

145/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. SCSI stands for :
 - (A) Small Computer Systems Interface
 - (B) Simple Component Systems Interface
 - (C) Simple Computer Systems Interface
 - (D) Small Component Systems Interface

2. Which of the following is a logical extension of multiprogramming?
 - (A) Multi processing
 - (B) Multitasking
 - (C) Real time processing
 - (D) Distributed processing

3. Which among the following is not an example of a Java wrapper class?
 - (A) Char
 - (B) Integer
 - (C) Boolean
 - (D) Byte

4. Which one of the following is not an ACID property?
 - (A) Atomicity
 - (B) Consistency
 - (C) Isolation
 - (D) Dependency Preservation

5. Which among the following sorting method is also known as Bucket sorting?
 - (A) Radix sort
 - (B) Heap sort
 - (C) Merge sort
 - (D) Quick sort

6. Which one of the following key is called the minimal super key?
 - (A) Candidate key
 - (B) Super key
 - (C) Primary key
 - (D) None

7. A relation schema R is in _____, if whenever a nontrivial functional dependency $X \rightarrow A$ holds in R , then X is a super key of R .
 - (A) 3NF
 - (B) BCNF
 - (C) 4NF
 - (D) 5NF

8. The maximum number of relationship instances that an entity can participate in, can be specified by :
 - (A) Degree
 - (B) Cardinality ratio
 - (C) Participation constraint
 - (D) Dependency constraint

9. The time required to insert an element in a stack with linked implementation is :
- (A) $O(1)$ (B) $O(n)$
 (C) $O(\log_2 n)$ (D) $O(n \log_2 n)$
10. FPI stands for :
- (A) Faults per inch (B) Frames per inch
 (C) Figure per inch (D) Film per inch
11. A binary search tree is generated by inserting the following integers in order
 50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24
 The number of nodes in the left sub tree and right sub tree of the root respectively is :
- (A) (4, 7) (B) (7, 4)
 (C) (8, 3) (D) (3, 8)
12. What is the postfix form of the following expression :
- $A + (B * C - (D / E \wedge F) * G) * H$
- (A) $ABC*DEF \wedge / G* - H*+$ (B) $ABC*DEF \wedge / G - *H*+$
 (C) $ABC*DEF / \wedge G*-H*+$ (D) $ABC*DEF / \wedge G- *H*+$
13. The maximum throughput S_{max} for pure ALOHA is :
- (A) .368 (B) .186
 (C) .184 (D) .364
14. An array element is accessed using :
- (A) a first in first out approach (B) the dot operator
 (C) a member name (D) an index number
15. What is the minimum number of edges which must be removed from a complete bipartite graph of six nodes $K(6)$, so that the remaining graph is planar?
- (A) 3 (B) 4
 (C) 5 (D) 6
16. If x is an array of integer, then the value of $\&x[i]$ is same as :
- (A) $x+i$ (B) $x+\text{sizeof(int)}*i$
 (C) $\&x[i-1]+\text{sizeof(int)}$ (D) None of these
17. The best normal form of the relation schema $R(A, B, C, D)$ along with set of functional dependencies $F = \{ AB \rightarrow C, AB \rightarrow D, C \rightarrow A, D \rightarrow B \}$ is :
- (A) First Normal Form (B) Second Normal Form
 (C) Third Normal Form (D) Boyce Codd Normal Form