Persistent Technical Papers 3

1st SECTION(Data structures and Alogorithm.)

1)From the following when 43 will not be found by binary search (a series was given with last element 43 in each)

2)On which maximum operations cannot be performed .if we want to use abstract data type.

  a)Array
  b)Hash Table
  c)Linked List
  d)Heap
  e)Binary Tree

3)A hash table has a size of 11 and data filled in its position like{3,5,7,9,6}how many comparisons have to be made if data is not   found in the list in worst case
  a) 2
  b) 6
  c) 11
  d)
ANS:- 2

4)Forest with n Trees and having p edges then
  a)n(1-p)
  b) n = p +2
  c) n-p+1
  d)
  e)

5)Find the shortest path from B to E
ANS: 7
one Question on Postfix.

2ndSECTION (C LANGAUGE)

1) what is int(*(*ptr (int))(void)
  a)Pointer to function with no arguments(void) and return pointer to integer.
  b)----
  c)

2)func(char *s1,char * s2)
  {
    char *t;
   t=s1;
   s1=s2;
   s2=t;
  }
  void main()
  {

```
        char *s1=?jack?, *s2=?jill?;
        func(s1,s2);
        printf(?%s %s ?,s1,s2);
}
```
  OUTPUT jack jill

3) void main()
```
    {
        int a[5] ={1,2,3,4,5},i,j=2,b;
        for (i =0;i<5;i++ )
        func(j,a[i]);
        for (i =0;i<5;i++ )
        printf(?%d?,a[i]);
    }
    func(int j,int *a)
    {
      j=j+1;
      a=a+j;
      b= b+2;
    }
```
OUTPUT: 12345

4) void main()
```
    {
        for (a=1;a<=100;a++)
        for(b=a;b<=100;b++)
        foo();
    }
    foo()
    { }
```
  how many times foo will be called.
 a) 5050
 b) 1010
 c)
 d)
 ANS: 5050

5)A tree was given with nodes assigned clours red, blue, yellow, green and more that one node is having colour red.They have   asked that how many times the output will be red if the total number of evaluation is 11.
   some code was given--I don't remember that.

3rd Section(O.S)

1) If there are n proceses and each process waits p time in waiting state then cpu utilization is-:
 a) n(1-p)
 b) n*p

2)No. of pages are given and using LRU algorithm we have to find the number of page faults.
 a)2
 b)6

c)5
d)7

3)There is a file server which provides locking for mutual exclusion . if any procees locks the file and abruptly terminated this will   result in indefinitely locking .The solution they found is to implement a timer for locking of file i.e. if time outs then server assumes   that file is indefinitely locked and terminate the process ?
  a) this solution is perfect for mutual exclausion
  b) this will solve indefinite locking
  c) this will result in interleaving of file between processes
  d) will allow the concurrent process to access the file.

4)A critical Section is
  a)for mutual exclusion
  b)a set of shared resources
  c)
  d)

5)Match the following.

  1)Critical Section   a)Mutual exclusion
  2)Wait/signal   b)Deadlock
  3)Working set   c)Hoare's Monitor
  4)Semaphore   d)

4th Section(TOC)

1)output for the diagram one diagram of AC was given

a.odd number of a

b.even numbers of a

c.even number of b.

d odd number b

CFG was given
  S -> 1 S 1
  S-> 0 S 0
  S -> 1 1
  S -> 0 0
  Find out the string

3)

5th section General

1)Probability to find digits which not contain 7 between 100 to 999
  Ans=18/25

2)Difference between Packet switching & Circuit Switching.
   Ans= CS take more time to established circuit.

3)in cache memory 100ns an in main memory 200ns what is the cache hit ratio.what % should be cache memory so that not more than 20 % is main memory accessed.

a.90%

b.95%

c.98%

d80%

4)From the set {a,b,c,d,e,f} find no. of arrangements for 3 alphabets with no data repeated.
   ANS=360. OR for 4 alpha ANS=720.

5)

6th section (DBMS)

1)employee(eno,ename)
  works_on(eno,pno,ename)
  project(pno, project)
  select ename from employee where eno in(select eno from works_on where pno =(select *from project)
   what is the output ?
  a)Employee who works on all project.
  b)Employee who works one project .
  c) name of employee who works on more than one project.
  d)

2)Select ename from employee where salary = salary

3)what is the use of B-tree
  a) has fixed index file size
  b) is better for queries like $<$ $<=$ $>$ $>=$
  c) searching will be easy
  d)

4)Question on inner Join returning N- tuples & Full outer Join returns M- tuples. For both Variables are given & in options   relationship is given to find whichever have greater tuples.And variable D is given------
   a)then N= M
   b) N = M + D
   c)
   d)

5) To save space which option is better
   a) write all join operation then select then project
   b) write all join operation then projects then select
   c)write all join operation then select between project

Test 2- Consist of Two Questions. In this we have to make a C program.

Q.1)
Inward-spiral order matrix.

i.e you have to traverse the matrix in clockwise manner and display the elements, for eg.

```
1  2  5  4
8  9  7  1
9  7  6  3
2  3  5  8
```

output should be 1, 2, 5, 4, 1, 3, 8, 5, 3, 2, 9, 8, 9, 7, 6, 7

Q.2)
insert operation on doubly link list.