Persistent Systems Sample Paper Questions

Q1. What is the callable collections in java?

Q2. How to make a method thread safe without using synchronized keyword?

Q3. What is the purpose of share point?

Q4. Write a script to generate n prime no.s?

Q5. Write a script to display mirror image of a entered value and also check whether Palindrome

Q6. Write a script to check whether user enter a value is a leap year or not?

Q7. How many requests will be send to server and response coming from server when you open a web page (e.g. xyz.php) which has an image tag?

Q8. Explain 5 Test Matrics?

Q9. Explain the Pros and Cons of testing the software by Development team and by testing team?

Q10. A c program to tell that the set of three coordinates lie on a same line
how the jsp file is compiled?

Q11. Program in c to reverse string by word using array (god is love becomes love is god) (no additional array can used, space is only delimiter between words)

Q12. What is difference between individual test team testing and self testing by developer? give pros n cons.

Q13. What is test metrics? give example of it.

Q14. Write a code for large nos multiplication (upto 200 digits)

Q15. When we enter url,one page should open. Write a vb script, that page is open or not

Q16. How can I test the unix shell in QTP

Q17. Explain 5 Test Matrixes

Q18. What are software testing metrics

Q19. How to send e-mail from an ASP.NET application?

Q20. What is the need of testing? Give three reasons....

Q21. How many page directive we can use in a single JSP?

Q22. What do you meant by Platform-Independent in Java?

Q23. Why Java is not purely object oriented?

Q24. What do you meant by Runtime Polymorphism?

Q25. Difference between abstract class and Interfaces in Java

Q26. How many page directive we can use in a single JSP?

Q27. Why Java is not purely object oriented?

Q28. Difference between Hash Table and Hash Map?

Q29. Question of Binary search tree to find node when 43 will not be found

ANS; Every data set was having 43 as its last element.

Q30. To find complexity of Linked list .Singly circular ordered list is there if m elements are to be inserted what will be the complexity of time.

i. O(m*n).
ii. O(m*(m+n)).
iii. O((m+n)*log(m+n))

Q31. Adjacency matrix question to find shortest path

ANS; 7

A B C D E
A 0 m

B m 0 2 2 m
C 0 5
D 0 6
E 0

Where m=infinity, Find shortest path from B to E.

Q32. Forest & Tree question to find total no of nodes

1. n-(p+2) ANS
2. n-p+2.
3. n-p. etc

ANS: 1

Q33. Infix to Postfix expression Of A+B*(C+D)/E+F {ANS=ABCD+*E/+F+ } question is not confirm but pattern is of same type

DBMS:

Q1. Query from Navathe Select fname,lname from employee where eno in (select eno from works-on where pno=(select * from project)); what is the output .

Q2. A query is given eg. Select name from employee where salary=salary. They ask whether query runs or not so just check it.

ANS: Query Invalid

Q3. What is the main use of B & B+ trees in database

ANS: For queries

Q4. Question on Left outer Join & Full outer Join. For both Variables are given & in options relationship is given to find whichever have greater tuples.

Q5. To save space which option is better . Options are

i. Write all join operation than select than project.
ii. Write all join operation than project than select.
iii. Write all join operation in between select & project.

OS

Q1. Using LRU how many page faults are generated. 20 pages are there Ans=6 page Fault

Q2. Match the column

Options

i. semaphore i
ii. Monitor ii
iii. Deadlock iii
iv. Mutual Exclusion iv. Iv

Q3. One question on file locking. Scenario is given

ANS: 1. Provide indefinite locking

Q4. Prevent intermediate file Access. (Both 1 & 2)

Q5. If there are n processes & each process waits p time in waiting state then CPU utilization is (options are)

1. n(1-p)
2. (1-p to the power n) ANS (not sure)
3. 1-np.
4. n*p
5. A critical section is Ans = a set of instruction which is shared by many process.

C Programming:

Q1. Array pointer is pass

Q2. String Buffer Question

Q3. String Concatenate(Char *s1,Char *s2)

```
{
Char buf[1000];
Buf[0]=null;
Strcat(buf,s1);
Strcat(buf,s2);
Return buf;
}
```

i. should not return pointer to local variable.
ii. Nothing Wrong in this function.
iii. It dont work if length exceeds 1000 char.

Q4. foo() call how many times

ANS: 5050

```
For(i=1;i< =100;i++)
For (j=1;j<=100;j++)
Foo();
```

Programming Section:

Q1. Occurrence of letters in String. Get string from KB of any length & print letters coming maximum time first than second largest….. i.e in descending order.

Their requirement: They want that u make this program thru linked list if u do that than it is well n good. Must allocate memory dynamically. Use proper assumptions & Comments everywhere this will add more advantage .use in all programs. Output look like if u enter string aababbbcba

b 5 times
a 4 times
c 1 times just like that

Hint: Make array of 256 chars. Now Scan the string pick each char and according to its acsii value increment that index value at last u have an array which have counter for each alphabet. Sort this array & display.

Q2 . Sparse Matrix Addition.

A structure of sparse matrix is given. You have to create a function sparse add to add 2 sparse matrices

Structure is some how like

Struct Sparsematrix

```
{
int row ;
int col ;
int val;
SparseMatrix *next;
}
```

You have to made function to add two sparse matrices.
Function signature like

SparseMatrix SparseAdd(SparseMatrix s1,SparseMatrix s2)

Q1. Time Complexity

Q2. Which of the following cannot be implemented efficiently in Linear Linked List

1. Quicksort
2. Radix Sort
3. Polynomials
4. Insertion Sort
5. Binary Search

Q3. In binary search tree , n=nodes, h=height of tree. Whats complexity?

1. o(h)
2. o(n*h)
3. o(nLogn)
4. o(n*n)
5. None

Q1.

Printf("%d%d",i++,i++);

1. Compiler Dependent
2. 4 4
3. 4 3
4. 3 4
5. None of Above

Q2. What is the output?

```
void main()
{
printf("persistent");
main();
}
```

1. Till stack overflows
2. Infinite
3. 65535
4. 34423
5. None

Q3. What is Swapping?

Q4. What does it do?

```
void f(int n)
{
if(n>0)
{
if(A[i]>A[j])
swap();
}
else
f(n-1);
}
```

1. Swap
2. Sort in Ascending order
3. Sort in Descending order
4. Computes permutation

Q5. Given a Fibonacci function

f1=1;f2=1
fn=f(n-1)+f(n-2)

Which of the following is true?

1. Every Second element is even
2. Every third element is odd
3. The series increases monotonally

4. For n>2, fn=ceiling(1.6 * f(n-1))
5. None

Q1. If there are n processes and each process waits p time in waiting state then cpu utilization is-:

a) n(1-p)
b) n*p

Q2. A string of pages were given and no of page faults have to be found in LRU Algorithm

Q3. Here is a file server which provides locking for mutual exclusion . if any process 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 exclusion
b) This will solve indefinite locking
c) This will result in interleaving of file between processes

Q4. A critical section is –

ANS: a set of instruction which is shared by many processes

Q5. There was a question on automata

ANS: The resultant string will have even no of
C

Q6. CFG was given

S -> 1 S 1
S-> 0 S 0
S -> 1 1
S -> 0 0

Find out the string

Q7. One singly circular ordered list is there if M elements are to be inserted what will be the complexity of time

a) O(M*N)
b) O(M*(M+N))
c) O ((M+N) * log(M+N))
d) none of these

Q8. Find postfix and prefix of A + B * (C + D) / E + F

Q9. Find out shortest path from A to B

A B C D E
A 0 m
B m 0 2 2 m
C 0 5
D 0 6
E 0

Q10. From the following when 43 will not be found by binary search (a series was given with last element 43 in each)

Q11. From 100 – 999 find the prob. Of getting 3 digit no with no 7 in any of its digit

a) 18/25
b) 10/25

c) 729/1000
d) none

Q12. From the set {a,b,c,d,e,f} find no of arrangements for 3 alphabet with no data Repeated

Q13. To save space which option is better

a) write all join operation than select than project
b) ---------,,----------than project----select
c) ----------,,----------in b/w select and project

Employee = { e_no , salary, fname, lname}
Works_On = {e_no, p_no, hrs}
Project = {p_no, p_name}

Q14. Select e_no from Employee where salary = salary

a) query invalid
b) query valid

Q15. Select fname ,lname from Employee where e_no in (select e_no from works_on where p_no =(select * from project))

Q16. B tree is different from other

a) has fixed index file size
b) is better for queries like < <= > >=
c) searching will be easy

Q17.

*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);
}
```

ANS: jack jill

Q18.

```
void main()
{
int a[5] ={1,2,3,4,5},i,j=2;
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;
}
```

Q19.

```
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

Q20. A hash table has a sie 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

Q21. Packet switching is better than circuit switching coz

a) it takes less time
b) it takes less bandwidth
c) it takes low frequency
d) none

Q22. Addition of two sparse matrix in 3 tupple notation ---time 30 min 24a tree has 1000000 nodes than how many search r required to search a node.

Q23. A program to arrange a string in order of occurrence of the character