fields in a database are grouped to form a
   (A) Data file.   (B) Data record.   (C) Menu.   (D) Bank.
   Ans: B Related data fields in a database are grouped to form a data record. (A record is a collection of related fields)

Q.20 The database environment has all of the following components except:
   (A) Users.   (B) Separate files.   (C) Database.    (D) Database administrator.
   Ans: A

Q.21 The language which has recently become the defacto standard for interfacing application programs with relational database system is
   (A) Oracle.   (B) SQL.   (C) DBase.   (D) 4GL.
   Ans: B

Q.22 The way a particular application views the data from the database that the application uses is a
   (A) Module.   (B) Relational model.   (C) Schema.   (D) Sub schema.
   Ans: D

Q.23 In an E-R diagram an entity set is represent by a
   (A) Rectangle.   (B) Ellipse.   (C) Diamond box.   (D) Circle.
   Ans: A

Q.24 A report generator is used to
   (A) Update files.   (B) Print files on paper.   (C) Data entry.   (D) Delete files.
   Ans: B

Q.25 The property / properties of a database is / are :
   (A) It is an integrated collection of logically related records.
   (B) It consolidates separate files into a common pool of data records.
   (C) Data stored in a database is independent of the application programs using it.
   (D) All of the above.
   Ans: D

Q.26 The DBMS language component which can be embedded in a program is
   (A) The data definition language (DDL).   (B) The data manipulation language (DML).
   (C) The database administrator (DBA).   (D) A query language.
   Ans: B
Q.27 A relational database developer refers to a record as
(A) A criteria.  (B) A relation.  (C) A tuple.  (D) An attribute.
Ans: C

Q.28 The relational model feature is that there
(A) Is no need for primary key data?  (B) Is much more data independence than some other database models.
(C) Are explicit relationships among records?  (D) Are tables with many dimensions?
Ans: B

Q.29 Conceptual design
(A) Is a documentation technique.  (B) Needs data volume and processing frequencies to determine the size of the database.
(C) Involves modeling independent of the DBMS.  (D) Is designing the relational model.
Ans: C

Q.30 The method in which records are physically stored in a specified order according to a key field in each record is
(A) Hash.  (B) Direct.  (C) Sequential.  (D) all of the above.

Ans: A A method in which records are physically stored in a specified order according to a key field in each record is hash. (In hash method, a hash function is performed on the key value to determine the unique physical address of the record to store or retrieve)

Q.31 A subschema expresses
(A) The logical view.  (B) The physical view.  (C) The external view.  (D) All of the above.
Ans: C A subschema expresses the external view. (External schemas are called also called as subschema’s)

Q.32 Count Function in SQL returns the number of
(A) Values.  (B) Distinct values.  (C) Groups.  (D) Columns.
Ans: A Count function in SQL returns the number of values. (Count Function counts all the not null values in the specific column. If we want to count only distinct values than the DISTINCT keyword is also to be used)

Q.33 Which one of the following statements is false?
(A) The data dictionary is normally maintained by the database administrator.
(B) Data elements in the database can be modified by changing the data dictionary.
(C) The data dictionary contains the name and description of each data element.
(D) The data dictionary is a tool used exclusively by the database administrator.
Ans: B

**Q.34 An advantage of the database management approach is**
(A) Data is dependent on programs.  (B) Data redundancy increases.
(C) Data is integrated and can be accessed by multiple programs.  (D) None of the above.
Ans: C

**Q.35 A DBMS query language is designed to**
(A) Support end users who use English-like commands.  (B) Support in the development of
complex applications software.
(C) Specify the structure of a database.  (D) all of the above.
Ans: D

**Q.36 Transaction processing is associated with everything below except**
(A) Producing detail, summary, or exception reports.
(B) Recording a business activity.
(C) Confirming an action or triggering a response.
(D) Maintaining data.
Ans: C

**Q.37 It is possible to define a schema completely using**
(A) VDL and DDL.  (B) DDL and DML.
(C) SDL and DDL.  (D) VDL and DML.
Ans: B

**Q.38 The method of access which uses key transformation is known as**
(A) Direct.  (B) Hash.  (C) Random.  (D) Sequential.
Ans: B

**Q.39 Data independence means**
(A) Data is defined separately and not included in programs.
(B) Programs are not dependent on the physical attributes of data.
(C) Programs are not dependent on the logical attributes of data.
(D) Both (B) and (C).
Ans: D both (B) and (C)

**Q.40 The statement in SQL which allows to change the definition of a table is**
(A) Alter.  (B) Update.  (C) Create.  (D) Select.
Ans: A
1. DBMS is a collection of ............... that enables user to create and maintain a database.
   A) Keys   B) Translators   C) Program   D) Language Activity

2. In a relational schema, each tuple is divided into fields called
   A) Relations   B) Domains   C) Queries   D) All of the above

3. In an ER model, ............... is described in the database by storing its data.
   A) Entity   B) Attribute   C) Relationship   D) Notation

4. DFD stands for
   A) Data Flow Document   B) Data File Diagram   C) Data Flow Diagram   D) None of the above

5. A top-to-bottom relationship among the items in a database is established by a
   A) Hierarchical schema   B) Network schema   C) Relational Schema   D) All of the above

6. ................. table store information about database or about the system.
   A) SQL   B) Nested   C) System   D) None of these

7. .................defines the structure of a relation which consists of a fixed set of attribute-domain pairs.
   A) Instance   B) Schema   c) Program   D) Super Key

8. ................. clause is an additional filter that is applied to the result.
   A) Select   B) Group-by   C) Having   D) Order by

9. A logical schema
   A) is the entire database   B) is a standard way of organizing information into accessible parts.
   C) Describes how data is actually stored on disk.   D) All of the above

10. ................. is a full form of SQL.
    A) Standard query language   B) Sequential query language   C) Structured query language   D) Server side query language
6. C) System
7. B) Schema
8. C) Having
9. B) is a standard .. accessible parts.
10. C) Structured query language

1. The candidate key is that you choose to identify each row uniquely is called
   ………………
   A) Alternet Key   B) Primary Key   C) Foreign Key  D) None of the above

2. …………….. is used to determine whether of a table contains duplicate rows.
   A) Unique predicate   B) Like Predicate   C) Null predicate  D) In predicate

3. To eliminate duplicate rows ……………… is used
   A) NODUPLICATE   B) ELIMINATE   C) DISTINCT   D) None of these

4. State true or false
   i) A candidate key is a minimal super key.
   ii) A candidate key can also refer to as surrogate key.
   A) i-true, ii-false
   B) i-false, ii-true
   C) i-true, ii-true
   D) i-false, ii-false

5. DCL stands for
   A) Data Control Language   B) Data Console Language   C) Data Console Level   D) Data Control Level

6. …………………… is the process of organizing data into related tables.
   A) Normalization   B) Generalization   C) Specialization   D) None of the above

7. A ………………. Does not have a distinguishing attribute if its own and mostly are dependent entities, which are part of some another entity.
   A) Weak entity   B) Strong entity   C) Non attributes entity   D) Dependent entity

8. …………….. is the complex search criteria in the where clause.
   A) Substring   B) Drop Table   C) Predict   D) Predicate
9. ................. is preferred method for enforcing data integrity
A) Constraints   B) Stored Procedure   C) Triggers   D) Cursors

10. The number of tuples in a relation is called its ............ While the number of
attributes in a relation is called it’s ..................
A) Degree, Cardinality   B) Cardinality, Degree   C) Rows, Columns   D) Columns, Rows

ANSWERS

1. B) Primary Key
2. A) Unique predicate
3. C) DISTINCT
4. C) i-true, ii-true
5. A) Data Control Language
6. A) Normalization
7. A) Weak entity
8. D) Predicate
9. A) Constraints
10. B) Cardinality, Degree

1. State true or false.
i) Select operator is not a unary operator.
   A) i-True, ii-False
   B) i-True, ii-True
   C) i-False, ii-True
   D) i-False, ii-False

2. ............... database is used as template for all databases created.
   A) Master   B) Model   C) Tempdb   D) None of the above

3. One aspect that has to be dealt with by the integrity subsystem is to ensure that only
valid values can be assigned to each data items. This is referred to as
   A) Data Security   B) Domain access   C) Data Control   D) Domain Integrity

4. ................. operator is basically a join followed by a project on the attributes
   of first relation.
   A) Join   B) Semi-Join   C) Full Join   D) Inner Join
5. Which of the following is not a binary operator in relational algebra?
A) Join  B) Semi-Join  C) Assignment  D) Project

6. Centralizing the integrity checking directly under the DBMS .......... Duplication and ensures the consistency and validity of the database.
A) Increases  B) Skips  C) Does not reduce  D) Reduces

7. Which of the following is/are the DDL statements?
A) Create  B) Drop  C) Alter  D) All of the above

8. In snapshot, ....................... clause tells oracle how long to wait between refreshes.
A) Complete  B) Force  C) Next  D) Refresh

9. ................. defines rules regarding the values allowed in columns and is the standard mechanism for enforcing database integrity.
A) Column  B) Constraint  C) Index  D) Trigger

10. For like predicate which of the following is true.
   i) % matches zero of more characters.
   ii) _ matches exactly one character.
   A) i-only  B) ii-only  C) Both of them  D) None of them

ANSWERS

1. C) i-False, ii-True
2. B) Model
3. D) Domain Integrity
4. B) Semi-Join
5. D) Project
6. D) Reduces
7. D) All of the above
8. D) Refresh
9. B) Constraint
10. C) Both of them

1. The number of attributes in relation is called as its ..................
A) Cardinality  B) Degree  C) Tuples  D) Entity
2. The DBMS utility, .................... allows to reconstruct the correct state of database from the backup and history of transactions.
   A) Backup   B) Recovery   C) Monitoring   D) Data loading

3. In the .......... normal form, a composite attribute is converted to individual attributes.
   A) First   B) Second   C) Third   D) Fourth

4. In RDBMS, Data is presented as a collection of .......... 
   A) Table   B) Attributes   C) Relations   D) Entities

5. A ................ normal form normalization will be needed where all attributes in a relation tuple are not functionally dependent only on the key attribute.
   A) First   B) Second   C) Third   D) Fourth

6. To select all column from the table the syntax is:
   A) select all from table_name   B) select * from table_name
   C) select from table_name   D) Non of the above

7. If an attribute of a composite key is dependent on an attribute of the other composite key, a normalization called ................ is needed.
   A) DKNF   B) BCNF   C) Fourth   D) Third

8. Identify the criteria for designing database from the point of view of user
   A) No redundancy   B) No inapplicable attributes   C) Uniformity in naming & definitions of the data items   D) All of the above

9. The ............ operator preserves unmatched rows of the relations being joined.
   A) Inner join   B) Outer join   C) Union   D) Union join

10. The reasons leading to popularity of client-server systems are:
    A) More powerful workstations on LANs   B) Needed for graphical user interfaces of end users.
    C) Remove computing load for presentation services from the system managing a shared database resource   D) All

**ANSWERS**

1. B) Degree
2. B) Recovery
3. A) First
4. C) Relations
5. C) Third
6. B) select * from table_name
7. B) BCNF
8. D) All of the above
9. B) Outer join
10. D) All

1. The relational model is based on the concept that data is organized and stored in two-dimensional tables called ……………………….
   A) Fields    B) Records   C) Relations   D) Keys

2. ……………….. contains information that defines valid values that are stored in a column or data type.
   A) View   B) Rule   C) Index   D) Default

3. Which of the syntax is correct for insert statement?
   i) insert into values
   ii) insert into (column list) values
   A) i-only   B) ii-only   C) Both of them   D) None of them

4. ……………….. First proposed the process of normalization.

5. For using a specific database …………… command is used.
   A) use database   B) databasename use   C) Both A &B   D) None of them

6. Which of the following is not comparison operator?
   A) <>    B) <    C) <=    D) >=

7. An outstanding functionality of SQL is its support for automatic …………. to the target data.
   A) programming    B) functioning   C) navigation   D) notification

8. ……………….. is a special type of integrity constraint that relates two relations & maintains consistency across the relations.
   A) Entity Integrity Constraints   B) Referential Integrity Constraints
   C) Domain Integrity Constraints   D) Domain Constraints   E) Key Constraints
9. ............... specifies a search condition for a group or an aggregate.
   A) GROUP BY Clause   B) HAVING Clause   C) FROM Clause   D) WHERE Clause

10. Drop Table cannot be used to drop a table referenced by a ............... constraint.
    A) Local Key   B) Primary Key   C) Composite Key   D) Foreign Key

ANSWERS

1. C) Relations
2. C) Index
3. C) Both of them
4. B) Edgar F. Codd
5. A) use database
6. C) <=
7. C) navigation
8. B) Referential.....Constraints
9. B) HAVING Clause
10. D) Foreign Key

1. ............... joins are SQL server default
   A) Outer   B) Inner   C) Equi   D) None of the above

2. The ............... is essentially used to search for patterns in target string.
   A) Like Predicate   B) Null Predicate   C) In Predicate   D) Out Predicate

3. Which of the following is/are the Database server functions?
   i) Data management ii) Transaction management
   iii) Compile queries iv) Query optimization
   A) i, ii, and iv only   B) i, ii and iii only   C) ii, iii and iv only   D) All i, ii, iii, and iv

4. To delete a database ............... command is used
   A) delete database database_name   B) Delete database_name
   C) drop database database_name   D) drop database_name

5. ............... is a combination of two or more attributes used as a primary key
   A) Composite Key   B) Alternate Key   C) Candidate Key   D) Foreign Key

6. Which of the following is not the function of client?
   A) Compile queries   B) Query optimization   C) Receive queries   D) Result formatting and presentation
7. ............. is a special type of stored procedure that is automatically invoked whenever the data in the table is modified.
A) Procedure    B) Trigger    C) Cursor    D) None of the above

8. ................. requires that data should be made available to only authorized users.
A) Data integrity    B) Privacy    C) Security    D) None of the above

9. Some of the utilities of DBMS are ............
i) Loading ii) Backup iii) File organization iv) Process Organization
A) i, ii, and iv only    B) i, ii and iii only    C) ii, iii and iv only    D) All i, ii, iii, and iv

10. ................. allows individual row operation to be performed on a given result set or on the generated by a selected by a selected statement.
A) Procedure    B) Trigger    C) Cursor    D) None of above

ANSWERS

1. B) Inner
2. A) Like Predicate
3. A) i, ii, and iv only
4. C) drop ....database_name
5. A) Composite Key
6. B) Query optimization
7. B) Trigger
8. C) Security
9. B) i, ii and iii only
10. C) Cursor

1. Processed data is called ..................
A) Raw data    B) Information    C) Useful data    D) Source

2. ................ is a utility to capture a continuous record of server activity and provide auditing capability.
A) SQL server Profile B) SQL server service manager    C) SQL server setup    D) SQL server wizard.

3. Data items grouped together for storage purposes are called a
A) record    B) title    C) list    D) string
4. …………. contains data assisting day to day activities of the organization.
A) Control database   B) Operational database   C) Strategic database   D) Sequential database

5. ………………… approach reduces time and effort required for design and lesser risk in database management.
A) Single global database   B) Top-down approach C) Multiple databases   D) None of the above

6. HSAM stands for ……….
A) Hierarchic Sequential Access Method   B) Hierarchic Standard Access Method
C) Hierarchic Sequential and Method   D) Hierarchic Standard and Method

7. SQL server stores index information in the …………. system table
A) systindexes   B) systemindexes   C) sysind   D) sysindexes

8. The one guideline to be followed while designing the database is
A) A database design may be ambiguous.  B) Unrelated data should be in the same table so that updating the data will be easy.
C) It should avoid/reduce the redundancy.  D) An entity should not have attributes.

9. Which of the following is not a logical database structure?
A) Chain   B) Network   C) Tree   D) Relational

10. ……………. is a preferred method for enforcing data integrity
A) Constraints   B) Stored procedure   C) Triggers   D) Cursors

ANSWERS

1. B) Information
2. B) SQL server service manager
3. A) record
4. B) Operational database
5. C) Multiple databases
6. A) Hierarchic Seque ... Method
7. D) sysindexes
8. C) It should avo … redundancy.
9. A) Chain
10. A) Constraints
1. Reflexivity property says that X - Y is true if Y is ………………….
   A) Subset of X   B) Null set of X   C) Super set of Y   D) Subset of Y

2. Anything that affects the database schema is a part of
   A) DML   B) DCL   C) DDL   D) All of the above

3. An instance of a relation is a time varying set of ………………….
   A) Tuples   B) Rows   C) Both of them   D) None of them

4. In the ………………… mode any record in the file can be accessed at random
   A) Sequential access   B) Random access   C) Standard access   D) Source access

5. Which can be used to delete all the rows if a table?
   A) Delete * from table_name   B) Delete from table_name
   C) Delete table_name   D) all rows cannot be deleted at a time.

6. Which if the following is not the type of data integrity.
   A) Key integrity   B) Domain integrity   C) Entity integrity   D) Referential integrity

7. 4NF stands for ..
   A) Fourth Normal File   B) Fourth Normal Form   C) Fourth Normal Fraction
   D) Fourth Negative File

8. A ……………… allows to make copies of the database periodically to help in the
    cases of crashes & disasters.
   A) Recovery utility   B) Backup Utility   C) Monitoring utility   D) Data loading utility

9. ……………… Allows definitions and query language statements to be entered; query
    results are formatted and displayed.
   A) Schema Processor   B) Query Processor   C) Terminal Interface   D) None of the above

10. The main task carried out in the …………… is to remove repeating attributes to
    separate tables.
    A) First Normal Form   B) Second Normal Form   C) Third Normal Form   D) Fourth Normal Form
ANSWERS

1. A) Subset of X
2. C) DDL
6. A) Key integrity
7. B) Fourth Normal Form
3. C) Both of them
4. B) Random access
5. A) Delete * from table_name
8. B) Backup Utility
9. C) Terminal Interface
10. D) Fourth Normal Form

1: The ascending order of a data hierarchy is:
a. bit-byte-record-field-file-database   b. byte-bit-field-record-file-database
c. bit-byte-field-record-file-database   d. bit-byte-record-field-file-database

2: Which of the following is true of a network structure?
a. t is a physical representation of the data   b. It allows a many-to-many relationship
c. It is conceptually simple   d. It will be dominant data base of the future

3: Which of the following is a problem of file management system?
a. difficult to update   b. lack of data independence   c. data redundancy
d. program dependence   e. all of above

4: One data dictionary software package is called
a. DB/DC dictionary   b. TOTAL   c. ACCESS   d. Datapac   e. Data Manager

5: The function of a database is ...
a. to check all input data   b. to check all spelling   c. to collect and organize input data
d. to output data

6: What is the language used by most of the DBMSs for helping their users to access data?
a. High level language   b. SQL   c. Query Language   d. 4GL

7: The model for a record management system might be
a. handwritten list   b. a Rolodex card file   c. a business form   d. all of above
8: Primitive operations common to all record management system include  
a. Print   b. Sort  c. look-up D. all of above

9: In a large DBMS  
a. each user can "see" only a small part of the entire database  b. each subschema contains every field in the logical schema  c. each user can access every subschema

10: Information can be transferred between the DBMS and a  
a. spreadsheet program b. word processor program c. graphics program d. all of the above


1: Which of the following fields in a student file can be used as a primary key?  
a. Class   b. Social Security Number   c. GPA   d. Major

2: Which of the following is not an advantage of the database approach  
a. Elimination of data redundancy   b. Ability of associate deleted data  
c. increased security   d. program/data independence  e. all of the above

3: Which of the following contains a complete record of all activity that affected the contents of a database during a certain period of time?  
a. report writer b. query language c. data manipulation language  
d. transaction log e. none of the above

4: In the DBMS approach, application programs perform the  
a. storage function b. processing functions c. access control  
d. all of the above e. none of the above

5: A set of programs that handle a firm's database responsibilities is called  
a. database management system (DBMS) b. database processing system (DBPS)  
c. data management system (DMS) d. all of above

6: Which is the make given to the database management system which is able to handle full text data, image data, audio and video?  
a. full media b. graphics media c. Multimedia d. hypertext

7: A record management system  
a. can handle many files of information at a time b. can be used to extract information stored in a computer file  
c. always uses a list as its model d. both a and b
8: A command that lets you change one or more fields in a record is
a. Insert   b. Modify   c. Lookup   d. none of above

9: A transparent DBMS
a. can not hide sensitive information from users  b. keeps its logical structure hidden from users
   c. keeps its physical structure hidden from users  d. both b and c

10: A file produced by a spreadsheet
a. is generally stored on disk in an ASCII text format  b. can be used as is by the DBMS
   c. both a and b   d. none of the above

Answers:
1.b
2.e
3.d
4.b
5.d
6.c
7.b
8.b
9.c
10.a

1: The relational database environment has all of the following components except
a. Users  b. separate files  c. Database   d. query languages  e. database

2: Database management systems are intended to
a. eliminate data redundancy  b. establish relationship among records in different files
   c. manage file access  d. maintain data integrity e. all of the above

3: One approach to standardization storing of data?
   a. MIS   b. structured programming   c. CODASYL specification   d. none of the above

4: The language used application programs to request data from the DBMS is referred to as the
   a. DML   b. DDL   c. query language   d. any of the above   e. none of the above

5: The highest level in the hierarchy of data organization is called
   a. data bank   b. data base   c. data file   d. data record
6: Choose the RDBMS which supports full fledged client server application development
   a. dBase V   b. Oracle 7.1   c. FoxPro 2.1   d. Ingress

7: Report generators are used to
   a. store data input by a user   b. retrieve information from files   c. answer queries
      d. both b and c

8: A form defined
   a. where data is placed on the screen   b. the width of each field
      c. both a and b   d. none of the above

9: A top-to-bottom relationship among the items in a database is established by a
   a. hierarchical schema   b. network schema   c. relational schema   d. all of the above

10: The management information system (MIS) structure with one main computer system is called a..............
    a. hierarchical MIS structure   b. distributed MIS structure   c. centralized MIS structure
    d. decentralized MIS structure

Answers:
   1.b
   2.e
   3.c
   4.a
   5.b
   6.b
   7.d
   8.a
   9.a
   10.c

1. The computer network is
   A) Network computer with cable   B) Network computer without cable   C) Both of the above
   D) None of the above

2. FDDI used which type of physical topology?
   A) Bus   B) Ring   C) Star   D) Tree
3. FTP stands for
   A) File transfer protocol   B) File transmission protocol
   C) Form transfer protocol   D) Form transmission protocol

4. Ethernet system uses which of the following technology.
   A) Bus   B) Ring   C) Star   D) Tree

5. Which of the following are the network services?
   A) File service   B) Print service   C) Database service   D) All of the above

6. If all devices are connected to a central hub, then topology is called
   A) Bus Topology   B) Ring Topology   C) Star Topology   D) Tree Topology

7. FDDI stands for
   A) Fiber Distributed Data Interface   B) Fiber Data Distributed Interface
   C) Fiber Dual Distributed Interface   D) Fiber Distributed Data Interface

8. Which of the following is an application layer service?
   A) Network virtual terminal   B) File transfer, access and management
   C) Mail service   D) All of the above

9. Which is the main function of transport layer?
   A) Node to node delivery   B) End to end delivery   C) Synchronization   D) Updating and maintaining routing tables

10. The .............. layer change bits onto electromagnetic signals.
    A) Physical   B) Transport   C) Data Link   D) Presentation

Answers:
1. C) Both of the above
2. B) Ring
3. A) File transfer protocol
4. A) Bus
5. D) All of the above
6. C) Star Topology
7. A) Fiber Distributed... Interface
8. C) Mail service
9. B) End to end delivery
10. A) Physical
1. In mesh topology, relationship between one device and another is .......... A) Primary to peer B) Peer to primary C) Primary to secondary D) Peer to Peer

2. The performance of data communications network depends on .......... A) Number of users B) The hardware and software C) The transmission D) All of the above

3. Find out the OSI layer, which performs token management. A) Network Layer B) Transport Layer C) Session Layer D) Presentation Layer

4. The name of the protocol which provides virtual terminal in TCP/IP model is. A) Telnet B) SMTP C) HTTP D) FTP

5. The layer one of the OSI model is A) Physical layer B) Link layer C) Router layer D) Broadcast layer

6. What is the name of the network topology in which there are bi-directional links between each possible node? A) Ring B) Star C) Tree D) Mesh

7. What is the commonly used unit for measuring the speed of data transmission? A) Bytes per second B) Baud C) Bits per second D) Both B and C

8. Which of the communication modes support two way traffic but in only one direction of a time? A) Simplex B) Half-duplex C) Three - quarter's duplex D) Full duplex

9. The loss in signal power as light travels down the fiber is called .......... A) Attenuation B) Propagation C) Scattering D) Interruption

10. Which of the following TCP/IP protocols is used for transferring files from one machine to another. A) FTP B) SNMP C) SMTP D) RPC

Answers:
1. D) Peer to Peer
2. D) All of the above
3. C) Session Layer
4. A) Telnet
5. A) Physical layer
6. D) Mesh  
7. B) Baud  
8. B) Half-duplex  
9. A) Attenuation  
10. A) FTP

1. Which of the following is not the layer of TCP/IP protocol?  
A) Application Layer  B) Session Layer  C) Transport Layer  D) Internetwork layer

2. .................. address use 7 bits for the and 24 bits for the portion of the IP address.  
A) Class A  B) Class B  C) Class C  D) Class D

3. ............ addresses are reserved for multicasting.  
A) Class B  B) Class C  C) Class D  D) Class E

4. State the following statement is true or false.  
i) In class B addresses a total of more than 1 billion addresses can be formed.  
ii) Class E addresses are reserved for future or experimental use.  
A) True, False  B) True, True  C) False, True  D) False, False

5. Which of the following statement is true?  
i) An address with all bits 1 is interpreted as all networks or all hosts.  
ii) The class A network 128.0.0.0 is defined as the loopback network.  
A) i only  B) ii only  C) Both A and B  D) None of the above

6. Which is not the Regional Internet Registers (RIR) of the following?  
A) American Registry for Internet Numbers (ARIN)  B) EuropeAnswer Registry for Internet Numbers (ERIN)  
C) Reseaux IP EuropeAnswer (RIPE)  D) Asia Pacific Network Information Centre (APNIC)

7. Match the following IEEE No to their corresponding Name for IEEE 802 standards for LANs.  
i) 802.3 a) WiFi  
ii) 802.11 b) WiMa  
iii) 802.15.1 c) Ethernet  
iv) 802.16 d) Bluetooth  
A) i-b, ii-c, iii-d, iv-a  
B) i-c, ii-d, iii-a, iv-b  
C) i-c, ii-a, iii-d, iv-b  
D) i-b, ii-d, iii-c, iv-a
8. ........... was the first step in the evolution of Ethernet from a coaxial cable bus to hub managed, twisted pair network.
A) Star LAN  B) Ring LAN  C) Mesh LAN  D) All of the above

9. ............... is the predominant form of Fast Ethernet, and runs over two pairs of category 5 or above cable.
A) 100 BASE-T  B) 100 BASE-TX  C) 100 BASE-T4  D) 100 BASE-T2

10. IEEE 802.3ab defines Gigabit Ethernet transmission over unshielded twisted pair (UTP) category 5, 5e or 6 cabling known as ..................
A) 1000 BASE-T  B) 1000 BASE-SX  C) 1000 BASE-LX  D) 1000 BASE-CX

Answers:
1. B) Session Layer
2. A) Class A
3. C) Class D
4. B) True, True
5. A) i only
6. B) EuropeAnswer ..... (ERIN)
7. C) i-c, ii-a, iii-d, iv-b
8. A) Star LAN
9. B) 100 BASE-TX
10. A) 1000 BASE-T

1. ..................... is a high performance fiber optic token ring LAN running at 100 Mbps over distances upto 1000 stations connected.
A) FDDI  B) FDDT  C) FDDR  D) FOTR

2. Which of the following are Gigabit Ethernets?
A) 1000 BASE-SX  B) 1000 BASE-LX  C) 1000 BASE-CX  D) All of above

3. ..................... is a collective term for a number of Ethernet Standards that carry traffic at the nominal rate of 1000 Mbit/s against the original Ethernet speed of 10 Mbit/s.
A) Ethernet  B) Fast Ethernet  C) Gigabit Ethernet  D) All of the above

4. ................ is another kind of fiber optic network with an active star for switching.
A) S/NET  B) SW/NET  C) NET/SW  D) FS/NET
5. The combination of …………… And …………… is often termed the local address of the local portion of the IP address.
A) Network number and host number   B) Network number and subnet number
C) Subnet number and host number   D) All of the above

6. ……………………… implies that all subnets obtained from the same subnet mask.
A) Static subnetting   B) Dynamic subnetting   C) Variable length subnetting
D) Both B and C

7. State whether true or false.
i) A connection oriented protocol can only use unicast addresses.
ii) The anycast service is included in IPV6.
A) True, True   B) True, False   C) False, True   D) False, False

8. The most important and common protocols associated TCP/IP internetwork layer are.
i) Internet protocol(IP)
ii) Internet control Message Protocol(ICMP)
iii) Bootstrap Protocol (BooTP)
iv) Dynamic Host Configuration Protocol (DHCP)
v) Address Resolution Protocol (ARP)
A) i, ii, iii and iv only   B) i, iii, iv and v only
C) ii, iii, iv and v only   D) All i, ii, iii, iv and v

9. ……………………….. is responsible for converting the higher level protocol addresses (IP addresses) to physical network addresses.
A) Address Resolution Protocol (ARP)   B) Reverse Address Resolution Protocol (RARP)
C) Bootstrap Protocol (BOOTP)   D) Internet Control Message Protocol (ICMP)

10. Which of the following is not a mechanism that DHCP supports for IP address allocation?
A) Automatic allocation   B) Static allocation   C) Dynamic allocation   D) Manual allocation

Answers:
1. A) FDDI
2. D) All of above
3. B) Fast Ethernet
4. A) S/NET
5. C) Subnet . host number
6. A) Static subnetting
7. A) True, True  
8. D) All i, ii, iii, iv and v  
9. A) Address ..... (ARP)  
10. B) Static allocation  

1. How many bits in a byte?  
   a. 8  
   b. 16  
   c. 4  
   d. 2  
   Answer: (a)  

2. The maximum decimal value that can be represented in a byte is:  
   a. 256  
   b. 255  
   c. 128  
   d. 127  
   Answer: (b)  

3. What is a MAC address?  
   a. The IP address of the host  
   b. The embedded IP protocol  
   c. The hardware address assigned to the network card/interface  
   d. The embedded protocol port address  
   Answer: (c)  

4. What does the Address Resolution Protocol (ARP) do?  
   a. Resolves a known IP address with a MAC address  
   b. Resolves a known MAC address with an IP address  
   c. Resolves a known network interface name with a hardware address  
   d. Resolves a known MAC address with a vendor type  
   Answer: (a)  

5. A server port of UDP or TCP 53 is typically associated with what service?  
   a. HTTP  
   b. DNS  
   c. FTP  
   d. RPC  
   Answer: (b)  

6. How does a host that has sent TCP data know that the data was received?  
   a. A TCP acknowledgement is sent from the receiver  
   b. An ICMP echo reply is sent from the receiver  
   c. An incremented TCP sequence number is sent from the receiver  
   d. A SYN/ACK is sent from the receiver  
   Answer: (a)  

7. Which of the following best characterizes TCP versus UDP (in most cases)?  
   a. TCP is less reliable and quicker
b. TCP is slower, more reliable, and requires more overhead  
c. TCP is faster, more reliable, and more streamlined  
d. TCP is less reliable and connection-oriented  
Answer: (b)

8. Which of the following best characterizes ICMP  
a. It is used to communicate error conditions   
b. It is used for connection oriented communications  
c. It is used for reliable communications   
d. It is used for client/server communications  
Answer: (a)

9. A TCP flag of RESET indicates:  
a. An intention to open a new TCP connection  
b. An intention to gracefully close and acknowledge the termination of both sides of the connection  
c. An intention to abort a TCP connection  
d. An intention to close the connection after all in-transit data is received  
Answer: (c)

10. TCP typically begins a session with:  
a. The three-way handshake of client SYN/ACK, and the client acknowledgement of ACK  
b. The three-way handshake of server to client with SYN set, the client response of SYN/ACK, and the server acknowledgement of ACK  
c. TCP is not connection oriented so no handshake is required  
d. A handshake consisting of the client request to the server with SYN set and a server response of a SYN  
Answer: (a)

1. A value of 6 in the protocol field of the IP header represents:  
a. An embedded protocol of ICMP follows the IP header  
b. An embedded protocol of UDP follows the IP header  
c. An embedded protocol of TCP follows the IP header  
d. An embedded protocol of TCP precedes the IP header  
Answer: (c)

2. IP fragmentation occurs when:  
a. The receiver is not ready for all the data from the sender  
b. When there are more bytes in the IP packet than the size of the Maximum Transmission
3. Some of the fields in an IPv4 packet that are used by the receiver to reassemble associated fragments are:
   a. The IP identification field to identify all associated fragments, the More Fragment bit to indicate whether or not more fragments follow the current one, and the fragment offset to indicate where a particular fragment falls in relation to other fragments.
   b. The IP identification field to identify all associated fragments, the More Fragment bit to indicate whether or not more fragments follow the current one, and the Time to Live to expire missing fragments.
   c. The IP identification field to identify all associated fragments, the More Fragment bit to indicate whether or not more fragments follow the current one, and the TCP checksum to discard corrupted fragments.
   d. The IP identification field to identify all associated fragments, the More Fragment bit to indicate whether or not more fragments follow the current one, and the IP options to route all fragments through the same intermediate routers.
   Answer: (a)

4. The Time to Live (TTL) field/value found in the IP header are used to:
   a. Make sure all associated fragments arrive with a given window of time.
   b. Expire TCP segments in transit when the TTL value becomes 0.
   c. Flush DNS records from cache when the TTL value is exceeded.
   d. Expire IP packets in transit when the TTL value becomes 0.
   Answer: (d)

5. What is the purpose of the IP checksum?
   a. To make sure that data in the entire packet is not corrupted in transit.
   b. To make sure that data in the IP header is not corrupted in transit.
   c. To make sure that data in the Ethernet frame is not corrupted in transit.
   d. To make sure that data in the embedded protocol is not corrupted in transit.
   Answer: (b)
6. What is a common use of DNS?
   a. Resolution of a MAC address to an IP address   b. Resolution of an IP address to a MAC address
   c. Resolution of a port number to a port service   d. Resolution of a host name to an IP address
   Answer: (d)

7. What is a typical response from a host that receives a UDP packet on a non-listening port?
   a. A UDP reset flag set to the sender   b. A UDP FIN flag set to the sender
   c. An ICMP port unreachable message to the sender   d. A UDP port unreachable message to the sender
   Answer: (c)

8. Suppose a SYN packet is spoofed using a real IP address and then sent to a server that responds with a SYN/ACK to the actual IP address. How does the real IP address respond?
   a. With an acknowledgement since it did not send the SYN
   b. With a reset since it did not send the SYN
   c. With a duplicate SYN since it did not send the SYN
   d. With a TTL of 0 since it did not send the SYN
   Answer: (b)

9. What are some differences between IPv4 and IPv6?
   a. They are the same except the IP version number in the IP header is different
   b. The IPv6 addresses are 4 times larger and some of the fields/functionality previously in the IPv4 header are now in IPv6 extension headers
   c. IPv6 allows more than 255 embedded protocols
   d. IPv6 packets are automatically encrypted while IPv4 are not
   Answer: (b)

10. Suppose you had a tool that allowed you to craft an ICMP echo request over Ethernet, but you needed to tell the tool how to compose the request layer by layer in the proper order. How would you order the different layers?
    a. Ethernet header, followed by IP header, followed by ICMP header, followed by optional ICMP data
    b. IP header, followed by Ethernet header, followed by ICMP header, followed by optional
ICMP data
c. The order is unimportant and the TCP/IP stack will properly assemble them before sending
d. The Ethernet header must be first, and the order of the IP header, ICMP header, and data is unimportant since the TCP/IP stack will properly order assemble them before sending
Answer: (a)

1. The size of IP address in IPv6 is
   a) 4bytes  b) 128bits  c) 8bytes  d) 100bits
   Answer: b Explanation: An IPv6 address is 128 bits long.

2. The header length of an IPv6 datagram is _____.
   a) 10bytes  b) 25bytes  c) 30bytes  d) 40bytes
   Answer: d
   Explanation: IPv6 datagram has fixed header length of 40bytes, which results in faster processing of the datagram.

3. In the IPv6 header, the traffic class field is similar to which field in the IPv4 header?
   a) Fragmentation field  b) Fast-switching  c) ToS field  d) Option field
   Answer: c
   Explanation: This field enables to have different types of IP datagram.

4. IPv6 does not use ______ type of address
   a) Broadcast  b) Multicast  c) Anycast  d) None of the mentioned
   Answer: a
   Explanation: Broadcast has been eliminated in IPv6.

5. These are the features present in IPv4 but not in IPv6.
   a) Fragmentation  b) Header checksum  c) Options  d) All of the mentioned
   Answer: d
   Explanation: All the features are only present in IPv4 and not IPv6.

6. The ____ field determines the lifetime of IPv6 datagram
   a) Hop limit  b) TTL  c) Next header  d) None of the mentioned
   Answer: a
   Explanation: The Hop limit value is decremented by one by a router when the datagram is forwarded by the router. When the value becomes zero the datagram is discarded.

7. Dual-stack approach refers to
   a) Implementing Ipv4 with 2 stacks  b) Implementing Ipv6 with 2 stacks
c) Node has both IPv4 and IPv6 support  d) None of the mentioned
Answer: c
Explanation: dual-stack is one of the approach used to support IPv6 in already existing systems.

8. Suppose two IPv6 nodes want to interoperate using IPv6 datagrams but are connected to each other by intervening IPv4 routers. The best solution here is
a) use dual-stack approach  b) Tunneling  c) No solution  d) Replace the system
Answer: b
Explanation: The IPv4 routers can form a tunnel.

9. Teredo is an automatic tunneling technique. In each client the obfuscated IPv4 address is represented by bits
a) 96 to 127  b) 0 to 63  c) 80 to 95  d) 64 to 79
Answer a) 96 to 127, Bits 96 to 127 in the datagram represents obfuscated IPv4 address.

10. To enable OSPFv3, which of the following would you use?
 a) Router1(config-if)# ipv6 ospf 10 area 0.0.0.0
 b) Router1(config-if)# ipv6 router rip 1
 c) Router1(config)# ipv6 router eigrp 10
 d) Router1(config-rtr)# no shutdown
 e) Router1(config-if)# ipv6 eigrp 10
Answer a) Router1(config-if)# ipv6 ospf 10 area 0.0.0.0

1. An interconnected collection of piconet is called
a) scatternet  b) micronet  c) mininet  d) none of the mentioned
Answer a) scatternet

2. In a piconet, there can be up to _____ parked nodes in the net.
 a) 63  b) 127  c) 255  d) 511
Answer c) 255

3. Bluetooth is the wireless technology for
a) local area network  b) personal area network  c) both (a) and (b)
d) none of the mentioned
Answer b) personal area network

4. Bluetooth uses
a) frequency hoping spread spectrum  b) orthogonal frequency division multiplexing
c) time division multiplexing  d) none of the mentioned
Answer a) frequency hoping spread spectrum

5. Unauthorised access of information from a wireless device through a bluetooth connection is called
a) bluemaking  b) bluesnarfing  c) bluestring  d) none of the mentioned
Answer b) bluesnarfing

6. What is A2DP (advanced audio distribution profile)?
a) a bluetooth profile for streaming audio  b) a bluetooth profile for streaming video
c) a bluetooth profile for security  d) none of the mentioned
Answer a) a bluetooth profile for streaming audio

7. In the piconet of bluetooth one master device
a) can not be slave  b) can be slave in another piconet
c) can be slave in the same piconet  d) none of the mentioned
Answer b) can be slave in another piconet

a) 2.4 GHz ISM  b) 2.5 GHz ISM  c) 2.6 GHz ISM  d) 2.7 GHz ISM
Answer a) 2.4 GHz ISM

9. The bluetooth supports
a) point-to-point connections  b) point-to-multipoint connection
c) both (a) and (b)  d) none of the mentioned
Answer c) both (a) and (b)

10. A scatternet can have maximum
a) 10 piconets  b) 20 piconets  c) 30 piconets  d) 40 piconets
Answer a) 10 piconets

1. A special type gateway that can keep external users from accessing resources on the LAN users access the external info is called:
A. Repeater  B. Firewall  C. Encryption  D. Hub  E. None of these
Answer B. Firewall

2. What is the name given to the exchange of control signals which is necessary for establishing a connection between a modem and a computer at one end of a line and another modem and computer at the other end?
1. **Handshaking**  
2. **Modem options**  
3. **Protocol**  
4. **All of these**  
5. **None of these**  

3. In SQL, which command is used to changes data in a data table?  
A. **UPDATE**  
B. **INSERT**  
C. **BROWSE**  
D. **APPEND**  
E. **None of these**  
Answer A. **UPDATE**

4. In SQL, which of the following is not a data definition language command?  
A. **RENAME**  
B. **REVOKE**  
C. **GRANT**  
D. **UPDATE**  
E. **None of these**  
Answer D. **UPDATE**

5. Which command(s) is (are) used to redefine a column of the table in SQL?  
A. **ALTER TABLE**  
B. **DEFINE TABLE**  
C. **MODIFY TABLE**  
D. **ALL of the these**  
E. **None of these**  
Answer A. **ALTER TABLE**

6. In a relational schema, each tuple is divided into fields called  
A. **Relations**  
B. **Domains**  
C. **Queries**  
D. **All of the these**  
E. **None of these**  
Answer B. **Domains**

7. An indexing operation  
A. Sorts a file using a single key  
B. Sorts file using two keys  
C. Establishes an index for a file  
D. Both (1) and (3)  
E. **None of these**  
Answer C. Establishes an index for a file

8. Data security threats include  
A. Hardware failure  
B. Privacy invasion  
C. Fraudulent manipulation of data  
D. **All of these**  
E. **None of these**  
Answer B. Privacy invasion

9. The language used in application programs to request data from the DBMS is referred to as the  
A. **DML**  
B. **DDL**  
C. **Query language**  
D. **DCL**  
E. **None of these**  
Answer A. **DML**

10. A ____ contains the smallest unit of meaningful data, so you might call it the basic building block for a data file.  
A. File structures  
B. Records  
C. **Fields**  
D. Database  
E. **None of these**  
Answer C. **Fields**