1.

Which of the following file organizations is/are I/O efficient for the scan operation in DBMS?

A Sorted

B Heap

C Unclustered tree index

D Unclustered hash index

2.

In a B+ tree, the requirement of at least half-full (50%) node occupancy is relaxed for which one of the following cases?

A Only the root node

B All leaf nodes

C All internal nodes

D Only the leftmost leaf node

3.

Which one of the following statements is NOT correct about the B^+ tree data structure used for creating an index of a relational database table?

A B^+ tree is a height-balanced tree

B Non-leaf nodes have pointers to data records

C Each leaf node has a pointer to the next leaf node

D Key values in each node are kept in sorted order

4.

B^+ Trees are considered BALANCED because

A the lengths of the paths from the root to all leaf nodes are all equal.

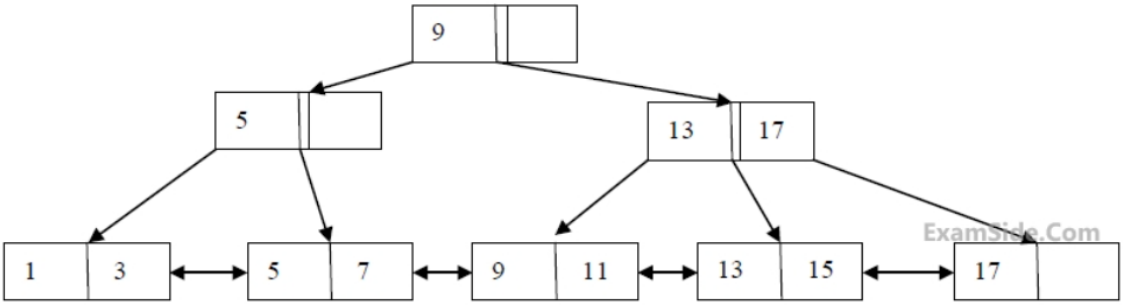
B the lengths of the paths from the root to all leaf nodes differ from each other by at most 1.

C the number of children of any two non-leaf sibling nodes differ by at most 1.

D the number of records in any two leaf nodes differ by at most 1.

5.

With reference to the B^+ tree index of order 1 shown below, the minimum number of nodes (including the Root node) that must be fetched in order to satisfy the following query: "Get all records with a search key greater than or equal to 7 and less than 15" is _____



6.

A file is organized so that the ordering of data records is the same as or close to the ordering of data entries in some index. Then that index is called

A Dense

B Sparse

C Clustered

D Unclustered

7.

A B-Tree used as an index for a large database table has four levels including the root node. If a new key is inserted in this index, then the maximum number of nodes that could be newly created in the process are:

A 5

B 4

C 3

D 2

8.

B^+-trees are preferred to binary trees in databases because

A Disk capacities are greater than memory capacities

B Disk access is much slower than memory access

C Disk data transfer rates are much less than memory data transfer rates

D Disks are more reliable than memory

9.

Which of the following is correct?

A B-trees are for storing data on disk and B^+ trees are for main memory.

B Range queries are faster on B^+ trees.

C B-trees are for primary indexes and B^+ trees are for secondary indexes.

D The height of a B^+ tree is independent of the number of records.

10.

There are five records in a database.

Name	Age	Occupation	Category
Rama	27	CON	A
Abdul	22	ENG	A
Jennifer	28	DOC	B
Maya	32	SER	D
Dev	24	MUS	C

There is an index file associated with this and it contains the values 1, 3, 2, 5 and 4. Which one of the fields is the index built from?

A Age

B Name

C Occupation

D Category