Please mark your answers clearly on the following Answer Sheet. Each true answer is [illegible]
The evaluation will be done over only this Answer Sheet. Good Luck.

1.	a	b	c	d	6.	a	b	c	d	11.	a	b	c	d	16.	a	b	c	d	21.	
2.	a	b	c	d	7.	a	b	c	d	12.	a	b	c	d	17.	a	b	c	d	22.	
3.	a	b	c	d	8.	a	b	c	d	13.	a	b	c	d	18.	a	b	c	d	23.	
4.	a	b	c	d	9.	a	b	c	d	14.	a	b	c	d	19.	a	b	c	d	24.	
5.	a	b	c	d	10.	a	b	c	d	15.	a	b	c	d	20.	a	b	c	d	25.	

1) We want to make insertion sort over the array 32, 23, 34, 33, 44, 18, 21, 43, and 58. How do the data and the position (R[p]) appear in the next first and fourth, and in the last steps?

a) Data: 18, 23, 34, 33, 44, 32, 21, 43, 58. R[p]: 23.
Data: 18, 23, 33, 34, 44, 32, 21, 43, 58. R[p]: 33.
Data: 18, 21, 23, 32, 33, 34, 43, 44, 58. R[p]: 43.

b) Data: 23, 32, 34, 33, 44, 18, 21, 43, 58. R[p]: 32.
Data: 23, 32, 33, 34, 44, 18, 21, 43, 58. R[p]: 33.
Data: 18, 21, 23, 32, 33, 34, 43, 44, 58. R[p]: 58.

c) Data: 18, 23, 34, 33, 44, 32, 21, 43, 58. R
Data: 18, 23, 33, 34, 44, 32, 21, 43, 58. R
Data: 18, 21, 23, 32, 33, 34, 43, 44, 58. R

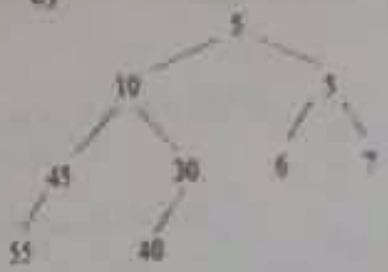
d) Data: 23, 32, 33, 34, 44, 18, 21, 43, 58. R
Data: 18, 23, 21, 32, 33, 43, 34, 44, 58. R
Data: 18, 21, 23, 32, 33, 34, 43, 44, 58. R

2) ..... is the time taken to move the disk heads to the track on which a desired block is loc
a) Seek time b) Rotational delay c) Transfer time d) Latency

3) In B+ trees, only non-leaf pages cover .....
a) Data b) Data entries c) Index entries d) Search key

4) Which one is not in the same height offering kind as the others?
a)

c)



d)

5) What is h_1(key) for a linear hashing example having h_0(key)=key mod 5?
a) key mod 25 b) key mod 20 c) key mod 10 d) key mod 5

6) How many input buffers are definitely not enough for General External Merge Sort?
a) 5 b) 4 c) 3 d) 2

7) Which one can we always use to sort the file segments with one available disk drive?
a) Heapsort b) Replacement Selection c) External Merge Sort d) Externa

8) Which one is not true about the estimates of operational costs in various file organizations?
a) In heap file, cost of equality is half of the cost of scanning.
b) Insertion and deletion costs are same in clustered files.
c) Scanning in clustered files cost more than in sorted files.
d) Insertion cost is dependent on number of data pages in unclustered index files.

9) Which one is true about static tree structures?
a) Static tree structures are divided into two groups: B+ tree and ISAM.
b) In a static tree, deletes do not affect non-leaf pages.
c) There are index and data entries in static tree structures.
d) Overflow pages can be used when necessary.

10) What is the data order in the memory at the line of remaining input "90, 80, 3" when performing replacement selection for the data 90, 80, 3, 5, 107, 125, 200, 56, 11 with F=4?
a) 56, 11 b) 5, 107, 125, 200, 56, 11 c) 125, 200, 5, 107 d) 90, 80, 3

11) Which one is not true for unclustered index?
a) We can use unclustered method in tree indexes. b) The order of data records is identical to the sorted order.
c) We can have several unclustered indexes on a data file. d) There can be unclustered hash indexes.

12) File system is placed in between .....
a) Operating system and DBMS b) Operating system and application
c) Application and hardware d) Hardware and DBMS

13) What is the hash address when you convert the number 500 (in base 10) into another number in base 15 and then apply radix transformation for the addresses from 0 to 25?
a) 5 b) 10 c) 15 d) 20

14) What is the packet density when storing 250 data records into a hashed file with 50 bucket addresses, each bucket holding 5 records?
a) %1 b) %5 c) %50 d) %100

15) Which argument is not included in an 'fseek' command?
a) SEEK_START b)SEEK_SET c)SEEK_CUR d)SEEK_END

16) Which is not a description in Bulk Loading?
a) It is much faster than repeated inserts. b) It is advantageous for concurrency control.
c) It does not give sequential storage of leaves. d) It does not require much more I/Os during build.

17) Which data structure organizes records with tree or hashing?
a) Index b) Heap file c) Sorted file d) Bucket

18) What is the height of Root in a B+ tree?
a) 0 b) 1 c) 2 d) 3

19) ..... is the average number of children of an internal node inside a B+ tree index.
a) Bucket factor b) Fan-out c) Index entry d) Data entry

20) Attributes in SQL ..... clause are candidates for index keys.
a) SELECT b) FROM c) WHERE d) SERVER

21) Which index type does exactly not need index entries?
a) Hash b) B+ tree c) ISAM d) Unclustered

22) Insert the letters of "Matematik" into AVL tree. After which letter it needs a transformation?
a) k b) i c) e d) a

23) Which collision resolution method does not use increment function?
a) Linear quotient b) Brent's method c) Computed chaining d) Progressive overflow

24) Insert numbers 26,17,28,38,12,15,39,50 by using mod 11. For collisions use "use of buckets" method. Which numbers will be in slot 7?
a) 17,28 b) 38,12 c) 39,50 d)12,15

25)
```
for(i=1;i<=100;i++)
    fwrite(&Data,sizeof(struct clientData),1,cfPtr);
    fclose(cfPtr);
```
Which one belongs to a purpose of the above C program part?
a) Data are deleted from the file 100 times. b) Same data are transformed to the file 100 times.
c) 100 different sequential files are constructed. d) 100 bytes are transformed from the file to the Data.