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Best of luck -A.P. Singh
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## Various Placement Papers of 2005 23-3-2004

## PLACEMENT PAPER DE SHAW

## SECTION-A

Write the programs for the following problems in C.

1. Swap two variables $x, y$ without using a temporary variable.
2. Write algorithm for finding the GCD of a number.
3.Write a program for reversing the given string.
3. The integers from 1 to n are stored in an array in a random fashion. but one integer is missing. Write a program to find the missing integer.
Ans). Hint : The sum of $n$ natural numbers is $=n(n+1) / 2$.
if we subtract the above sum from the sum of all the numbers in the array, the result is nothing but the missing number.
4. Some bit type of questions has been given on pointers asking to
to find whether it is correct from syntax point of view. and if it is correct explain what it will do.(around 15 bits).

## SECTION-B

6. For the following $C$ program
\#define AND \&\&
\#define ARRANGE ( $a>25$ AND $a<50$ )
main()
\{int a $=30$;
if (ARRANGE)
printf("within range");
else
printf("out of range");
\}
What is the output?
7. For the following $C$ program
\#define AREA(x)(3.14* $\left.x^{*} x\right)$
main()
\{floatr $1=6.25, r 2=2.5, \mathrm{a}$;
a=AREA(r1);
printf("In Area of the circle is \%f", a);
a=AREA(r2);
printf("In Area of the circle is \%f", a);
\}
What is the output?
Ans. Area of the circle is 122.656250
Area of the circle is 19.625000
8. What do the following statements indicate. Explain.
int(*p)[10]
int $^{*} f()$
int(*pf)()
int*p[10]
Refer to:
-- Kernighan \& Ritchie page no. 122
-- Schaum series page no. 323
9. Write a C program to find whether a stack is progressing in forward or reverse direction.
10. Write a C program that reverses the linked list.

## PLACEMENT PAPER HCL TECHNOLOGIES

## Section A

1. Which of the following involves context switch,
(a) system call
(b) priviliged instruction
(c) floating poitnt exception
(d) all the above
(e) none of the above Ans: (a)
2. In OST, terminal emulation is done in
(a) sessions layer
(b) application layer
(c) presentation layer
(d) transport layer
Ans: (b)
3. For a 25 MHz processor, what is the time taken by the instruction which needs 3 clock cycles,
(a) 120 nano secs
(b) 120 micro secs (c) 75 nano secs
(d) 75 micro secs
4. For 1 MB memory, the number of address lines required,
(a)11 (b)16 (c)22
(d) 24

Ans. (b)
5. Semaphore is used for
(a) synchronization
(b) dead-lock avoidence
(c) box
(d) none

Ans. (a)
6. Which holds true for the following statement class c: public A, public B
a) 2 member in class $A$, $B$ should not have same name
b) 2 member in class $A, C$ should not have same name
c) both
d) none

Ans. (a)
7. Question related to java
8. OLE is used in
a) inter connection in unix $\quad$ b) interconnection in WINDOWS
c) interconnection in WINDOWS NT
9. Convert a given HEX number to OCTAL
10. Macros and function are related in what aspect?
(a)recursion
(b)varying no of arguments
(c)hypochecking
(d)type declaration
11.Preproconia.. does not do which one of the following
(a) macro
(b) conditional compliclation
(c) in type checking
(d) including load file

Ans. (c)
12. Piggy backing is a technique for
a) Flow control
b) Sequence
c) Acknowledgement
d) retransmition

Ans. (c)
13. In signed magnitude notation what is the minimum value that can be represented with 8 bits
(a) -128
(b) -255
(c) -127 (d) 0
14. There is an employer table with key fields as employer number data
in every n'th row are needed for a simple following queries will get required results.
(a) select $A$ employee number from employee $A$, where exists from employee $B$ where $A$ employee no. $>=B$
employee having (count(*) mod $n$ ) $=0$
(b) select employee number from employe $A$, employe $B$ where $A$ employe number>=B employ number
group by employee number having (count(*) mod $n=0$ )
(c) both (a) \& (b)
(d) none of the above
15. Type duplicates of a row in a table customer with non uniform key field customer number you can see
a) delete from costomer where customer number exists( select distinct customer number from customer having count )
b) delete customer a where customer number in b rowid
c) delete customer a where custermor number in( select customer number from customer a, customer b )
d) none of the above

## Section B

1. Given the following statement
enum day $=\{$ jan $=1$,feb=4, april, may $\}$
What is the value of may?
(a) 4
(b) 5
(c) 6
(d) 11
(e) None of the above
2. Find the output for the following $C$ program

## main

\{int x, j, k;
$j=k=6 ; x=2$;
$x=j^{*} k ;$
printf("\%d", x);
3. Find the output for the following $C$ program fn $f(x)$
\{if( $x<=0$ )
return;
else $f(x-1)+x$;
\}
4. Find the output for the following C program $\mathrm{i}=20, \mathrm{k}=0$;
for $\left(j=1 ; j<i ; j=1+4^{*}(i / j)\right)$
\{k+=j<10?4:3;
\}
printf("\%d", k);
Ans. k=4
5. Find the output for the following $C$ program
int $\mathrm{i}=10$
main()
\{int $\mathrm{i}=20, \mathrm{n}$;
for ( $n=0 ; n<=i$;
\{int $\mathrm{i}=10$;
i++;
\}
printf("\%d", i);
Ans. $\mathrm{i}=20$
6. Find the output for the following $C$ program
int $x=5$;
$y=x \& y$
7.Find the output for the following C program
$Y=10$;
if( $\mathrm{Y}++>9$ \&\& $\mathrm{Y}++!=10$ \& \& $\mathrm{Y}++>10)$
\{printf("\%d", Y);
else
printf("\%d", Y);
\}
Ans. 13
8. Find the output for the following $C$ program $f=(x>y)$ ? $x: y$
a) f points to max of $x$ and $y$
b) f points to min of $x$ and $y$
c)error

Ans. (a)
9. What is the sizeof(long int)
(a) 4 bytes
(b) 2 bytes
(c) compiler dependent
(d) 8 bytes
10. Which of the function operator cannot be over loaded
(a) $<=$
(b) ?:
(c) $==$
(d) *
11. Find the output for the following $C$ program
main()
\{intx=2, $y=6, z=6$;
$\mathrm{x}=\mathrm{y}==\mathrm{z}$;
printf(\%d",x)
\}

## Section C (Programming Skills)

Answer the questions based on the following program STRUCT DOUBLELIST
\{ DOUBLE CLINKED
INT DET; LIST VOID
STRUCT PREVIOUS; (BE GIVEN AND A PROCEDURE TO

DELETE)
STRUCT NEW; (AN ELEMENT WILL BE GIVEN)
\}
DELETE(STRUCT NODE)
\{NODE-PREV-NEXT NODE-NEXT;
NODE-NEXT-PREV NODE-PREV;
IF(NODE==HEAD)
NODE
\}
Q. In what case the prev was
(a) All cases
(b) It does not work for the last element
(c) It does not for the first element
(d) None of these

Answer the questions based on the following program
VOID FUNCTION(INT KK)
\{KK+=20;
\}
VOID FUNCTION (INT K)
INT MM,N=\&M
$\mathrm{KN}=\mathrm{K}$
KN+-=10;
\}
Q. What is the output of the following program
main()
\{ int var=25, varp;
varp=\&var;
varp $p=10$;
fnc(varp)
printf("\%d\%d,var,varp);
(a) 20,55
(b) 35,35
(c) 25,25
(d) 55,55

## Section D

1. $a=2, b=3, c=6$

Find the value of $c /(a+b)-(a+b) / c$
2. What does the hexanumber E78 in radix 7 .
(a) 12455
(b) 14153
(c) 14256
(d) 13541
(e) 131112
Ans. (d)
3. $10: 4$ seconds :: ? : 6 minutes

Ans. 900
4. Q is not equal to zero and $\mathrm{k}=(\mathrm{Q} \times \mathrm{n}-\mathrm{s}) / 2$. What is n ?
(a) $(2 x k+s) / Q$
(b) $(2 \times s \times k) / Q$
(c) $(2 x k-s) / Q$
(d) $(2 x k+s \times Q) / Q$
(e) $(k+s) / Q$
5. From the following statements determing the order of ranking $M$ has double the amount as $D$
$Y$ has 3 rupess more than half the amount of $D$
Ans. Data insuffiecient
Questions 6-10 are to be answered on the following data
A causes B or C, but not both
$F$ occurs only if $B$ occurs
D occurs if $B$ or $C$ occurs
$E$ occurs only if $C$ occurs
$J$ occurs only if $E$ or $F$ occurs
D causes G,H or both
H occurs if E occurs
$G$ occurs if $F$ occurs
6. If A occurs which of the following must occurs
I. F and G
II. E and H
III. D
(a) I only
(b) II only
(c) III only
(d) I,II, \& III
(e) I \& II (or) II \& III but not both

Ans. (e)
7. If B occurs which must occur
(a) D (b) D and G
(c) G and $H$
(d) F and G
(e) J

Ans. (a)
8. If J occurs which must have occured
(a) E
(b) either B or C
(c) both E \& F
(d) B
(e) both B \& C

Ans. (b)
9. Which may occurs as a result of cause not mentioned
I. D
II. A
III. F
(a) I only
(b) II only
(c) I \& II
(d) II \& III
(e) I,II \& III

Ans. (c)
10. E occurs which one cannot occurs
(a) A
(b) F
(c) D
(d) C
(e) J

Ans. (b)
PLACEMENT PAPER OF HP
The test comprises of 4 sections:
Section A. -----50qns(general appitude,english etc):
Section B. ------ 10 Questions on Computer concepts.
Section C. ------ 30 Questions on C
Duration 90 min , no negative marking. one mark per question .
Once this is cleared then u must take a c programming test
duration 40 min .
5 programs,each got differnet papers.one i got was
1.WAP find and replace a character in a string.
2.WA function to perform the substraction of two . Eg:char N1="123",N2="478",N3=-355(N1-N2).
3.WAP dynamically intialize a 2 dimentional array Eg:5x20,accept strings and check for vowels and display the no.finally free the space allocated.
4.WAP read a line from file from location N1 to N2 using command line agruments
Eg:exe 1020 a.c
5.WAP find the largest of 4 no using macros.

General section
Computer science general
c/c++ section
Java section
The question paper had 48 questions to be answered in 1 hr . Time will be quite sufficient. They have different sets of question papers.

1>General section : computer science general knowledge
2> Computer science general: simple questions

1) HP acquired this company in 2002. Which is the company
a) Compaq b) Dell c) option 3 d) Option4

Ans: a
2) what does $3 G$ denote
a) 3rd generation mobile communication b) 3rd generation computer languages c) option 3 d) option4
Ans: a
3)an application program that is used by the users to get the inofrmation from the backend of some application like databases:
a) application server b)proxy server c)database server d)option 4

Ans: database server
4) which of the following is not true about the e-mail
a) it can be accessed by a client program using POP
b) it can be accessed by a client program using imap protocol
c) option 3
d) option 4

Ans: I don't remember the answer but first 2 are true.
5) Some quesion regarding the company and who developed it ( the thing to remember is that Apple produce Macintosh computers).
5) What is $X .25$ ?
a)option 1 b)option 2 c)option 3 d)option 4

Ans: find out??:-)
$3>c / c++$ section: questions on $c / c++$, programs $o / p$ etc.

1) $\operatorname{main}()$
\{
unsigned int $\mathrm{i}=3$;
while( $\mathrm{i}>=0$ )
printf( "\%d", i--);
\}
how many times will the printf stmt be executed?
a)0 b)3 c) 4 d)infinite

Ans: I think the answer is infinite, b'cos ' $i$ ' is an unsigned integer
and it will not decrement below ' 0 ' and hence end up in an infinite
loop.(yes, i checked and it is getting stuck in an infinite loop)
2) main()
\{
int $\mathrm{x}, \mathrm{y}, \mathrm{z}$;
$x=2$;
$y=5$;
$\mathrm{z}=\mathrm{x}+++\mathrm{y}$;
printf("\%d \%d \%d", x, y z);
\}
a)3 57 b)option 2 c)option 3 d)option 4

Ans: a
3) \# define $\operatorname{swap}(a, b)$ temp=a; $a=b ; b=t e m p ;$
main( )
\{
int i, j, temp;
i=5;
$j=10$;
temp=0;
if( $\mathrm{i}>\mathrm{j}$ )
$\operatorname{swap}(\mathrm{i}, \mathrm{j})$;
printf( "\%d \%d \%d", i, j, temp);
\}
Ans: On compiling i got ans 10, 0,0 . I did not understand the concept. Please expalin this to me.
4>Java section: questions on java related stuff.

1) Java was initially code named as:
a)Oak b)green c)miller d)option4

Ans: Oak
2) what is not true about the following statements about java.
a) it is compiled using javac compiler
b) the compiled files have .class extension.
c) such files cannot be transfered from one comp to another.
d) they use the java interpreter

Ans: c
3) Why is the synchronize used?
a) to initialize multiple objects b)to lock an object c)option3 d) option 4

Ans: b (probably)

## PLACEMENT PAPER OF HUGHES

1. Find the probability of getting a number with 7 between 100 and 999 (both inclusive).
2. There are 10 items in a box, out of which 3 are defective. 2 balls are taken one after the other.
What is the probability that both of them are defective?
3. Context free grammar is accepted by
a) finite automata
b) push down automata
c) two way bounded automata
d) both b and c
4. Which is not a memory management scheme?
a) buddy system
b) swapping
c) monitors
d) paging

Ans: c
5. Simplify the Karnaugh map given below and derive its expression in SOP form

- 11 -

1--1
1--1
-11-
6. Question on NAND gates implementation.
7. Definition of Context Sensitive Grammar
8. An identifier can start with a letter followed by any number of letter or digits .
9. With the following configuration:

8 MB total memory, 256 kb cache , 4 kb is block size.
Using direct mapping, how many different physical memory blocks
can be mapped on to the cache.
(a) 64 (b) 256
(c) 128
10. CSMA/CD is used in
a) token ring
b) FDDI
c) ethernet
11. In TCP/IP header, checksum contains
a) sum of all the words
b) ones complement of the data
c) ones complement of the sum of all the words
d) ones complement of the sum in ones complement
12. What is the maximum number of acknowledgements for a 4 bit sequence number in a sliding window protocol.
13. Which is a good way of representing varaibles in recursion
a) local variables
b) static variables
c) global variables
14. Given the following c program
func()
\{
static int $\mathrm{i}=10$;
printf("\%d",i);
i++;
\}
What is the value of $i$ if the function is called twice?
15. Given the following c program
func(int *i, int*j)
\{*i=*i**;
${ }^{*} \mathrm{j}=* \mathrm{j}{ }^{*}{ }^{*} \mathrm{j}$;
\}
main()
\{ int $\mathrm{i}=5, \mathrm{j}=2$;
func(\&i,\&j);
printf("\%d \%d", i, j);\}
What is the output?
16. Given page table, page size and offset find the corresponding physical address?
17. In a memory chip 4 k size and 16 bit words are to be stored. No of address and data lines required is:
18. Identify in which pass of the 2 pass compiler are the following compiled

1) literals
2) address resolution
3) listing
19. Object code does not require
a) operand stack
a) relocation bits
b) external names and place where they are located
c) absolute address
d) all the object codes
20. ARP is in reference to
a) MAC to IP
b) IP to MAC
21. Question on Balanced tree -

A balanced tree is given and a node is addded at the leaf.
Find the no of unbalanced nodes?
22. What is the order of Hashing time:
$\begin{array}{ll}\text { a) } 0(1) & \text { b) } 0(n 2)\end{array}$
23. Given that:
s->s +s;s->s*s;s->a
Find the no of parse trees for $a+a^{*} a+a$
a) 4
b) 5
c) 6
d) 7
24. Order of deleting a node from a linked list. (pointer is to an arbitrary node)
a) $0(1) \quad$ b) $0(n)$
25. A choclate of size $n X n$ is given and is to be made into pices of size $1 \times 1$.
At a time both horizontal and a vertical cut is done.
Find the order of complexity
a) $\mathrm{O}(\mathrm{n} 2)$
b) O(nlogn)
c) $\mathrm{O}(\log n)$
26. A directed graph is represented by adjacency list.

To find the complexity of indegree of the node. e-edge n - vertices
27) No of leaf nodes given. find the no of nodes with degree 2.
28) $A X=B$.
$A$ is $m X n$ and $B$ is $m X 1$
a) there is a unique solution if rank of $A$ is same as rank of
augumented matrix [A b]
b) there are multiple solutions
29. LXI sp,2099h

LXI b, 2012h
PUSH b
30. $A$ and $B$ are sets.

A's cardinality is $m$ and B's is $n$ where $m<n$
How many one to one mappings can be obtained.
a) $n^{\wedge} m$
b) npm
c) mpn
d) mcn
31. In scheduling algorithnms which are logically executed but suspended
a) preemptive
b) SJF
c) non preemptive
d) all the above
32. I/O redirection is
a) copying programs files through a pipe
(b) input files are created
c) input file taken from existing ones
(d) none
33. Symmetric multiprocessing can be done in
a) snoopy protocols b) cache coherence
34. In the dining philosophers problems to avoid dead lock
a) 1 person will take left one and all other will take right one
b) adjacent persons should not eat concurrently
35. In the process state cycle, which is the correct order
a) timeout: ready $->$ running
b) blocked: ready -> running
36. For converting infix expression to postfix what do we require
b) operator stack
37. 0 is reprented as both and negative and positive in
a) ones complement
b) twos complement
c) two's complement has extra negative number
38. What is the difference between c and $\mathrm{c}++$ ?
a)In c++ we can define variables in the middle
b)dynamic scoping
39. Which of the following is correct
a) Synchronous tranmission needs more badwidth than Asychronous.
b) Inasychronous transmission, the time is associated with data itself.....
Group name: chetana_job_search
Group home page:
http://groups.yahoo.com/group/chetana_job_search
Group email:
chetana_job_search @yahoogroups.com

## PLACEMENT PAPER OF IBM

In 1978, a kg of paper was sold at Rs25/-.
If the paper rate increases at $1.5 \%$ more than the inflation rate which is $6.5 \%$ a year,
then what wil be the cost of a kg of paper after 2 years?
(a) 29.12
(b) 29.72
(c) 30.12
(d) 32.65
(e) none of these
2. In $A, B, C$ are having some marbles with each of them.
$A$ has given $B$ and $C$ the same number of marbles each of them already have.
Then, $B$ gave $C$ and $A$ the same number of marbles they already have.
Then $C$ gave $A$ and $B$ the same number of marbles they already have.
At the end $A, B$, and $C$ have equal number of marbles.
(i) If $x, y, z$ are the marbles initially with $A, B, C$ respectively.

Then the number of marbles $B$ have at the end
(a) $2(x-y-z)$
(b) $4(x-y-z)$
(c) $2(3 y-x-z)$
(d) $x+y-z$

Ans. (c)
(ii) If the total number of marbles are 72, then the number of marbles with A at the starting
(a) 20
(b) 30
(c) 32
(d) 39

Ans. (d)
3. If a car starts from $A$ towards $B$ with some velocity.

Due to some problem in the engine after travelling 30km, the car goes with $4 / 5$ th of its actual velocity
The car reaches B 45 min later to the actual time.
If the car engine fails ofter travelling 45 km , the car reaches the destination B 36 min late to the actual time
What is the initial velocity of car and what is the distance between $A$ and $B$ in km
Ans. 20 \& 130.
4. A person has Rs 100/- in his pocket, he can as 25 pencils or 15 books.
He kept 15\% of the money for travelling expenses and purchased 5 pencils.
So how many books he can purchase with the remaining money.
5. Ten questions on analogies.
eg: chief : tribe :: governer : state
epaulette : shoulder :: tiara : head
guttural : throat :: gastric : stomach
inept : clever :: languid : active
knife : butcher ::
hammer : carpenter ::
6. The values of shares (in Rs).of A, B and C from January to June are as follows.
Month A B C
January 306080
February 356585
March 457565
April 407582
May 557585
June 507580
i) During this period which share has undergone maximium fluctuation?
ii) In which month it is possible to buy $B$ and $C$ selling $A$ ?
iii) In which month the share values are very low?
iv) By purchasing one share of $A$ and 4 each of $B$ and $C$ in the beginning of the period,
when shoudl these be sold to get maximum profit?
7. In a computer institute 9 languages can be taught.

The module is of 6 months duration and of the six languages only one can be taught each month .
In addition to that BASIC is always taught and should be in first month itself

WORD PERFECT is to be taught in the preceeding week of WORD STAR.
FORTRAN can not be taught until COBAL is taught prior to that BINO, FIFO can never be taught in single module
languages are BASIC, WORD STAR, WORD PERFECT,
FORTRAN, COBAL, BINO, FIFO, LOTUS, C
i) If word star is in 3rd month, what could be in 6th month.
ii) If COBAL is in the 2nd month and BINO in 6th month. FORTRAN will be taught in which month.
8. In a class, except 18 all are above 50 years.

15 are below 50 years of age. How many people are there
(a) 30
(b) 33
(c) 36
(d) none of these.

Ans. (d)
9. A square plate of some size is cut at four corners. Equal squares of the same size are cut and is formed as open box. If this open box carries 128 ml of oil. What is the size of the side of the plate?
(a) 17
(b) 14
(c) 13
(d) None of these
10. In a square, all the mid points are joined. The inner square is shaded.
If the area of the square is $A$, what is the area of the shaded area?
11. Two questions on basic angles i.e given a circle, a few chords or diameter is drawn etc.
12. If the follwoing statements are given
@ $(a, b)=(a+b) / 2$
$/(a, b)=a / b$
*(a,b)= ab
If $a=1, b=2$ then find
i) /(a,(@(a,b), $\left.\left.{ }^{\star}(a, b)\right)\right)$
ii) */(a,@(*(a,b)))
13. If the follwoing statements are given
(x\#y) $=x+y-x y$
$\left(x^{*} y\right)=(x+y) / 2$
i) Find the values of $x, y$ will satisfy this equation (x\#y)\#( $\left.x^{*} y\right)<$ (x\#y)
ii) Find the values of $x$, $y$ will satisfy this equation (a*b)\#(b*c)< (a\#b)* ${ }^{*}{ }^{*} c$ )
14. Export PS1 results in(PS1 pwd)
a) primary prompt being your current directory
b) primary prompt and secondary prompts being the current directory
c) primary prompt prompt being your home directory
d) primary prompt and secondary prompts being the home directory
e) None of the above.
15. If you type in the command nohup sort employees $>$ list $2>$ error out \&
and log off ,the next time you log in, the output will be
a) in a file called list and the error will de typed in a file error out
b) there will be no file called list or error out
c) error will be logged in a file called list and $o / p$ will be in error out
d) you will not be allowed to log in
e) none of the above
16. In UNIX a files i-node ......?

Ans. Is a data structure that defines all specifications of a file like the file size,
number of lines to a file, permissions etc.
17. The UNIX shell ....
a) does not come with the rest of the system
b) forms the interface between the user and the kernal
c) does not give any scope for programming
d) deos not allow calling one program from with in another
e) all of the above

Ans. (b)
18. enum number $\{a=-1, b=4, c, d, e\}$

What is the value of $e$ ?
$\begin{array}{ll}\text { (a) } 7 & \text { (b) } 4\end{array}$
(c) 5
(d) 15
(e) 3
19. The very first process created by the kernal that runs till the kernal process is halts is
a) init
b) getty
c) both (a) and (b)
d) none of these
Ans. (a)
20. Output of the following program is
main()
\{int i=0;
for(i=0;i<20;i++)
\{switch(i)
case 0:i+=5;
case 1:i+=2;
case 5:i+=5;
default $\mathrm{i}+=4$;
break;
printf("\%d,",i);
$\}$
a) $0,5,9,13,17$
b) $5,9,13,17$
c) $12,17,22$
d) 16,21
e) Syntax error

Ans. (d)

## IBM Latest paper 2

There are 2 sections Aptitude andtechnical .
Each Comprises of 20 qs

## Aptiutude:

1)two clocks meet at 12 .Next time they meet again after Ans 65.45
2)Soldiers form a square .Initially 32 soldiers left.Then 8 .After they could not form a square.Total at the beginning options 100,81,49,67
3)Age of Grandfather is the ages of 4 grandchildren where their ages are in consective. Find the age of GF.
I think 72
4)3 person waiting for the train Some conditions given.Finally they ask the time.
Ans is 4.37
5)Some Squirrel qs where it covers $1 / 4$ th distance then $1 / 2 \mathrm{i}$
couldnt remember
6)if $m p o w n=121$. Then $m-1$ pown +1 is 1000
7)if speed in the ratio $5: 4: 3$ then the time taken to cover the same distance is
8) 20 men construct a wall 56 m in some days similar one
ans 49 (check aggarwal)

## Technical

char * $\mathrm{p}=($ char *) 10
$o p=$ ?
Running time of $8 T(n / 2)+q$ is ncube
Scope of static and automatic var 2qs
nodes in binary tree of length 4 is 15(2pown-1)
how to convert 2d array to single dimension
options are
1.convering a row 2 colunm 3 or both in to o's
comments-for documentaion or it increases file size
like that.u have toi choose the correct one Technical qs are bit tricky..
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## INFOSYS

1. At 6'o a clock ticks 6 times.

The time between first and last ticks is 30 seconds.
How long does it tick at 12'o clock.
Ans: 66 sec. (2 marks)
2. Three friends divided some bullets equally.

After all of them shot 4 bullets the total number of bullets remaining is equal to the bullets each had after division.

Find the original number divided.

## Ans: 18

(2 marks)
Initially . $x \quad x \quad x$
Now $\quad x-4 \quad x-4 \quad x-4$
Equation is $3 x-12=x$
3. A ship went on a voyage.

After it had travelled 180 miles a plane statrted with 10 times the speed of the ship.

Find the distance when they meet from starting point.
Ans: 200miles. (2 marks)
Distance travelled by plane $=1 / 10$ distance travelled by ship $+180$
4. Complete the Table given below:

Three football teams are there. Given below is the group table.

5. There are 3 societies $A, B, C$.

A lent cars to $B$ and $C$ as many as they had already.
After some time $B$ gave as many tractors to $A$ and $C$
as many as they have. After sometime c did the same thing. At the end of this transaction each one of them had 24.
Find the cars each orginally had.
Ans: A had 39 cars, B had 21 cars \& C had 12 cars
marks)
6. There N stations on a railroad.

After adding X stations on the rail route 46 additional tickets
have to be printed.
Find N and X .
Ans. $x=2$ and $N=11$
Let initially, $\mathrm{N}(\mathrm{N}-1)=\mathrm{t}$
After adding, $(\mathrm{N}+\mathrm{X})(\mathrm{N}+\mathrm{X}-1)=\mathrm{t}+46$
By trail and error method
(4 marks)
7. Given that April 1 is tuesday.
$A, B, C$ are 3 persons told that their farewell party was on
A - May 8, thursday
B - May 10 ,tuesday
C - June 5, friday
Out of $A, B, C$ only one made a completetly true statement concerning date, day and month
The other told two one told the day right and the other the date right..
What is correct date, month, day.
Ans: B - (May 10) SUNDAY
C - June 6 (Friday).
(5 marks)
8. The Bulls, Pacers, Lakers and Jazz ran for a contest.

Anup, Sujit, John made the following statements regarding results.
Anup said either Bulls or Jazz will definitely win
Sujit said he is confident that Bulls will not win
John said he is confident that neither Jazz nor Lakers will win
When the result cameit was found that only one of the above three had made a correct statement.
Who has made the correct statement and who has won the contest.
Ans: Sujith; Lakers
(5marks )
9. Five people $A, B, C, D, E$ are related to each other.

Four of them make one true statement each as follows.
(i) B is my father's brother.
(ii) E is my mother-in-law.
(iii) C is my son-in-law's brother
(iv) A is my brother's wife.

Ans: (i) D
(ii) B
(iii) E
(iv) C

## (10 marks)

10. Some statements are given below:
$L$ says all of my other four friends have money
$M$ says that $P$ said that exactly one among them has money
N says that L said that precisely two among them have money
O says that $M$ said that three of the others have money
$P, L$ and $N$ said that they have money
All the above statement are false..
Who has money \& who doesn't have any money?
(5 marks)
11. Mr.Mathurs jewels have been stolen from his bank locker .

The bank has lockers of 12 people which are arranged in an
array of 3 rows and 4 columns like:

The locker belonging to JONES was to the right of BLACK'S locker and directly above MILLAR'S.
BOOTH'S locker was directly above MILLAR'S.
SMITH'S locker was also above GRAY's (though not directly). GREEN'S locker was directly below SMITH'S.
WILSON'S locker was between that of DAVIS and BOOTH. MILLAR'S locker was on the bottom row directly to the right of HERD'S.
WHITE'S locker was on the bottom right hand corner in the same column as BOOTH'S.
Which box belonged to Mr.Mathurs?
Ans: Box number 9 belongs to Mr.Mathurs.
2. Fifty minutes ago if it was four times as many minutes past three o'clock,how many minutes is it to six o'clock?
Ans: Twenty six minutes.
3. If a clock takes 7 seconds to strike 7 , how long will the same clock take to strike 10 ?
Ans: The clock strikes for the first time at the start and takes 7 seconds for 6 intervals-thus for one interval time taken=7/6.
Therefore, for 10 seconds there are 9 intervals and time taken is $9 * 7 / 6=10$ and $1 / 2$ seconds.
4. Three criminals were arrested for shop lifting.

However, when interrogated only one told the truth in both his
statements, while the other two each told one true
statement and one lie.
The statements were:
ALBERT :(a)Chander passed the merchandise. (b)Bruce created the diversion.
BRUCE :(a)Albert passed the merchandise. (b)I created the diversion.
CLIVE :(a)I took the goods out of the shop. (b)Bruce passed them over.
Ans: Albert passed the goods.Bruce created the diversion..Clive took the goods out of the shop.
5. Everyday in his business a merchant had to weigh amounts from 1 kg to 121 kgs , to the nearest kg .

What are the minimum number of weight required and how heavy should they be?
Ans: .The minimum number is 5 and they should weigh 1,3,9,27 and 81 kgs .
6. A hotel has 10 storeys. Which floor is above the floor below the
floor, below the floor above the floor, below the
floor above the fifth.
Ans: The sixth floor.
7. Seven members sat around a table for three days for a conference.

The member's names were Abhishek, Amol, Ankur,
Anurag,Bhuwan ,Vasu and Vikram.
The meetings were chaired by Vikram.
On the first evening members sat around the table alphabetically.

On the following two nights, Vikram arranged the seatings so that he could have Abhishek as near to him as
possible and abesent minded Vasu as far away as he could.
On no evening did any person have sitting next to him a person who had previously been his neighbour.

How did Vikram manage to seat everybody to the best advantage on the second and third evenings?
Ans:
Second evening:Vikram,Ankur,Abhishek,Amol,Vasu,Anurag and
Bhuwan.
Third evening
:Vikram,Anurag,Abhishek,Vasu,Bhuwan,Ankur,Amol.
8. Two trains start from stations $A$ and $B$ spaced 50 kms apart at the same time and speed.

As the trains start, a bird flies from one train towards the other and on reaching the second train, it flies back to the
first train. This is repeated till the trains collide.
If the speed of the trains is $25 \mathrm{~km} / \mathrm{h}$ and that of the bird is 100km/h.

How much did the bird travel till the collision.
Ans: 100 kms .
9. Four prisoners escape from a prison.

The prisoners, Mr East, Mr West, Mr South, Mr North head
towards different directions after escaping.
The following information of their escape was supplied:
The escape routes were The North Road, South Road, East Road and West Road.
None of the prisoners took the road which was their namesake.
Mr.East did not take the South Road
Mr.West did not the South Road.
The West Road was not taken by Mr.East
What road did each of the prisoners take to make their escape?
Ans: Mr.East took the North Road
Mr.West took the East Road
Mr.North took the South Road
Mr.South took the West Road.
10. Complete the series:

5, 20, 24, 6, 2, 8, ?
Ans: 12 (as $5^{*} 4=20,20+4=24,24 / 4=6,6-4=2,2^{*} 4=8,8+4=12$ ).

1) A man collects cigarette stubs and makes one full cigarette with every 8 stubs.

If he gets 64 stubs how many full cigarettes can he smoke.
Ans: $8+1=9$
2) A soldier looses his way in a thick jungle. At random he walks from his camp but mathematically in an interesting fashion. First he walks one mile East then half mile to North. Then $1 / 4$ mile to West, then $1 / 8$ mile to South and so on making a loop.
Finally how far he is from his camp and in which direction.
Ans: Distance travelled in north and south directions
$1 / 2-1 / 8+1 / 32-1 / 128+1 / 512-$ and so on
$=1 / 2 /((1-(-1 / 4))$
Similarly in east and west directions
$1-1 / 4+1 / 16-1 / 64+1 / 256-$ and so on
3) How can 1000000000 be written as a product of two factors neither of them containing zeros
Ans: 2 power $9 \times 5$ power 9
4) Conversation between two mathematcians:

First : I have three childern. The product of their ages is 36 .
If you sum their ages, it is exactly same as my neighbour's door number on my left.
The second mathematician verfies the door number and says that it is not sufficient.
Then the first says " Ok one more clue is that my youngest is really the youngest". Immmediately the second mathematician answers.
Can you answer the question asked by the first mathematician?
What are the childeren ages?
Ans 1,6 and 6
5) Light glows for every 13 seconds. How many times did it glow between 1:57:58 and 3:20:47 am.
Ans: $383+1=384$
6) 500 men are arranged in an array of 10 rows and 50 columns according to their heights.

Tallest among each row of all are asked to fall out.
And the shortest among them is A.
Similarly after resuming that to their original podsitions that the shortest among each column are asked to fall out.

And the tallest among them is B.
Now who is taller among $A$ and $B$ ?
Ans A
7) A person with some money spends $1 / 3$ for cloths, $1 / 5$ of the remaining for food and $1 / 4$ of the remaining for travel.

He is left with Rs 100/- .
How much did he have with him in the begining?
Ans: Rs 250/-
8) There are six boxes containing $5,7,14,16,18,29$ balls of either red or blue in colour.

Some boxes contain only red balls and others contain only blue. One sales man sold one box out of them and then he says
" I have the same number of red balls left out as that of blue ". Which box is the one he solds out?

Ans: Total no of balls $=89$ and $(89-29 / 2)=60 / 2=30$
and also $14+16=5+7+18=30$
9) A chain is broken into three pieces of equal lenths containing 3 links each.

It is taken to a backsmith to join into a single continuous one . How many links are to to be opened to make it ?
Ans: 2 .
10) Grass in lawn grows equally thick and in a uniform rate.

It takes 24 days for 70 cows and 60 days for 30 cows to eat
the whole of the grass.
How many cows are needed to eat the grass in 96 days.?
Ans: 20
g - grass at the beginning
$r$ - rate at which grass grows, per day
y - rate at which one cow eats grass, per day
n - no of cows to eat the grass in 96 days
$g+24^{*} r=70^{*} 24^{*} y$
$g+60 * r=30$ * 60 * $y$
$g+96 * r=n * 96 * y$

Solving, $\mathrm{n}=20$.

## Section B

1. Replace each letter by a digit.

Each letter must be represented by the same digit and no beginning letter of a word can be 0 .

ONE
ONE
ONE
ONE
TEN
Ans: $0=1, N=8, E=2, T=7$
2. Ann, Boobie, Cathy and Dave are at their monthly business meeting.

Their occupations are author, biologist, chemist and doctor, but not necessarily in that order.

Dave just told the biologist that Cathy was on her way with doughnuts.

Ann is sitting across from the doctor and next to the chemist.
The doctor was thinking that Boobie was a goofy name for parent's to choose,but didn't say anything.

What is each person's occupation?
Ans: Since Dave spoke to the biologist and Ann sat next to the chemist and across the doctor, Cathy must be the author and Ann the biologist.
The doctor didn't speak, but David did, so Bobbie is the doctor and Dave the chemist.
3. Sometime after 10:00 PM a murder took place.

A witness claimed that the clock must have stopped at the time of the shooting.

It was later found that the postion of both the hands were the same but their positions had interchanged.

Tell the time of the shooting (both actual and claimed).
Ans: Time of shooting $=11: 54 \mathrm{PM}$
Claimed Time $=10: 59$ PM
4. Next number in the series is
$1,2,4,13,31,112$,?
Ans: 224.
No number has digits more than 4 . All of them are 1, 2, 4, 8 , $16,32,64$ converted to numbers in base 5
5. Shahrukh speaks truth only in the morning and lies in the afternoon, whereas Salman speaks truth only in the afternoon. A says that B is Shahrukh. Is it morning or afternoon and who is A - Shahrukh or Salman.

Ans: Afternoon; A is Salman.
6. Two trains starting at same time, one from Bangalore to Mysore and other in opposite direction arrive at their
destination 1 hr and 4 hours respectively after passing each
other. How nuch faster is one train from other?
Ans: Twice
7. There are 6 volumes of books on a rack kept in order (ie vol.1, vol. 2 and so on ).

Give the position after the following changes were noticed. All books have been changed
Vol. 5 was directly to the right of Vol. 2
Vol. 4 has Vol. 6 to its left and both weren't at Vol.3's place
Vol. 1 has Vol. 3 on right and Vol. 5 on left
An even numbered volume is at Vol.5's place Find the order in which the books are kept now. Ans: $2,5,1,3,6,4$
8. I bought a car with a peculiar 5 digit numbered licence plate which on reversing could still be read.

On reversing value is increased by 78633.Whats the original number if all digits were different?

## Ans: Only 0168 and 9 can be readupside down.So on rearranging these digits we get the answer as 10968

9. The shape in the sketch below is that of a square attached to half of a similar square. Divide it into four equal pieces
Ans: Hint : the figure can be divided into 12 equal triangles
10. Supposing a clock takes 7 seconds to strike 7 . How mlong will it take to strike 10 ?
Ans: 10 1/2 seconds

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## LUCENT TECHNOLOGIES

## Paper Model:

Section I: computer awareness(i.e general things about computer)

## Q. 15 -ve marks: 1/4

Section II: Simple C- language Q. 15 \& -ve marks: -1/4
Section III: On pointers \& structures
and C++,JAVA( only 1 on this) Q. 10 each question -\>2 marks -ve marks: -1
Section IV: Analytical Q. 20 each question -\> 2 marks.
-ve marks: -1/4
Murthy from each section I am giving one are to questions also because for
checking whether the same paper or not.
And for doubtful answers also I am writing questions but not writing answers
for these questions.

## Section-I

1). Piggy backing is a technique for
a) Flow control b) sequence c) Acknowledgement d) retransmition ans: c piggy backing
2). The layer in the OST model handles terminal emulation
a) session b) application c) presentation d) transport
ans: b application
3) ans: a odd numbers of errors
5) c 20
6) a 120
7) b synchronise the access
9) b the operating system
10) a 177333
11) d used as a network layer protocall in network and windows system
12) $b$ has to be unique in the sub network
13)Q. there is an employeer table with key feilds as employeer no. data in every
n'th row are needed for a simple following queries will get required results.
a) select $A$ employee no. from employee $A$, where exists from employee $B$
where A employee no. \>= B employeee having (count(*) mod n) $=0$
b) select employee no. from employee $A$, employee $B$ where

A employee no. \>= B employ no. grouply employee no. having
(count(*) mod $\mathrm{n}=0$ )
c) both a\& b
d)none of the above
14)Q. type duplicates of a row in a table customer with non uniform key feild
customer no. you can see
a) delete from costomer where customer no. exists
( select distinct customer no. from customer having count )
b) delete customer a where customer no. in
(select customer b where customer no. equal to b custemor no. ) and a rowid \>
b rowid
c) delete customer a where custermor no. in
( select customer no. from customer a, customer b )
d) none of the above

## ---------- Section I over with 15 questions <br> SECTION-II

Section II is not covered completly But it is very very easy. You can do it
very easely

1) ans: recursion
2) long int size
a) 4 bytes b) 2 bytes c) compiler dependent d) 8 bytes
ans: compiler dependent
note: order of $\mathrm{a}, \mathrm{b}, \mathrm{c}, \mathrm{d}$ are doubt but answer is correct.
3) $x=2, y=6, z=6$
$\mathrm{x}=\mathrm{y}==\mathrm{z}$;
printf(\%d\",x) ?
4) if( $x \& g t ; 2) ? 3: 4$
5) $C$ : class $A, B$ and $C$ can have member functions with same
name.

## SECTION-III

1) ans: $b$ It does not work when $r p$ is the last element in the linked list
2) ans: a always
3) ans: b 13
4) ans: b 16
5) ---
6) ans:d 4
7) ans: c 5
10)ans: c semicolon missing

## SECTION-IV

following are not in order:
2. M \> D \> Y ans: (a)
6. 10 in 4 seconds,
? in 6 minutes $=10 \times 6 \times 60 / 4=900$ ans: (a)
8. $100(100000000+100000000) / 10000=2 \times 1000000$ (ans).
10. Q is not equal to zero and $\mathrm{k}=(\mathrm{Q} \times \mathrm{n}-\mathrm{s}) / 2$ find n ?
(a) $(2 x k+s) / Q$ (b) $(2 x s \times k) / Q$ (c) $(2 x k-s) / Q$
(d) $(2 x k+s \times Q) / Q(e)(k+s) / Q$
(from GRE book page no:411)
data:
A causes B or C, but not both
$F$ occurs only if $B$ occurs
$D$ occurs if $B$ or $C$ occurs
$E$ occurs only if $C$ occurs
$J$ occurs only if $E$ or $F$ occurs
D causes G,H or both
H occurs if E occurs
G occurs if $F$ occurs
NOTE: check following answers.
11. If $A$ occurs which of the following must occurs
I. F \& G
II. E and H
III. D
(a) I only (b) II only (c) III only (d) I,II, \& III
(e) I \& II (or) II \& III but not both ans: (e)
12. If $B$ occurs which must occur
(a) D (b) D and G
(c) G and H (d) F and G
(e) J ans: (a)
13. If $J$ occurs which must have occured
(a) E (b) either B or C
(c) both E \& F
(d) B (e) both B \& C ans: (b)
14. which may occurs as a result of cause not mentioned
(1) D (2) A (3) F
(a) 1 only (b) 2 only (c) 1 \& 2 (d) 2 \& 3 (e) 1,2,3 ans: (c)
15. E occurs which one cannot occurs
(a) A (b) F (c)
c) D
(d) C (e) J ans: (b)

11 to 15:- ---------- e, a , b, c, b $\qquad$
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## LUCENT TECHNOLOGIES SOFTWARE

Following are the some sample questions:
Genaral:
$1.6^{*} 12^{*} 15$ is the volume of some material. How many cubes can be inserted
into that? Ans. 40
2. Two pipes can fill a tank in 10 1nd 12 hours while third pipe will make the tank empty in 20 hours. If all three pipes operate simultaneously,
in how many hours the tank will be filled ? Ans.7hours 30 minutes.
3. Diameter of a beaker is 7 cm . Mambler(some instrument) dia is 1.4 cm .

How many mamblers has to be put to increase the water level by 5.6 cm .
4.Cost of an item is $x$. It's value increases by $p \%$ and decreases

## by p\%

Now the new value is 1 rupee, what is the actual value.
Ans.(1000)/(1000-p*p).
5.A right circular cylinder and a cone are there.Base radius of cone is
equal to radius of cylinder. What is the ratio of height to slant side.
6. Distance between two poles is 50 meters. A train goes by 48 kmph in one
minute.How many poles will be crossed by the train.
7.A pole seen from a certain distance at an angle of 15 degrees and
100 meters ahead by 30 degrees. What is th height of pole.
8.15 people--each has to pay Rs.20..

20 people--each has to pay Rs.18..
for 40 people--how much has to pay ?
9.if $p=2 q$ then $q=r^{\star} r$,
if $p$-odd then $q$ is even,
whether we decide $r$ is even or odd?
choices:a)first condition is sufficient
b) second condition is sufficient
c) both are sufficient
d) both are not sufficient
10.What is the value of $m$ given that
i) $m$ is devided by 2
ii) $m$ is devided by 5

Ans: none of these
11.If he sells 40 magoes, he will get the selling price of 4 mangoes extra, What is his \% increse in profit? Ans: $25 \%$
12.100 glasses are there. A servant has to supply glasses to a person
If he supplies the glasses without any damage he will get 3 paise otherwise he will loose 3 paise. At the end of supplying 100 glasses
if he gets 270 paise, how many glasses were supplied safely.Ans: 95
*** Some questions on reasoning**
Electronics.
1.Fastest logic ..Ans: ECL
2.202.141.65.62 type of IP address belong to which class.

Ans:class B
3.Mod K ring counter requres how many number of flipflops.Ans:K
4. ftp is in application layer.
5.Problem related to Ternary operations. Ans:3
6.Problem related to macro \# define square $x x^{*} x$. Ans: 11
7.Problem related to 5 pointers..refer Page. 123 of C prog.,by

Keringan
and Ritchie.
8.Ideal op-amp CMRR. Ans: infinity.
9.13-bit DAC MSB resistance 2kohms.

LSB resistance?
Ans: 2 k * 2 to the power of 12.
no section cut off only overall cut offstrictly 1:1 -ve marking...
shortlisted candidates will be informed by email within 10 days for HR \& Technical Int...
test was only for BE (CSE,IT ,IS) and BSc(maths, chemi, physics,,, and one other discipline) ,No EC,ECT, or MCA,,,, 2002 and 2003 passouts, $60 \%$ or more aggregate at ssc,hsc and $B E$, should be cleared on 1st attempt..
some of quest I remember:

1. if $M$ person $r$ buying a thing costing $D \$$ each,, if 3 person get away,, how much each person has to spend so that total
expenditure is same ???
2. which is smalest?
$\begin{array}{lll}\text { a. } 1 / 7 & \text { b } 1 / 8 & \text { c } 2 / 9\end{array}$
d $3 / 13 \ldots$ or something similar having denom. as 11 and 13 in option "d" and "e"
3. if Rix can collect 45 pieces in 1 min.. and Rax take 1 and half minute for same,, what is time require d to collect 300 pieces when both working together??
4. one long quiz followed by 5 quest... 3 cages having 3 tags on them, sum of digit of cage num not to exceed 10, and other cond..
5. one quest of grandfather-father-son type quest..
6. A is shortr than B but taller than E, D is tallest, C is just shorter than $A$, who is shorttest or similar quest...?
7. rectangualr box,, $25^{*} 20^{*} 2$ converted in to cylinder of dia $10 \ldots$ what is height in terms of "pai"
section 2: series...
8. find the numer for?
9. find the numer for?

3 1,3,4,8,15,27,?
4. $2,5,9,19,37$,?
5. these were reapeat from old quest...
section 3.
simple reasoning,4-5 quest.
1 quest followed by 3 quest.
1 quest followed by $3 / 4$ quest.
other quiz...
section 4. 2flowchart .. 2nd was, A \& B drawing ball. 2 ball Red \& yellow,, if red is the drawen ball 100 points $r$ awaredrd,otherwise 200 points awareded... if A or B score 500,, their points r forfieted,, if A or B score 1000 or more, he is winner...
four quest based on this puzzle, given as missing? in flowchart
section 5. RC related to turnover of companies etc...(8 quest)
section 6 data sufficiency

1. whether n is odd?
a. $m+5 n$ is odd
b. $2 m+9 n$ is odd
these quest were easy, but u required speed to attend all
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## NOVELL

The paper consists of three sections.

1. Aptitude 15 questions 20 min
2. System concepts 20 questions 20 min .
3. 'C' 15 questions 20 min .

## Section 1

Question 1 to 5 have to be answered on the basis of the information given below:
On Sunday, December 23, four ships were berthed at the Port.
Ship W left at 4 PM on Sunday, December 23, for a series of 8day cruises to Bermuda and Nassau.
Ship X left at 4:30 PM on Sunday, December 23, for a series of alternating11-day and 13-day cruises.
Ship Y sailed at 5 PM on Sunday, December 23, for a series of 5day cruises to Bermuda.
Ship Z sailed on Monday, Decmeber 24, for a series of 7-day cruises to Nassau.
Each cruise begins on the day after departure.
Each ship is scheduled to return to the Port early in the morning after the last day of the cruise and leave again in the afternoon of the same day.
( From 1999 Barrons GRE book Model Test 3 - Section 5 - Q8 to Q12)

1. On December 31, which ships will be sailing from the Port on a New Year's Eve.
(a) $W$ and $X$ (b) $X$ and $Y$
(c) W and Z
(d) X and Z
(e) $X, Y$ and $Z$
Ans: (c)
2. On how many sailing dates between December 24 and February 28 will ship W be moored alongside another ship
(a) 0
(b) 2
(c) 4
(d) 5
(e) 6

Ans: (d)
3. On how many occasions between December 24 and February 28 will three ships be moored at the Port.
(a) 0
(b) 1
(c) 2
(d) 3
(e) 4

Ans: (a)
4. On which day of the week will these four ships make most of their departures?
(a) Sunday
(b) Monday
(c) Tuesday
(d) Thursday
(e) Saturday

Ans: (b)
5. On which days of the week in the period between December 24 and February 28 will the pier be least crowded?
(a) Tuesday and Friday
(b) Tuesday and Thursday
(c) Friday and Saturday
(d) Wednesday and Thursday
(e) Thursday and Saturday
Ans: (a)
6. A family with a husband, his wife and their child are at one side of river.
They want to cross the river on a boat. The child can't be left alone.
The only available boat can hold only one person and the boatboy. Only the boatboy can row the boat.
What is the minimum number of trips from on bank to the other, that the boatboy has to make
for the whole family to reach the other side.
Question 7 to 10 have to be answered on the basis of the information given below:
The workweek in a small business is a five-day workweek running from Monday through Friday.
In each workweek, activities $\mathrm{L}, \mathrm{M}, \mathrm{N}, \mathrm{O}$ and P must all be done. The work is subject to the following restrictions:
$L$ must be done earlier in the week than $O$ and earlier than $P$
M must be done earlier in the week than N and earler than O No more than one of the activities can ever be done on any one day
7.Which of the following is an acceptable schedule starting from Monday to Friday
a) $\mathrm{L}, \mathrm{M}, \mathrm{N}, \mathrm{O}, \mathrm{P}$,
b) $\mathrm{M}, \mathrm{N}, \mathrm{O}, \mathrm{N}, \mathrm{M}$
c) $O, N, L, P, M$
d) P, O, L, M, L
e) $P, O, L, M, N$
Ans. (a)
8. Which of the following pair of activies could be done on Monday and Tuesday
a) $L$ and $O$
b) $M$ and $L$
c) $M$ and $P$
d) N and O
e) O and M
Ans. (b)
9. If $P$ and $N$ are done on Thursday and Friday, then which of the following is true
a) $L$ is done on Tuesday
b) $L$ is done on Wednesday
c) $M$ is done on Monday
d) O is done on Tuesday
e) $O$ is done on Wednesday
10. Which of the following could be true
a) L on Friday
b) M on Thursday
c) N on Monday
d) O on Monday
e) $P$ on Tuesday
Ans. (e)

Rest of the paper is based on similar questions.
I donot remember them completely but l'll just give a basic idea about them below

* 5 programs are sheduled from monday to saturday, monday is not holiday,
PQRST are the programs. The day before P is holiday, and some other clues are
given, we have to find the sequence (4 questions)
* Suppose U R the presoner, There are two guards Who will tell truth or
one will tell truth. There is a gate for liberty and another foe hell. asking about which sequencing is sufficient to find the gate for liberty??
* There are 7 targets, $A B$ and $C$ has to shoot them.

All should be shot down consecutively.

1. The number of chances for $A$ and $B$ are not less then 2,
2. C has only one chance
3. A can't shot 3 times consicutively.
4. $B$ is permited to shoot in even chances only.

They have given some 2 or 3 MCQ questions on this.

## Section 2

1. Encryption and decryption is done in the following layer.
a) DLL
b) Network layer
c) Transport
d) Presentation
Ans: (d)
2. Floating point has different formats on two different machines.

This modifications are taken care by which layer?
a) DLL
b) Network layer
c) Transpor layer
d) Presentation
Ans: (d)
3. Time complexity of quick sort algorithm is
a) $\mathrm{N}^{*} \mathrm{~N}$
b) $\log (N)$
c) $N^{*} \log (N)$
d) N

Ans: (c)
4. Time complexity of AVL tree is .
a) $\mathrm{N}^{*} \mathrm{~N}$
b) $\log (\mathrm{N})$
c) $N^{*} \log (N)$
d) N

Ans: (b)
5. Cycle stealing is used in which concept?
a) Programmed I/O
b) DMA
c) Interrupts

Ans: (b)
6. How many octets are there in an IP address
a) 6
b) 8
c) 10
d) 12
7.What are the maximum number of hosts that can be served by an IP
a) 254
b) 256
c) $2^{* *} 24(2$ to the power 24$)$

8 . Which of the following is model representation of life cycle software
a) Water fall model
b) Spiral
9. The purpose of reviewing code is
a) To find syntax error
b) Tocheck for the proper design
10. Semaphores are used for the resolution of
a) Contention
b) Accessing of same resources by more than one
11. In threading of processes when the race condition will happen a) Low priority process b) Higher priority process
(See O.S.Concepts by Silberschatz)
12. Which of the following function is not performed by O.S.
a) CPU sheduling
b) Memory management
c) Transaction

Ans: (c)
13. If two applicaltion programmes uses same libraries which of following are shared
a) Lib code
b) Code and stack
c) Data
d) Data, code and stack
14. Which is the maximum 16 bit signed integer.
a) 66337
b) 66338
c) 257
d) 258
15.When will interrupt occurs?
a) Divide by zero b) DMA completed c) Insufficient memory
16. Which of the following has low power cosumption
a) EIL
b) CMOS
c) Totempole Arrangement
17. Which of the following is the wrong statement
a) Cominational circuits has memory
b) Sequential circuits has memory
c) Sequential circuits is a function of time

Ans: (a)
18. Virtual address is
a) More than physical address
b) Lesstthan physical memory
c) Equal to physical memory
d) None

Ans: (a)
19. Which of the following reduces CPU burden

## Ans: DMA

20. Malloc function allocates memory at
a) compilation time b)link
c)load d)running

Ans: d
Group name: chetana_job_search
Group home page:
http://groups.yahoo.com/group/chetana_job_search Group email:
chetana_job_search@yahoogroups.com

## NUCLEUS TECH

## Paper

1. In the command scanf, $h$ is used for

Ans. Short int
2.A process is defined as

Ans. Program in execution
3.A thread is

Ans. Detachable unit of executable code)
4. What is the advantage of Win NT over Win 95

Ans. Robust and secure
5. How is memory management done in Win95

Ans. Through paging and segmentation
6.What is meant by polymorphism

Ans. Redfinition of a base class method in a derived class
7.What is the essential feature of inheritance

Ans. All properties of existing class are derived
8.What does the protocol FTP do

Ans. Transfer a file b/w stations with user authentification
9. In the transport layer ,TCP is what type of protocol

Ans. Connection oriented
10.Why is a gateway used

Ans. To connect incompatible networks
11. How is linked list implemented

Ans. By referential structures
12. What method is used in Win95 in multitasking

Ans. Non preemptive check
13.What is meant by functional dependency
14.What is a semaphore

Ans. A method synchronization of multiple processes
15.What is the precedence order from high to low of the symbols (
) ++ 1
Ans.( ) , ++, /
16. Preorder of $A^{*}(B+C) / D-G$

Ans. * + ABC/-DG
18. B-tree (failure nodes at same level)
19. Dense index (index record appers for every search -key in file) 20. What is the efficiency of merge sort

Ans. $\mathrm{O}(\mathrm{n} \log \mathrm{n})$
21.A program on swaping ( 10,5 )was given (candidate cannot recollect)
22.In which layer are routers used

Ans.In network layer
23.In which layer are packets formed (in network layer )
24.heap ( priority queue )
25.copy constructor ( constant reference )
26. Which of the following sorting algorithem has average sorting
behavior --
Bubble sort,merge sort, heap sort,exchange sort
Ans. Heap sort
27. In binary search tree which traversal is used for getting
ascending order values--Inorder ,post order,preorder
Ans.Inorder
28. What are device drivers used for

Ans. To provide software for enabling the hardware
29. Irrevalent to unix command ( getty)
30.What is fork command in unix

Ans. System call used to create process
31. What is make command in unix

Ans. Used forcreation of more than one file
32.In unix .profile contains

Ans. Start up program
33.In unix echo is used for ( answer C)
34.In unix 'Is 'stores contents in

Ans.inode block

## QUANTITATIVE SECTION

1. In a class composed of $x$ girls and $y$ boys what part of the class is composed of girls
A. $y /(x+y)$
B. $x / x y$
C. $x /(x+y)$
D. $y / x y$

Ans.C
2. What is the maximum number of half-pint bottles of cream that can be filled with a 4 -gallon can of cream( $2 \mathrm{pt} .=1 \mathrm{qt}$. and $4 \mathrm{qt} .=1$
gal)
A. 16
B. 24
C. 30
D. 64

Ans.D
3.If the operation, ${ }^{\wedge}$ is defined by the equation $x^{\wedge} y=2 x+y$, what is the value of a in $2^{\wedge} \mathrm{a}=\mathrm{a}^{\wedge} 3$
A. 0
B. 1
C.-1
D. 4

Ans.B
4. A coffee shop blends 2 kinds of coffee,putting in 2 parts of a

33 p . a gm. grade to 1 part of a 24 p . a gm. If the mixture is changed
to 1 part of the 33p. a gm. to 2 parts of the less expensive
grade, how much will the shop save in blending 100 gms .
A.Rs. 90
B.Rs. 1.00
C.Rs. 3.00
D.Rs.8.00

Ans.C
5. There are 200 questions on a 3 hr examination.Among these questions are 50 mathematics problems.It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on mathematics problems
A. 36
B. 72
C. 60
D. 100

Ans.B
6. In a group of 15,7 have studied Latin, 8 have studied Greek, and 3 have not studied either. How many of these studied both Latin and Greek
A. 0
B. 3
C. 4
D. 5
Ans.B
7.If $13=13 w /(1-w)$, then $(2 w) 2=$
A.1/4 B.1/2 C. 1 D. 2

Ans.C
8. If $a$ and $b$ are positive integers and $(a-b) / 3.5=4 / 7$, then
(A) $b<a$
(B) $b>a$
(C) $b=a$
(D) $b>=a$
Ans. A
9. In june a baseball team that played 60 games had won $30 \%$ of its game played. After a phenomenal winning streak this team raised its average to $50 \%$.How many games must the team have won in a row to attain this average?
A. 12
B. 20
C. 24
D. 30

Ans. C
10. M men agree to purchase a gift for Rs. D. If three men drop out how much more will each have to contribute towards the purchase of the gift/
A. D/(M-3)
B. MD/3
C. $M /(D-3)$
D. $3 \mathrm{D} /(\mathrm{M} 2-3 \mathrm{M})$

Ans. D
11. A company contracts to paint 3 houses. Mr.Brown can paint a house in 6 days while Mr.Black would take 8 days and Mr.Blue 12 days. After 8 days Mr.Brown goes on vacation and Mr. Black begins to work for a period of 6 days. How many days will it take Mr.Blue to complete the contract?
A. 7
B. 8
C. 11
D. 12

Ans.C
12. 2 hours after a freight train leaves Delhi a passenger train leaves the same station travelling in the same direction at an average speed of $16 \mathrm{~km} / \mathrm{hr}$. After travelling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train was?
A. 30
B. 40
C. 58
D. 60

Ans. B
13. If $9 x-3 y=12$ and $3 x-5 y=7$ then $6 x-2 y=$ ?
A.-5
B. 4
C. 2
D. 8
Ans. D

## ANALYTICAL ABILITY

1. The office staff of $X Y Z$ corporation presently consists of three bookeepers--A, B, C and 5 secretaries D, E, F, G, H. The management is planning to open a new office in another city using 2 bookeepers and 3 secretaries of the present staff. To do so they plan to seperate certain individuals who don't function well together. The following guidelines were established to set up the new office
I. Bookeepers A and C are constantly finding fault with one another and should not be sent together to the new office as a
team
II. C and E function well alone but not as a team, they should be seperated
III. D and G have not been on speaking terms and shouldn't go together
IV Since $D$ and $F$ have been competing for promotion they shouldn't be a team
2. If $A$ is to be moved as one of the bookeepers, which of the
following cannot be a possible working unit.
A.ABDEH B.ABDGH C.ABEFH
D.ABEGH Ans.B
3. If $C$ and $F$ are moved to the new office, how many combinations are possible
$\begin{array}{llll}\text { A. } 1 & \text { B. } 2 & \text { C. } 3 & \text { D. } 4\end{array}$
3.If $C$ is sent to the new office, which member of the staff cannot go with C
A.B B.D C.F D.G Ans.B 4. Under the guidelines developed, which of the following must go to the new office
A.B B.D C.E D.G Ans.A
4. If $D$ goes to the new office, which of the following is/are true
I.C cannot go
II.A cannot go
III. H must also go
A.I only
B.II only
C.I and II only
D.I and III only

Ans.D
2. After months of talent searching for an administrative assistant to the president of the college the field of applicants has been narrowed down to $5--\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}, \mathrm{E}$. It was announced that the finalist would be chosen after a series of all-day group personal interviews were held. The examining committee agreed upon the following procedure
I.The interviews will be held once a week
II. 3 candidates will appear at any all-day interview session
III.Each candidate will appear at least once
IV.If it becomes necessary to call applicants for additonal
interviews, no more 1 such applicant should be asked to appear the next week
V.Because of a detail in the written applications, it was agreed that whenever candidate $B$ appears, A should also be present.
VI.Because of travel difficulties it was agreed that C will appear for only 1 interview.

1. At the first interview the following candidates appear

A,B,D.Which of the follwing combinations can be called for the interview to be held next week.
A.BCD B.CDE C.ABE D.ABC Ans.B
2. Which of the following is a possible sequence of combinations for interviews in 2 successive weeks
A.ABC;BDE
B.ABD;ABE
C.ADE;ABC
D.BDE;ACD
Ans.C
3. If $A, B$ and $D$ appear for the interview and $D$ is called for additional interview the following week, which 2 candidates may be asked to appear with D?
I. A IV II B III.C C.I IV.E
A.I and II B.I and III only only
D.III and IV only
4. Which of the following correctly state(s) the procedure followed
by the search committee
I.After the second interview all applicants have appeared at least
once
II.The committee sees each applicant a second time
III.If a third session,it is possible for all applicants to appear at
least twice

| A.I only $\quad$ B.II only $\quad$ C.III only $\quad$ D.Both I and II |
| :--- | :--- |

I. A II B III.C IV.E
D.III and IV only
C.II and III only
4. Which of the following correctly state(s) the procedure followed by the search committee
l.After the second interview all applicants have appeared at least once
II.The committee sees each applicant a second time
III.If a third session,it is possible for all applicants to appear at
A.I
A.I only
B.II only
C.III only
D.Both I and II

Ans.A
3. A certain city is served by subway lines $A, B$ and $C$ and numbers 12 and 3
When it snows, morning service on $B$ is delayed
When it rains or snows, service on A, 2 and 3 are delayed both in the morning and afternoon
When temp. falls below 30 degrees farenheit afternoon service is cancelled in either the A line or the 3 line,
but not both.
When the temperature rises over 90 degrees farenheit, the afternoon service is cancelled in either the line C or the 3 line but not both.
When the service on the A line is delayed or cancelled, service on the $C$ line which connects the A line, is delayed.
When service on the 3 line is cancelled, service on the $B$ line which connects the 3 line is delayed.
Q1. On Jan 10th, with the temperature at 15 degree farenheit, it snows all day. On how many lines will service be affected, including both morning and afternoon.
(A) 2
(B) 3
(C) 4
(D) 5
Ans. D

Q2. On Aug 15th with the temperature at 97 degrees farenheit it begins to rain at 1 PM . What is the minimum number of lines on which service will be affected?
(A) 2
(B) 3
(C) 4 (D) 5
Ans. C

Q3. On which of the following occasions would service be on the greatest number of lines disrupted.
(A) A snowy afternoon with the temperature at 45 degree farenheit
(B) A snowy morning with the temperature at 45 degree farenheit
(C) A rainy afternoon with the temperature at 45 degree farenheit
(D) A rainy afternoon with the temperature at 95 degree farenheit

Ans. B
4. In a certain society, there are two marriage groups, red and brown. No marriage is permitted within a group. On marriage, males become part of their wives groups; women remain in their own group. Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden

Q1. A brown female could have had
I. A grandfather born Red
II. A grandmother born Red

III Two grandfathers born Brown
(A) I only
(B) III only
(C) I, II and III
(D) I and II
only
Ans. D

Q2. A male born into the brown group may have
(A) An uncle in either group
(B) A brown daughter
(C) A brown son
(D) A son-in-law born into red group
Ans. A

Q3. Which of the following is not permitted under the rules as stated.
(A) A brown male marrying his father's sister
(B) A red female marrying her mother's brother
(C) A widower marrying his wife's sister
(D) A widow marrying her divorced daughter's ex-husband

Ans. B
Q4. If widowers and divorced males retained their group they had upon marrying which of the following would be permissible (
Assume that no previous marriage occurred)
(A) A woman marrying her dead sister's husband
(B) A woman marrying her divorced daughter's ex-husband
(C) A widower marrying his brother's daughter
(D) A woman marrying her mother's brother who is a widower.

Ans. D
5. I. All G's are H's II. All G's are J's or K's

III All J's and K's are G's IV All L's are K's
V All N's are M's
VI No M's are G's

Q1. If no P's are K's which of the following must be true
(A) No $P$ is a G
(B) No P is an H
(C) If any P is an H it is a G
(D) If any $P$ is a $G$ it is a $J$
Ans. D

Q2. Which of the following can be logically deduced from the stated conditions
(A) No M's are H's
(B) No H's are M's
(C) Some M's are H's
(D) No N's are G's Ans. D

Q3. Which of the following is inconsistent with one or more conditions
(A) All H's are G's
(B) All H's are M's
(C) Some H's are
both M's and G's
(D) No M's are H's
Ans. C

Q4. The statement "No L's are J's" is
I. Logically deducible from the conditions stated

II Consistent with but not deducible from the conditions stated
III. Deducible from the stated conditions together with the additional statements "No J's are K's"
(A) I only
(B) II only
(C) III only
(D) II and III only

Ans. D
Group name: chetana_job_search
Group home page:
http://groups.yahoo.com/group/chetana_job_search
Group email:
chetana_job_search @yahoogroups.com

ORACAL

1. Three beauty pageant finalists-Cindy, Amy and Linda-The winner was musician. The one who was not last or first was a math major. The one who came in third had black hair. Linda had red hair. Amy had no musical abilities. Who was first?
(A) Cindy (B) Amy (C) Linda (D) None of these
2. Two twins have certain peculiar characteristics. One of them always lies on Monday, Wednesday, Friday. The other always lies on Tuesdays, Thursday and Saturdays. On the other days they tell the truth. You are given a conversation.
Person A- today is Sunday, my name is Anil
Person B-today is Tuesday, my name is Bill What day is today?
(A) Sunday (B) Tuesday (C) Monday (D) Thursday
3. The difference of a number and its reciprocal is $1 / 2$. The sum of their squares is
(A) $9 / 4$
(B) $4 / 5$ (C) $5 / 3$
(D) $7 / 4$
4. The difference of a number and its square is 870 .What is the number?
(A) 42 (B) 29 (C)
(C) 30
(D) 32
5. A trader has 100 Kg of wheat, part of which he sells at $5 \%$ profit and the rest at $20 \%$ profit. He gains $15 \%$ on the whole. Find how much is sold at $5 \%$ profit?
(A) 60
(B) 50 (
(C) 66.66
(D) 33.3
6. Which of the following points are collinear?
(A) $(3,5)(4,6)(2,7)$
(B) $(3,5)(4,7)(2,3)$
(C) $(4,5)(4,6)(2,7)$
(D) $(6,7)(7,8)(2,7)$
7. A man leaves office daily at 7 pm .a driver with car comes from his home to pick him from office and bring back home. One day he gets free at 5.30 and instead of waiting for driver he starts walking towards home. In the way he meets the car and returns home on car. He reaches home 20 minutes earlier than usual. In how much time does the man reach home usually?
(A) 1 hr 20 min
(B) 1 hr
(C) 1 hr 10 min (D) 55 min
8. If $m: n=2: 3$, the value of $3 m+5 n / 6 m-n$ is
(A) $7 / 3$ (B) $3 / 7$ (C) $5 / 3$ (D) $3 / 5$
9. A dog taken four leaps for every five leaps of hare but three leaps of the dog is equal to four leaps of the hare. Compare speed?
(A) 12:16
(B) 19:20
(C) 16:15
(D) 10:12
10. A watch ticks 90 times in 95 seconds. And another watch ticks 315 times in 323 secs. If they start together, how many times will they tick together in first hour?
(A) 100 times
(B) 101 times (C) 99 times
(D) 102 times
11. The purpose of defining an index is
(A) Enhance Sorting Performance (B) Enhance Searching Performance
(C) Achieve Normalization (D) All of the above
12. A transaction does not necessarily need to be

## (A) Consistent (B) Repeatable (C) Atomic (D) Isolated

13. To group users based on common access permission one should use
(A) User Groups
(B) Roles
(C) Grants
(D) None of the above
14. PL/SQL uses which of the following
(A) No Binding (B) Early Binding (C) Late Binding (D) Deferred Binding
15. Which of the constraint can be defined at the table level as well as at the column level

## (A) Unique (B) Not Null (C) Check (D) All the above

16. To change the default date format in a SQLPLUS Session you have to
(A) Set the new format in the DATE_FORMAT key in the windows Registry.
(B) Alter session to set NLS_DATE-FORMAT.
(C) Change the Config.ora File for the date base.
(D) Change the User Profile USER-DATE-FORMAT.
17. Which of the following is not necessarily an advantages of using a package rather than independent stored procedure in data base.
(A) Better performance. (B) Optimized memory usage.
(C) Simplified Security implementation. (D) Encapsulation.
18. Integrity constrains are not checked at the time of
(A) DCL Statements. (B) DML Statements.
(C) DDL Statements. (D) It is checked all the above cases.
19. Roll Back segment is not used in case of a
(A) DCL Statements. (B) DML Statements. (C) DDL Statements.
(D) all of the above.
20. An Arc relationship is applicable when
(A) One child table has multiple parent relation, but for anyone instance of a child record only one of the relations is applicable.
(B) One column of a table is related to another column of the same table.
(C) A child table is dependent on columns other than the primary key columns of the parent table.
(D) None of the above.
21. What is true about the following C functions?
(A) Need not return any value. (B) Should always return an integer.
(C) Should always return a float. (D) Should always return more than one value.
22. enum number $\{a=-1, b=4, c, d, e$,$\} what is the value of e$ ?
(A) 7 (B) 4 (C) 5 (D) 3
23. Which of the following about automatic variables within a function is correct?
(A) Its type must be declared before using the variable. (B) They are local.
(C) They are not initialized to zero. (D) They are global.

## Technical section:

its very easy any one can answer 25 qns without preperation.
some are

1. how compiler treats variables of recursive functions
2. what is orthogonal matrix?
3. given two tables and asked 2 qns on those table ,
one is on join and another is on NOT IN
4. given some qns on pointers( pretty easy)
5. given five qns on data structures like, lifo, fifo
6. qtn on primary key
7. how NULL in sql is treated?
8. given a doubly linked list and asked $r$->left->right->data
ans: r->data
9:explain const char *ptr and char *const ptr
remaining i didn`t remember

## aptiude

15 quant apti from rs agrval
15 verbal apti,
in this 4 are odd word out
and 4 are sentese ordering when jumbled senteses given
and 4 are reasoning
Group name: chetana_job_search
Group home page:
http://groups.yahoo.com/group/chetana_job_search Group email:
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POLARIS
Mumbai: The test consisted of 3
sections
1] Analytical - Data sufficiency, Arrangements, Data
Analysis(graphs).. - 45 questions
2] Quantitative - Complete from RS Agarwal - All types (mostly percentages, profit and loss, mixtures)etc. 35 questions
3] Language - Easiest section - Find incorrect word, Fill in the blanks with correct form of word, Synonyms quite easy - anamoly, berate, synonymous etc. Questions on a passage etc.

Chennai: The test was an objective one with multiple choice answers, no negative marking. it consisted of 3 sections:-
Analytical, Quantitative and Verbal. There were 120 questions to be answered in $11 / 2 \mathrm{hrs}$. Due to time shortage, i had to guess a few answers but i was told thats natural. anyway, the paper was quite simple and based on IIM-CAT pattern. some questions were formulated to scare one like a 4D-analytical word problem and a few quantitative questions involving slightly tedious calculations. but on the whole, the test was really simple. the results are due in a week or so. thats it for now.
Bangalore: The Paper was not very difficult but was tricky.T he Verbal Section was really very interesting. Guys/Girls preparing for CAT can easily crack PATS provided they had prepared seriously. So people preparing for PATS pls do keep track of time because there were 120 q's and 90 minutes. In my batch everyone were $80 \%$ plus aggregate so i guess $80 \%$ was the cut off for the first round. S o if anyone with 80 plus have not got a call letter then pls be prepared you can get a call anytime.

Chennai: I have attended Polaris test in Chennai this sunday. It was like 120 questions in 90 min., out of which 45 was analytical,

35 was quantitative and the next 40 was english. First 2 sections only speed will do there is nothing to think and answer, if $u$ are so quick in calculations and analysis, you have a good chance. English section, there u need to know basic grammars and usages and also how u define certain situations. For analytical and quantitative only experience will do. No -Ve marking.

## RAMCO

Directions: Each of the following question has a question and two statements labelled as (i) and (ii). Use the data/information given in (i) and (ii) to decide whether the data are sufficient to answer the question record your answer as
A) If you can get the answer from (1)alone but not from (2)
B) If you can get the answer from (2)alone but not from (1)
C) If can get the answer from (1)and (2)together ,although neither statement by itself suffice
D) If statement (1)alone suffices and statement (2) alone also suffice.
E) If can't get the answer from statements (1) and (2) together and you need more data.
Q1)What will be the population of city X in 1991?

1) Population of the city has $55 \%$ annual growth rate
2) in 1991,the population of city $X$ was 8 million

Ans:C
Q2) Was it Rani's birthday yesterday?
1)Lata spends Rs. 100 on Rani's birthday
2)Lata spent Rs. 100 yesterday

Ans: E
Q3)Is $3^{*} 5$ or is $4^{*} 6$ greater ?

1) $a^{*} b=b^{*} a$
2) $a * b$ is the remainder of $a b \%(a+b)$

Ans:B
Q4)Will the graph $X-Y$ pass through the origin?

1) $x$ proportional to the $Y$
2)increment in $y$ per units rise of $x$ is fixed.

Ans: E
Q5) What was the value of the machine 2 years ago?

1) the deprecition of the value of the machine per year is $10 \%$
2) present value of the machine is rs $8000 /$

Ans:C
Q6) What will be the area of a square that can be inscribed in a circle?

1) Radius of the circle is $T$
2) Length of a diagonal of the square is $2 r$

Ans:D
Q7) Can it be concluded that the port made more profit in 1988 than in 1987

| 1) 1987 Total tonnage handled <br> by the port 10 million tonnes | Expenditure made by the port to <br> handle one tonne of cargo <br> Rs.20/- |
| :--- | :--- |

2) 1988

| Total tonnage handled by the <br> port 12.5 million tonnes | Expenditure made by the port to <br> handle one tonne of cargo <br> Rs 25/- |
| :--- | :--- |
|  |  |

## Ans: E

Q8) There are two figures viz., a circle and a square. Which having greater area?

1) Perimeter of the circle is the same as the perimeter of the square.
2) Eleven times the radius is equal to seven times the length of one side of the square.
Ans: D
Q9) A candidate who was found to be under weightin medical test had been selected provisionally subject to his attainment of 60 Kg
weight within one year. What should be the percentage increase of his weightso that selection is confirmed after one year.
3) Weight $(\mathrm{Kg})=16+8$ Height $(\mathrm{ft})$ is standard equation for the Indian population. The candidates height is 5.5
4) His present weight is 55 Kg .

Ans: D
Q10) Is angle $\mu=90$

1) $\sin ^{* *} 2(\mu)+\cos ^{* *} 2(\mu)=1$
2) $\sin ^{* *} 2(\mu)-+\cos ^{* *} 2(\mu)=1$

Ans: E
Q11) What will be the average age of workers of an Institution after two years?

1) Present average age is 35 years
2) There are total 20 workers in the Institution

Ans: A
Q12) Can it be concluded that firestry is getting increasing importance in India? ( Disregarding the change in money value ) 1)

| Name of the plan | Expenditure on Forest (Crores of rupees) |
| :---: | :---: |
| First five year plan | 10 |
| Second five year plan | 19 |
| 2) |  |
| Name of the plan | Expenditure on Forest (Crores of rupees) |
| First five year plan | 46 |
| Second five year plan | 92.5 |
|  |  |
| Q13) Is $A B>A M$ ( $A$ Triangle is given ) |  |
| 1) $A B<A C$ |  |
| 2) $M$ is any point other than $B$ and $C$ on $B C$ |  |
| Ans: E |  |
| Q14) Is $\mathrm{X}^{\wedge} 2+\mathrm{Y}^{\wedge} 2<X+Y$ ? |  |
| 1) $0<X<1$ |  |
| 2) $0<Y<1$ and $X!=Y$ ( $X$ not equal to $Y$ ) |  |
| Ans: C |  |
| Q15) Can it be concluded that angle $\mathrm{ABO}=$ angle ODC |  |
| 1) $A B C D$ is a Parallelogram and $O$ is the point of intersection of the diagonals. |  |
| 2) Angle $\mathrm{DOC}=75 \mathrm{deg}$. and angle $\mathrm{DAO}=35 \mathrm{deg}$. |  |
| Ans: A |  |
| Q16) What is the value of $x+y$ ? |  |
| 1) $2 y=x+6$ |  |
| 2) $5 x=10 y-30$ |  |

Ans: E
Q17) How many students are there in the class?

1) 30 students play foot ball and 40 play cricket .
2) Each student plays either foot ball or cricket or both.

Ans: E
Q18) What is the value of $a: b$ ?

1) $a=x+10 \% o f x$
2) $b=a+10 \% o f a$

Ans: B
Q19) What is the maximum value of the expression $5+8 x-8 x^{\wedge} 2$ ?

1) $x$ is real
2) $x$ is not positive

Ans: C
Q20) What will be the value of the greatest angle of the triangle ABC?

1) Angles of the triangle are in the ration $2: 5: 3$
2) The side opposite to the greatest angle is the longest side.

Ans: A
Q21) What is the range of values of $x$ ?

1) $(x-2) /(2 x+5)<1 / 3$
2) $2 x / 3+17 / 3>3 x-20$
Ans: D

Q22) Of the two which one is the greater -- $-3 / x,-3 / y$ ?
$\begin{array}{ll}\text { 1) } x, y>0 & \text { 2) } x<y\end{array}$

Ans: C
Q23) What percentage of the candidates passed both in science and mathematics?

1) 52 percent of the candidates failed in science
2) $42 \%$ of the candidates failed in mathematics

Ans: C
Q24) How much pure $\mathrm{H}_{2} \mathrm{SO}_{4}$ (Hydro Sulphuric Acid) should be added to bring down the percentage of impuritity to $5 \%$ ?
1). 50 liters of pure H 2 SO 4 was diluted
2). dilution was to the extent of $20 \%$

Ans:C
Q25) What is the cost of building when archtects feeses was 70,000

1. Architect gets $10 \%$ for the first Rs. 50000 of the cost of building
2. Architect gets $3 \%$ on the cost of the building over 50000

## Ans:C

Q26) What is the value of $B C$ ?( here one triangle figure is there )
1). $A P=4$
2). $P Q=5$

Ans: E
Q27) What is the area of the shaded portion (assume $A B, C D$ are arcs of two circles with centre at 0 .) Here one arc figure is there
1). $C A=20 \mathrm{~m}$
2). $C B=5 m$

Ans:C
Q28) What is the area of the greatest circle that can be out from rectangular paper
$\begin{array}{lll}\text { 1). length of the paper is } 30 \mathrm{~cm} & \text { 2). Width of the paper is } 21 \mathrm{~cm}\end{array}$
Ans: B
Q29) $Y$ is what percentage of $X$ ?
1). $0.3 x=Y$
2). $3 x-10 y=0$

Ans:D
Q30) What is the area of the trapezium abcd where ab is 5 cm

## 1. $B C=7 C M \quad$ 2. $A B+C D=16 C M$

Directions :- Each sentence below has one or two blanks.Choose the word from the set of words for each blank that best fits the meaning of the sentence as a whole.
Q31) The air was bitter cold, the temperature well below the freezing point, yet they found themselves ------ freely as they clambered up the steep northern slope
Ans: disporting
Q32) We were taken when we heard of his defection, never having suspected that he was anything but loyal. So capable had been his ---- or and devotion to cease
Ans: presentiment
Q33) War and peace are mutually ------- states of being and war to preserve peace is not a paradox. It is a -----Ans: incompatible -contradiction
Q34) Although the injury appeared ------, the examination by the ophthomologist revealed that he would need immediate surgery to save his sight.
Ans: superficial
Q35 to Q40-On similar pattern as above.

## Antonyms

Q41. corroborative ---- refutable
Q42. obnoxious ---- harmless
Q43. sanction ---- hinder
Q44. empirical ---- experimental
Q45. aborigine ---- emigrant
Directions for questions 56-60. Questions 56-60 are based on the following information:
A port has four berths $W, V, X, Y$. Of these two are general cargo berth, one is a fertiliser berth and one is for liquid cargo, When vessel $A$ arrived it was berthed at berth V but vessel B which along with $A$ had to wait prior to berthing as vessel $C$ was working in berth $Y$ and vessel $D$ was working in berth W. Vessel $E$ came to unload fertiliser and did not have to wait. All are specilised berths i.e. general cargo vessel has to work only in a general cargo berth. So is true for fertiliser vessel and liquid cargo vessel.
Q56. The vessel E should be alotted to the berth.

Ans: X
Q57. Which of the following berth can accept a vessel carrying liquid cargo--W, $\mathrm{V}, \mathrm{X}, \mathrm{Y}$
Ans: V
Q58. Which of the following is not a general cargo vessel--A ,B, C, D, E
Ans:A
Q59. Total number of general cargo vessels mentioned in the above description is
Ans:3
Q60. Whcih of the following allotments is possible
Ans: B to W
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SASKEN
Off Campus Written Test conducted in 3 at Bangalore
The test comprises of 2 sections:

1. Technical ( C ) \& Technical Subject- 60 mins, 60 questions
2. Logical Reasoning.. - 30 mins, 17 questions....
==> Questions in C were mostly from "pointers in c" and "test ur C skills" by Yeshwant Kanetkar... C questions based on command line arguments, data structure ( BST, tree traversals). All the questions were like " what is the output of the following program segment" and in many questions 3rd and 4th choices were (c) compilation error and (d) compilation, warning, runtime error.... Heard they are asking abt- ptr, string, arr, preprocessor, data structures etc.. C test was pretty ok pass by value, pass by reference etc. questions were asked The general test was pretty tough, they ask u fourier transforms,harmonics, Barkhuasen criterion, virtual memory, Whether FIFO is better than LRU etc. 4 questions were from fourier transforms the duration was 60 mins and no negative marking

C basics 10 questions, very easy. Given a program and asked the output-type questons.from pointers 3-4 questions are there. 2)reg subject:very very easy:some from digital(on nand gates. Jk flip flop),from Information theory and coding,some from Micro processors.

In Logical Reasoning all the 17 questions were paragraphs (argument) of 5 to 6 sentences...five sentences (choices) will be given below and questions were asked like " which of the five if true will weaken or supports the argument above .." :- R. S. Agrawal LR is sufficient

## SASKEN PAPER HELD ON 9th AUG at 2:30pm

The questions were like this.
The text consists of two parts

1) $C$ test
2) CSE01 Test

## INTERVIEW

In the interview, they asked about Stacks, Queues, Linked lists, Binary Trees.
Few questions I remember are:

1) If $u$ have a linked list library, how do $u$ design stack and queue using it; write pseudocode.
2) What are static variables and functions?
3) Write code in $C$ to count the number of 1 s in a character (1byte).
4) What is pre-order, post-order, in-order; write code to print post-
order.
5) Can u construct a binary tree given its inorder and postorder details. Is it neccessary or sufficient to construct tree. Asked an example to do in both ways.
6) If recursion is not used to print post order, what other data structure u use
(ans: Stack).
7)Can u use stack always in place of recursion?
(ans: Yes)
7) What are meta characters?
8) Write a piece of code to insert a node in a linked list.
9) About malloc.
10) About Operating System - Semaphores
11) About Computability (eg:- finding infinite loop), Complexity of algorithms
12) What does compiler and assembler do?

They asked grep command in Linux. How do u search 'n', using grep, in a file.
They may ask some other commands if u say ur familiar and recently been using linux.
About Networks? OSI reference model.
what does transport layer do?
TCP belongs to which layer?
IP belongs to which layer?
Where is error correction done?
What is a connection oriented/ connection less transmission?
What is meant by reliable transmission protocol? why is it called
so?
What is flow control and where it is done?
About ur project?
Asked me expalin about the project in brief.
If $u$ don't know anything, say it sincerely. U cannot bluff them. I too spoke to them sincerely.
They were cool. U need not get tensed. They won't attack you. Just they want to know ur hold about the subject.

## PAPER 1--GENERAL APTITUDE

Directions:Each question given below consists of a word, followed by four words or phrases. Choose the lettered word or phrase that is most nearly opposite in meaning to the word in the question.

## ANTONYMS

1. Disregarded
(a) heed
(b) hopeful
(c) evade
(d) dense
Ans. (a)
2. Obviate
(a) becloud
(b) necessitate
(c) rationalize
(d) execute

Ans. (b)
3. Superficial
(a) profound
(b) exaggerated
(c) subjective
(d) spirited

Ans. (a)
4. Abide
(a) retract an offer
(b) refuse to endure
(c) shield from harm
(d) exonerate
Ans. (b)
5. Acerbity
(a) noteworthiness
(b) hypocrisy
(c) mildness of temperament
(d) lack of anxiety
Ans. (c)

Directions: Each question or group of questions is based on a passage or set of conditions. For each question, select the best answer choice given.

## Quesitions 6-9

In a certain society, there are two marriage groups, Red and Brown. No marriage is permitted within a group. On marriage, males become part of their wife's group: women remain in their own group. Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden.
6. A Brown female could have had
I. a grandfather born Red
II. a grandmother born Red
III. two grandfathers born Brown
(a) I only
(b) II only
(c) I and II only
(d) II and III only
(e) I,II and III

Ans. (c)
7. A male born into the Brown group may have
(a) an uncle in either group
(b) a Brown daughter
(c) a Brown son $\quad$ (d) a son-in-law born into the Red group
(e) a daughter-in-law in the Red group
Ans. (a)
8. Which of the following is not permitted under the rules stated?
(a) A Brown male marrying his father's sister
(b) A Red female marrying her mother's brother
(c) A man born Red, who is now a widower, marrying his brother's
widow $\quad$ (d) A widower marrying his wife's sister
(e) A widow marrying her divorced daughter's ex-husband

Ans. (b)
9. If widowers and divorced males retained the group they had upon marrying, which of the following would have been
permissible?(Assume no previous marriages occurred)
(a) A woman marrying her dead sister's husband
(b) A woman marrying her divorced daughter's ex-husband.
(c) A widower marrying his brother's daughter
(d) A woman marrying her mother's brother, who is a widower
(e) A divorced male marrying his ex-wife's divorced sister

Ans. (d)
Questions 10-13
Tom wishes to enroll in Latin AA, Sanskrit A, Armenian Literature 221, and Celtic Literature 701.
Latin AA meets five days a week, either from 9 to 11 A.M or from 2 to 4 P.M.
Sanskrit A meets either Tuesday and Thursday from 12 noon to 3 P.M., or Monday, Wednesday, and Friday
from 10 A.M to 12 noon.
Armenian Literature 221 meets either Monday, Wednesday, and Friday from 12:30 to 2 P.M., or Tuesday and Thursday from 10:30 A.M to 12:30 P.M
Celtic Literature 701 meets by arrangement with the instructor, the only requirement being that it meet for one four-hour session or two two-hour sessions per week, between 9A.M and 4 P.M from Monday to Friday, beginning on the hour.
10. Which combination is impossible for Tom?
(a) Latin in the morning, Sanskrit on Tuesday and Thursday, and Armenian Literature on Monday, Wednesday, Friday
(b) Latin in the afternoon and Sanskrit and Armenian Literature on Monday, Wednesday, and Friday.
(c) Latin in the afternoon, Sanskrit on Monday, Wednesday, and Friday, and Armenian Literature on Tuesday and Thursday
(d) Latin in the morning and Sanskrit and Armenian Literature on Monday, Wednesday, and Friday
(e) Latin in the afternoon, Armenian Literature on Monday, Wednesda and Friday, and Celtic Literature on Tuesday
Ans. (d)
11. Which of the following gives the greatest number of alternatives for scheduling Celtic Literature, assuming that all other courses
(a) Latin in the afternoon and Armenian Literature Monday, Wednesday and Friday
(b) Sanskrit on Tuesday and Thursday and Armenian Literature on Monday, Wednesday and Friday
(c) Latin in the afternoon and Armenian Literature Tuesday and Thursday
(d) Latin in the morning and Sanskrit on Tuesday and Thursday
(e) Sanskrit on Monday, Wednesday, and Friday. and Armenian Literature on Tuesday and Thursday
Ans. (a)
12. If the Celtic instructor insists on holding at least one session on Friday, in which of the following can Tom enroll?
(I) Armenian Literature on Monday, Wednesday, and Friday
(II) Sanskrit on Monday, Wednesday, and Friday
(a) I only (b) II only (c) both I and II (d) I or II but not both
(e) neither I nor II Ans. (d)
13. Which of the following additional courses, meeting as indicated, can Tom take?
(a) Maths--Monday, Wednesday, and Friday from 10A.M to 12 noon
(b) French--Monday, Wednesday, and Friday from 11A.M to 12:30 P.M
(c) English--Tuesday and Thursday from 2 to 4 P.M
(d) Japenese--Tuesday and Thursday from 1 to 3 P.M
(e) Old Norse-Icelandic--Monday only from 12 to 3 P.M

Ans. (b)
Questions 14-18
(1) Ashland is north of East Liverpool and west of Coshocton
(2) Bowling Green is north of Ashland and west of Fredericktown
(3) Dover is south and east of Ashland
(4) East Liverpool is north of Fredricktown and east of Dover
(5) Fredricktown is north of Dover and west of Ashland
(6) Coshocton is south of Fredricktown and west of Dover
14. Which of the towns mentioned is furthest to the northwest ?
(a) Ashland
(b) Bowling Green
(c) Coshocton
(d) East Liverpool
(e) Fredericktown
Ans. (b)
15. Which of the following must be both north and east of Fredricktown?
(I) Ashland
(II) Coshocton
(III) East Liverpool
(a) I only
(b) II only
(c) III only
(d) I and II
(e) I and III
Ans. (e)
16. Which of the following towns must be situated both south and west of at least one other town?
(a) Ashland only
(b) Ashland and Fredricktown
(c) Dover and Fredricktown(d) Dover,Coshocton and Fredricktown
(e) Dover,Coshocton and East Liverpool
Ans. (d)
17. Which of the following statements, if true, would make the information in the numbered statements more specific?
(a) Coshocton is north of Dover
(b) East Liverpool is north of Dover
(c) Ashland is east of Bowling Green
(d) Coshocton is east of Fredericktown
(e) Bowling Green is north of Fredericktown

Ans. (a)
18. Which of the numbered statements gives information that can be deduced from one or more of the other statement?
(a) (1)
(b) $(2)$
(c) $(3)$
(d) (4)
(e) (6)

Ans. (c)
Questions 19-22
Spelunkers International offers exploring tours in eight caves:
Abbott, Benny, Caeser, Dangerfield, Ewell, Fields, Guinness, and Hope
(1) Class 1 spelunkers may not attempt cave Ewell, Fields or Hope
(2) Class 2 spelunkers may not attempt Hope
(3) Class 3 spelunkers may attempt any cave
(4) Cave Caesar may be attempted only by spelunkers who have previously explored cave Benny
(5) Cave Fields may be attempted only by spelunkers who have previously explored cave Ewell
(6) Only two of caves Benny, Caeser, Ewell, Fields, and Hope may be attempted by any explorer in a single tour
19. A class 2 spelunker who has previously explored cave Ewell may be restricted in choosing a tour by which rule(s)?
(I) Rule(4)
(II) Rule(5)
(III) Rule(6)
(a) I only
(b) II only
(c) I and III only
(d) II and III only (e) I, II and III

Ans. (c)
20. In how many different ways may a class 1 spelunker who has never explored any of the eightcaves before set up a tour of three caves, if she wishes to explore caves Abbott and Caesar?
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

Ans. (b)
21. What is the maximum number of caves that a class 3 spelunker who has previously explored only cave Benny may include
in a single tour?
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8
Ans. (b)
22. If $x+y=3$ and $y / x=2$ then $y=$ ?
(a) 0
(b) $1 / 2$
(c) 1
(d) $3 / 2$
(e) 2

Ans. (e)
23. How many squares with sides $1 / 2$ inch long are needed to cover a rectangle that is 4 ft long and 6 ft wide
(a) 24
(b) 96
(c) 3456
(d) 13824
(e) 14266
24. If $a=2 / 3 b, b=2 / 3 c$, and $c=2 / 3 d$ what part of $d$ is $b /$
(a) $8 / 27$
(b) $4 / 9$
(c) $2 / 3$
(d) $75 \%$
(e) $4 / 3$

Ans. (b)
25. Successive discounts of $20 \%$ and $15 \%$ are equal to a single discount of
(a) $30 \%$
(b) $32 \%$
(c) $34 \%$
(d) $35 \%$
(e) 36

Ans. (b)
26. The petrol tank of an automobile can hold $g$ liters. If a liters was removed when the tank was full, what part of the full tank was removed?
(a) $g-a$
(b) $g / a$
(c) $a / g$
(d) $(g-a) / a$
(e) $(g-a) / g$
Ans. (c)
27.If $x / y=4$ and $y$ is not ' 0 ' what $\%$ of $x$ is $2 x-y$
(a) $150 \%$
(b) $175 \%$
(c) $200 \%$
(d) $250 \%$

Ans. (b)
28.If $2 x-y=4$ then $6 x-3 y=$ ?
(a) 15
(b) 12
(c) 18
(d) 10

Ans. (b)
29. If $x=y=2 z$ and $x y z=256$ then what is the value of $x$ ?
(a) 12
(b)8
(c) 16
(d) 6

Ans. (b)
30. $(1 / 10) 18-(1 / 10) 20=$ ?
(a) $99 / 1020$
(b) $99 / 10$
(c) 0.9
(d) none of these

Ans. (a)
31. Pipe A can fill in 20 minutes and Pipe $B$ in 30 mins and Pipe $C$ can empty the same in 40 mins. If all of them work together, find the time taken to fill the tank
(a) $171 / 7 \mathrm{mins}$
(b) 20 mins
(c) 8 mins
(d) none of these

Ans. (a)
32. Thirty men take 20 days to complete a job working 9 hours a day. How many hour a day should 40 men work to complete the job?
(a) 8 hrs
(b) $71 / 2 \mathrm{hrs}$
(c) 7 hrs
(d) 9 hrs

Ans. (b)
33. Find the smallest number in a GP whose sum is 38 and product 1728
(a) 12
(b) 20
(c) 8
(d) none of these

Ans. (c)
34. A boat travels 20 kms upstream in 6 hrs and 18 kms downstream in 4 hrs. Find the speed of the boat in still water and the speed of the water current?
(a) $1 / 2 \mathrm{kmph}$
(b) $7 / 12 \mathrm{kmph}$
(c) 5 kmph
(d) none of these
Ans. (b)
35. A goat is tied to one corner of a square plot of side 12 m by a rope 7 m long. Find the area it can graze?
(a) 38.5 sq.m
(b) $155 \mathrm{sq} . \mathrm{m}$
(c) $144 \mathrm{sq} . \mathrm{m}$
(d) 19.25 sq.m
Ans. (a)

SOME QUESTIONS WHEREIN TWO STATEMENTS ARE GIVEN
ARE ALSO THERE WHERE YOU HAVE TO TELL WHICH
STATEMENT IS CORRECT
SOME QUESTIONS ALSO APPEARED FROM THE BARRON'S
GMAT GUIDE.
PAGE NO. 439 PASSAGE AND QUESTIONS 1 TO 9
PAGE NO. 440-441
PAGE 442 PASSAGE 2
ALSO REFER TO BARRON'S GRE BOOK FOR ADDITIONAL

## ANALYTICAL QUESTIONS.

## PAPER 2--GENERAL AWARENESS

1. Who is the father of computers
2. Expand HTML,DMA,FAT,LAN,WAN,FDDetc
3. Which was intel's first microprocessor
4. Convert 1024 (in decimal) to octa and hexadecimal form
5. First microprocessor was
(a) 8085
(b) 8088
(c) 8086
(d) 80487
6. Give the name of a processor produced by mortorola?
7. What is the full form of WindowsNT ?
8. What is the difference between 8087 and 8086

BESIDES THIS QUESTIONS WERE ALSO BASED ON IBM PC CLONES, BASIC QUESTIONS ON GUI
SIMPLE PROGRAMS LIKE FINDING FACTORIALS, LARGEST
OF THREE NUMBERS ETC HAVE ALSO BEEN ASKED IN THE PAST.
Group name: chetana_job_search
Group home page:
http://groups.yahoo.com/group/chetana_job_search Group email:
chetana_job_search@yahoogroups.com

SONATA
Last month of an year
(a) January (b) February (c) December (d) November
2. Select the odd one
(a) January (b) February (c) Wednesday (d) November
3. Select the antonym of capture from the following
(a) attack (b) Release (c) condemn (d) None of the above
4. Find the antonym of autumn
(a) Spring (b) Winter (c) Summer (d) None of the above
5. One skirt requires 3.75 yards of cloth. How many skirts you can make from 45 yards?
Ans: 12 skirts
6. How can you make a square from two triangles?
7. Is the meaning of Client and Customer,
(a) same (b) contradictory (c) no relation
8. Is the meaning of It's and Its,
(a) same (b) contradictory (c) no relation
9. Is the meaning of Canvas and Canvass,
(a) same (b) contradictory (c) no relation
10. Is the meaning of Ingenious and Ingenuous,
(a) same (b) contradictory (c) no relation
11. Is the meaning of Credible and Credulous,
(a) same (b) contradictory (c) no relation
12. Select the odd one out.
(a) $1 / 4$ (b) $1 / 3$ (c) $1 / 6$ (d) $1 / 18$
13. Select the least from the following.
(a) 0.99 (b) 1 (c) 81 (d) 0.333
14. Find the next number in the series. $1,0.5,0.25,0.125$

Ans: 0.0625
15. One dollar is saved in one month. Then how much dollar is saved in one day?
Ans: $1 / 30=0.0333 \$$
16. $Y$ catches 5 times more fishes than $X$. If total number of fishes caught by $X$ and $Y$ is 48 , then number of fishes caught by $X$ ?
Ans: 8
17. $Y$ catches 5 times more fishes than $X$. If total number of fishes caught by $X$ and $Y$ is 42 , then number of fishes caught by $X$ ?
Ans: 7
18. If a train covers 600 m in 0.5 seconds, how long it will cover in 10 seconds?
Ans: $3000 \mathrm{~m}=3 \mathrm{~km}$
19. The girl's age is twice that of boy, if the boy is four years old.

After four years the age
of the girl is

Ans: 12 years
20. Sister's age is twice than that of the brother. If the brother's age is six, what is the sister's age after two years?
Ans: 14 Yrs.
21. Two lemons cost 10 cents. Then one and a half dozen cost Ans: 90 cents
22. A clock is late by 1 minute 27 seconds in a month. Then how much will it be late in 1 day?
Ans: 2.9 seconds
23. Which of the following figures together will make a triangle?

Ans: a,b,c,d
24. Make a square by drawing only one line

Ans: line 2-5, square 2-3-4-5-2
25. Which of the following is the odd one? crew, constellation, companion, league, participants.
Ans: companion
26. Opposite of Remote?
(a) Far (b) Near (c) Huge (d) Village
27. Statement A: All great men are ridiculous;

Statement B: I am ridiculous ;
Inference : I am a great man;
(a) True (b) False (c) Not clear
28. Statement: Normal children are active;

Inference: All children are active;
(a) True (b) False (c) Uncertain
29. Next number in the series $1,1 / 2,1 / 4,1 / 8$ ?

Ans: 1/16
30. In 6 seconds a light flashes once. In one hour how many times it will flash?
Ans: 601 times
31. At $20 \%$ discount, a cycle is sold at a selling price of 2500 Rs. What is the actual price?
Ans: Rs. 3125
32. Statement $A$ : A \& $B$ have same age;

Statement $B$ : $B$ is younger than $C$;
Inference: A is younger than C ;
(a) True (b) False (c) Uncertain
33. All chickens lay eggs (True/False)

Ans: False
34. A invests $\$ 12000$, $B$ invests $\$ 8000$, C invests $\$ 6000$ and they got a profit of $\$ 1200$. How much share $A$ got more than $B$ and $C$ ? Ans: $2 / 13$ and $3 / 13$
Group name: chetana_job_search
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TCS
You can refer to Barron' s most frequently used words list for a close recap.
Vocabulary Section: Work out the synonyms, antonyms of: -(time 28 mins)

| 1.Physiognomy | y 2.Repudiate | 3.Translucent | 4. Mitigate |
| :---: | :---: | :---: | :---: |
| 5. Inundate 6 | 6. Bilk | 7.Nettle | 8.Impugn |
| 9. Mulch 10. | 10.Tenacity | 11.Sobriety | 12. Degrade |
| 13.Misanthrope | 14.Waif | 15.Hamper | 16.Retrograde |
| 17.Despondent | nt 18.Debac | 19.Tarry | 20.Bilk |
| 21.Incontinent. | . 22.Nebulous | us 23.Par | dox 24.Hidebound |
| 25.Lacklustre | 26.Moribun |  |  |

Paper from Campus Recruitment in Jamshedpur 2003
synonym dwindle efface indiginity inept infirmity
candid dangle Antonym restivness Irksome

Jaunty Nebulous Misapprehension Obese

## Obloguy

Paper from Campus Recruitment in NIT Durgapur 2003

Synonym and antonym

| Harbinger | Cacophony | Divulge Clutch | Acronym |  |
| :--- | :---: | :---: | :---: | :---: |
| Illustrious | Prolific | Divergent | Jaded |  |

Mitigate Ambitious Aberration
Transient(an)-permanence
Buxom
Foray
Denounent
One student got 7-8 words starting with " $A$ " from high frequency word list. (barron' s guide)
Campus Recruitment in Jadavpur university 1999
SECTION I VOCABULARY (SYNONYMS) TIME :15 Min. MARKS:
20.

DIRECT ANSWERS :

## Admonish : usurp

Meager :scanty
Alienate : estrange
Merry : gay
Brim : Boarder
obstinate : stubborn
Pretention:pretentioius
Tranquil:serene
solicit : urge
subside : wane
furtive :stealthy
misery : disstress
volume :quantity
veer : diverge
stiffle :sniths
adhesive : ---
Hamper : obstruct
belief : conviction
lament : wail
to merit :to deserve
incentive: ----
inert: passive
Baffle : Frustrate
Confiscate : appropriat
Covet : crave
Caprice : whim
Concur :acquiesce
Cargo :freight
Dispel : Scatter
Divulge : -----
Discretion: prudence
Emancipate : liberate
Efface : obliterate
Hover : linger
Heap : to pile
Instigate : incite
latitude : scope
latent: potential
lethergy: stupor
momentary : transient

## READ THE PASSAGE AND ANSWER THE QUESTION

1. If $g(0)=g(1)=1$

And $g(n)=g(n-1)+g(n-2)$ find $g(6)$;
2.A plane moves from 9 N40 E to 9 N 40 W . If the plane starts at 10 am and takes 8 hours to reach the destination, find the local arrival time.
3. If $\log 0.317=$ $\qquad$ and $\log 0.318=$ $\qquad$ Then find the value of $\log 0.319$.
4. You will be given the bit position values for $A, B$ and $C$ and using the relation $\left(\begin{array}{ll}A & B\end{array}\right)$ u $C$ you have to construct the truth table. Then find the corresponding decimal number and choose the right option.
5.Complete the sequence $9,10,11,13,15$, , , 21,28.
6. In a certain format TUBUJPO is coded as STATION. The code of which string is FILTER?
7. What is the code formed by reversing the First and second letters, the third and fourth letters and son on of the string SIMULTANEOUSLY?
8. The base 5 representation of the decimal number 2048 is
$\qquad$ .
9. Which is the largest prime number that can be stored in a 9-bit register?
10. Find the physical quantity represented by MOMENTUM
*VELOCITY] / [LENGTH * ACCELERATION]?
11.A can do a piece of work in 20 days, which B can do in 12 days. In 9 days B does $3 / 4$ of the work. How many days will A take to finish the remaining work?
ANNA University-Campus Recruitment July2003
QUANTITATIVE AND LOGICAL REASONING.

1. In a two-dimensional array, $X(9,7)$, with each element occupying 4 bytes of memory, with the address of the first element $X(1,1)$ is 3000 , find the address of $X(8,5)$.
ANS: 3212
2. In the word ORGANISATIONAL, if the first and second, third and forth, forth and fifth, fifth and sixth words are interchanged up to the last letter, what would be the tenth letter from right?
ANS: I(ROANISATIONALG)
2E. In the word ORGANISATIONAL, if the first and second, third and forth, fifth and sixth words are interchanged up to the last letter, what would be the tenth letter from right?
ANS: I(ROAGINASITNOLA)
3. What is the largest prime number that can be stored in an 8-bit memory?
ANS:127
4. Select the odd one out. a. Java b. Lisp c. Smalltalk d.Eiffel.

ANS: LISP
5. Select the odd one out a. SMTP b. WAP c. SAP d. ARP ANS: SAP
6. Select the odd one out a. Oracle b. Linux c. Ingress d. DB2 ANS:LINUX
7. Select the odd one out a. WAP b. HTTP c. BAAN d. ARP ANS:BAAN
8. Select the odd one out a. LINUX b. UNIX c.SOLARIS d. SQL SERVER
ANS:SQL SERVER
9. Select the odd one out a. SQL b. DB2 c.SYBASE d. HTTP ANS:HTTP
10. The size of a program is N. And the memory occupied by the program is given by $\mathrm{M}=$ square root of 100 N . If the size of the program is increased by $1 \%$ then how much memory now occupied?
11. A man, a woman, and a child can do a piece of work in 6 days. Man only can do it in 24 days. Woman can do it in 16 days and in how many days child can do the same work?
ANS:16
12. In which of the system, decimal number 194 is equal to 1234 ?

ANS:5
13. Find the value of the 678 to the base 7 .

ANS:1656
14. Number of faces, vertices and edges of a cube

ANS:6,8,12
15. Complete the series $2,7,24,77$,__

ANS:238
16. Find the value of @@+25-++@1..., where @ denotes "square" and + denotes "square root".
ANS:121
17. Find the result of the following _expression if, $M$ denotes modulus operation, R denotes round-off, T denotes truncation:
$\mathrm{M}(373,5)+\mathrm{R}(3.4)+\mathrm{T}(7.7)+\mathrm{R}(5.8)$ ANS:19
18. If TAFJHH is coded as RBEKGI then RBDJK can be coded as

ANS:PCCKJ
19. $\mathrm{G}(0)=-1, \mathrm{G}(1)=1, \mathrm{G}(\mathrm{N})=\mathrm{G}(\mathrm{N}-1)-\mathrm{G}(\mathrm{N}-2), \mathrm{G}(5)=$ ?

ANS:-2
20. What is the max possible 3 digit prime number?

ANS:
21. A power unit is there by the bank of the river of 750 meters width. A cable is made from power unit to power a plant opposite to that of the river and 1500 mts away from the power unit. The cost of the
cable below water is Rs. 15/- per meter and cost of cable on the bank is Rs.12/- per meter. Find the total of laying the cable. ANS:20250
22. The size of a program is N . And the memory occupied by the program is given by $\mathrm{M}=$ square root of 100 N . If the size of the program is increased by $1 \%$ then how much memory now occupied?
23. In Madras, temperature at noon varies according to - $\mathrm{t} \wedge 2 / 2+8 \mathrm{t}$ +3 , where $t$ is elapsed time. Find how much temperature more or less in 4pm to 9pm.
ANS: 385.8(DB)
24. The size of the bucket is Nkb . The bucket fills at the rate of 0.1 kb per millisecond. A programmer sends a program to receiver. There it waits for 10 milliseconds. And response will be back to programmer in 20 milliseconds. How much time the program takes to get a response back to the programmer, after it is sent?
ANS: 30MILISECOND
25. A man, a woman, and a child can do a piece of work in 6 days.

Man only can do it in 24 days. Woman can do it in 16 days and in how many days child can do the same work?
26. If the vertex $(5,7)$ is placed in the memory. First vertex $(1,1)$ ?s
address is 1245 and then address of $(5,7)$ is ----------
27. Which of the following are orthogonal pairs?
a. $3 i+2 j$ b. $i+j$
c. $2 \mathrm{i}-3 \mathrm{j}$ d. $-7 \mathrm{i}+\mathrm{j}$

ANS: (A)\& (C).
28. If VXUPLVH is written as SURMISE, what is SHDVD?

ANS: PEASA
29. If $A, B$ and $C$ are the mechanisms used separately to reduce the wastage of fuel by $30 \%, 20 \%$ and $10 \%$. What will be the fuel economy if they were used
combined.
ANS: 20\%
30. What is the power of 2 ? a. 2068 b. 2048 c. 2668

ANS: (B). 2048
31. Complete the series. 3, 8, --, 24, --, 48, 63

ANS: 15,35
32. Complete the series. 4, $-5,11,-14,22,---$

ANS: -27
33. A, B and C are 8 bit no?s. They are as follows:

A 11011011
B 01111010
C 01101101
Find $((A-B)$ u $C)=$ ?
Hint:
$A-B$ is $\{A\}-\{A \cap B\}$
ANS: 01111111 (DB)
A Flight takes off at 2 A.M from northeast direction and travels for 11 hours to reach the destination which is in north west
direction. Given the latitude and longitude of source and
destination. Find the
local time of destination when the flight reaches there?
ANS: 1:00 P.M
35. A can copy 50 papers in 10 hours while both A \& B can copy 70 papers in 10 hours. Then for how many hours required for $B$ to copy 26 papers?
ANS: 13
36. $A$ is twice efficient than $B$. $A$ and $B$ can both work together to complete a work in 7 days. Then find in how many days A alone can complete the work?
ANS: 10.5 DAYS(11)
37. A finish the work in 10 days. B is $60 \%$ efficient than $A$. So hoW days does $B$ take to finish the work?ANS : 4DAYS.
38. A finishes the work in 10 days $\& B$ in 8 days individually. If $A$ works for only 6 days then how many days should $B$ work to complete A?s work?
ANS : 3.2 DAYS(4)
39. Given the length of the 3 sides of a triangle. Find the one that is
impossible? (HINT : sum of smaller 2 sides is greater than the other one which is larger)
40. Find the singularity matrix from a given set of matrices?(Hint $\operatorname{det}(A)==0$ )
41. A 2D array is declared as A[9,7] and each element requires 2 byte.If $A[1,1$
] is stored in 3000 . Find the memory of $A[8,5]$ ?
ANS: 3106.
42. Sum of slopes of 2 perpendicular st. lines is given. Find the pair of lines from the given set of options which satisfy the above condition?
43. (a) $2+3 i(b) 1+i$ (c) $3-2 i(d) 1-7 i$.Find
which of the above is orthogonal.
ANS : (A) \& (C).
44. (Momentum*Velocity)/(Acceleration * distance ) find units. ANS:MASS
45. The number 362 in decimal system is given by (1362) $x$ in the $X$ system of numbers find the value of $X \mathrm{a} 5 \mathrm{~b}$ b) 6 c) 7 d) 8 e) 9
46. Given $\$$ means Tripling and \% means change of sign then find the value of $\$ \% \$ 6-\% \$ \% 6$
ANS : -72
47. My flight takes of at 2am from a place at 18N 10E and landed

10 Hrs later at a place with coordinates 36N70W. What is the local time when my plane landed.
a) $6: 00 \mathrm{am}$ b) 6:40am c) 7:40 d) 7:00
e)8:00 (Hint : Every 1 deg
longitude is equal to 4 minutes. If west to east add time else
subtract time)
ANS: (E) 8:00
48. Find the highest prime number that can be stored in an 8bit computer.
49. Which of the following set of numbers has the highest

Standard deviation?
1,0,1,0,1,0
$-1,-1,-1,-1,-1,-1$
$1,1,1,1,1,1$
$1,1,0,-1,0,-1$
50. Match the following:

1. Male - Boy --->
a. A type of
2. Square - Polygon --->
b. A part of
3. Roof - Building --->
c. Not a
type of
4. Mushroom - Vegetables ---> d.

A superset of
Ans: 1-d, 2- a, 3-b, 4- c
51. Match the following.

1. brother - sister
---> a. Part of
2. Alsatian - dog --->
b. Sibling
3. sentence - paragraph --->
c. Type of
4. car - steering
---> d. Not a type
of
Ans. 1-b, 2-c, 3-a, 4-d
JADAVPUR UNIVERSITY 1999
PART II QUANTITATIVE APTITUDE ,TIME 20 Min. MARKS :30.
5. Two pencils costs 8 cents, then 5 pencils cost how much
(Ans:20 cents).
6. A work is done by the people in 24 min . one of them can do this work a lonely in 40 min . how much time required to do the same
work for the second person.
(ans:60 min.)
7. A car is filled with four and half gallons of oil for full round
trip. fuel is taken $1 / 4$ gallons mor3 in going than coming. what is the fiel consumed in coming up? ( 2 gallons)
8. low temperature at the night in a city is $1 / 3$ more than $1 / 2$ hinge as higher temperature in a day. sum of the low temp and higherst temp is 100 C . then what is the low temperature (40 C) 5. A person who decided to go weekend trip should not exceed 8 hours
driving in a day Average speed of forward journy is 40 mph . due to
traffic in sundays, the return journey average speed is 30 mph . how far he can select a picnic spot (120 miles).
9. A sales person multiplied a number and get the answer is 3 , instead of that number divided by 3 . what is th answer he actually has to get ? $(1 / 3)$.
10. A ship started from port and moving with I mph and another ship
started from L and moving with H mph. At which place these two ships
meet ? ( Ans is between I and J and close to J)
port G $!$ HIJK ! ! ! ! !
11. A building with hight $D$ ft shadow upto $G A$ neighbour building with
what height shadow Cft is ( Bft .)

12. A person was fined for exceeding the speed limit by 10 mph.Another
person was also fined for exceeding the same speed limit by twice the same. If the second person was travelling at a speed of 35 mph .
find the speed limit ( 15 mph )
13. A bus started from bustand at 8.00a m and after 30 min staying
at
destination, it returned back to the bustand. the destination is 27
miles from the bustand. the speed of the bus 50 percent fast speed.
at what time it retur 4 ns to the bustand (11.00)
14. in a mixture, $R$ is 2 parts, $S$ is 1 part. in order to make $S$ to 25\%
of the mixture, howmuch $R$ is to be added ( one part).
15. wind flows 160 miles in 330 min , for 80 miles how much time required.
16. with $4 / 5$ full tank vehicle travels 12 miles, with $1 / 3$ full tank
how much distance travels ( 5 miles).
17. two trees are there. one grows at $3 / 5$ of the other. in 4 years,
total growth of trees is 8 ft . what growth will smaller tree will have in 2 years. (<2ft)
18. A storm will move with a velocity of towords the center in hours. At the same rate how much far will it move in hrs. (but Ans is 8/3 or 2 2/3).

## Papers From Campus Recruitment atCalicut REC 1997

1. If two pencils cost 8 cents, then how much do 5 pencils cost? Ans. 20 cents
2. Some work is done by two people in 24 minutes. One of them can do this work alone in 40 minutes. How much time does the
second person take to do the same work ?
Ans. 60 minutes
3. A car is filled with four and half gallons of fuel for a round trip.If the amount of fuel taken while going is $1 / 4$ more than the amount taken for coming, what is the amount of fuel consumed while coming back?

## Ans. 2 gallons

4. The lowest temperature in the night in a city $A$ is $1 / 3$ more than $1 / 2$ the highest during the day. Sum of the lowest temperature and the highest temperature is 100 degrees. Then what is the low temp?
Ans. 40 degrees
5. Javagal, who decided to go to weekened trip should not exceed 8 hours driving in a day. The average speed of forward journey is 40 miles/hr.Due to traffic on sundays, the return journey's average speed is $30 \mathrm{~m} / \mathrm{h}$. How far he can select a picnic spot?
a) 120 miles
b) between 120 and 140 miles
c) 160 miles

Ans. 120 miles
6. A salesperson by mistake multiplied a number and got the answer as 3, instead of dividing the number by 3.What is the answer he should have actually got?
Ans. 3
7. A building with height $D$ shadow upto $G$. What is the height of a neighbouring building with a shadow of C feet.
Ans. (C*D)/G
8. A person was fined for exceeding the speed limit by 10 mph .

Another person was also fined for exceeding the same speed limit by twice the same. If the second person was travelling at a speed of 35 mph , find the speed limit.
Ans. 15 mph
9. A bus started from bustand at 8.00am, and after staying for 30 minutes at a destination, it returned back to the busstand. The destination is 27 miles from the busstand. The speed of the bus is 18 mph . During the return journey bus travels with $50 \%$ faster speed. At what time does it return to the busstand?
Ans. 11.00am
10. In a mixture, $R$ is 2 parts and $S$ is 1 part. In order to make $S$ to $25 \%$ of the mixture, how much of $R$ is to be added?
Ans. One part of R
11. Wind flows 160 miles in 330 min, for travelling 80 miles how much time does it require?
Ans. 2 hrs 45 mins
12. With a $4 / 5$ full tank a vehicle can travel 12 miles, how far can it travel with a $1 / 3$ full tank
Ans. 5 miles
13. There are two trees in a lawn. One grows at a rate $3 / 5$ of the other in 4 years. If the total growth of trees is 8 ft . What is the height of the smaller tree after 2 years
Ans. 1 1/2 fee
14. Refer to the figure below.A ship started from $P$ and moves at a speed of I miles per hour and another ship starts from $L$ and moving with H miles per hour simultaneously. Where do the two ships meet?
||---g---||---h---||---i---||---j---||---k---||-------||
PG HIJKL are the various stops in between denoted by \|. The values $\mathrm{g}, \mathrm{h}, \mathrm{i}, \mathrm{j}, \mathrm{k}$, I denote the distance between the ports.
Ans. Between I and J, closer to
15. If $A$ is travelling at 72 km per hour on a highway. $B$ is travelling at a speed of 25 meters per second on a highway. What is the difference in their speeds in $\mathrm{m} / \mathrm{sec}$.

## Ans. $1 \mathrm{~m} / \mathrm{sec}$

## IV SECTION

1. There are 150 weights . Some are 1 kg weights and some are 2 kg weights. The sum of the weights is 260 . What is the number of 1 kg weights?
Ans. 40
2. $A$ is driving on a highway when the police fines him for overspeeding and exceeding the limit by $10 \mathrm{~km} / \mathrm{hr}$. At the same time $B$ is fined for overspeeding by twice the amount by which $A$ exceeded the limit.If he was driving at $35 \mathrm{~km} / \mathrm{hr}$ what is the speed limit for the road?

## Ans. 15 kmph

3. A moves 3 kms east from his starting point. He then travels 5 kms north. From that point he moves 8 kms to the east.How far is A from his starting point?
Ans. 13 kms
4. A car travels 12 kms with a $4 / 5$ th filled tank. How far will the car travel with $1 / 3$ filled tank?
Ans. 5 kms
5. The sum of the digits of a two digit number is 8 . When 18 is added to the number, the digits are reversed. Find the number? Ans. 35
6. The cost of one pencil, two pens and four erasers is Rs. 22 while the cost of five pencils, four pens and two erasers is Rs.32.How much will three pencils, three pens and three erasers cost?
Ans. 27
7. Fathers age is 5 times his son's age. 4 years back the father was 9 times older than son. Find the fathers' present age.
Ans. 40 years
8. What number should be added to or subtracted from each term of the ratio $17: 24$ so that it becomes equal to $1: 2$.
Ans. 10 should be subtracted
9. What is the 12 th term of the series $2,5,8, \ldots$

Ans. 35
10. If 20 men take 15 days to to complete a job, in how many days can 25 men finish that work
Ans. 12 days
11. In a fraction, if 1 is added to both the numerator at the denominator, the fraction becomes $1 / 2$. If numerator is subtracted from the denominator, the fraction becomes $3 / 4$. Find the fraction.
Ans. 3/7
12. If Rs. 1260 is divided between between $A, B$ and $C$ in the ratio 2:3:4, what is C's share?
Ans. Rs. 560
13. A shopkeeper bought a watch for Rs. 400 and sold it for

Rs.500.What is his profit percentage?
Ans. 25\%
14. What percent of 60 is 12 ?

Ans. 20\%
15. Hansie made the following amounts in seven games of cricket in India: Rs.10, Rs.15, Rs.21, Rs.12, Rs.18, Rs. 19 and Rs.17(all figures in crores of course). Find his average earnings Ans. Rs. 16 crore
****************************Quantitative:*

1. 3 angles or 3 sides $r$ given. Which will form a triangle?
2. units of basic quantities :
3. (energy * time * time )/(mass * dist) = distance
4. (momentum * velocity)/(force * time) = velocity
5. " \&" is for doubling the value "\%" is for change of sign then what is the value
5-\&\%\&5 Ans-30 (Check)
6. $58,27,12, x, 2,1$. Find $x$.
7. R-rounding off, M-modulus, T-truncate
$\mathrm{M}(893,10)+\mathrm{r}(\mathrm{)}+\mathrm{t}(\mathrm{)}$ is asked
5.vertices edges and surfaces of a cube Ans-8,12,6
8. Sums on Recursive functions
7.Questions on General computer awareness

Pick the odd one ....
1.http 2.arp 3.snmp 4.sap Ans-sap
1.linux 2.windows NT 3.sql server 4.Unix Ans-Sql server

Another ....ans-Smtp
Ans-MVS
8. Which of the following is a singular matrix. (Determinant must be zero)
9. Aeroplane is flying at a particular angle and latitude, after some time another latitude is given..(8 hrs later), ur asked to find the
local time of the place.
10.a series of letters are given
how many Ws $r$ followed by F and preceded by T .
11. $7,9,13, \ldots, 27,37$. Ans-19
12.SURFW Code is translated as SHEET ....these kinda ques $r$ there ...
13.194 base $10=$ $\qquad$ base 5 (1234)
14. Largest prime $\overline{\text { no. in }}$ a 6 bit, 8 bit (Ans 127), 9 bit microprocessor 15.Venn Diagram kinda ques.

Some know English, some French,some German .....how many know two languages ....
16.Bar Diagram, Pie Chart (similar to Data interpretation)
17.Code Interchanging, A word is given ... Letters are reversed.. u $r$ asked to find the nth letter from right or left ...
Eg.
DESTABILIZATION Ans-T
18. Sums on logarithms, e power $x$ curves.
19. $n=68 \times 12 \times 51$

Which of the follg is not an integer Ans- $\mathrm{n} / 122$
20. Which is a/not a power of 2 or 3 .

Power of 4 Ans-4096
21. A-- 101010 (Not exact Values)

WIPRO

1. When a bicycle is in motion, the force of friction exerted by the ground on the two wheels is such that it acts
(a) In the backward direction on the front wheel and in the forward direction on the rear wheel.
(b) In the forward direction on the front wheel and in the backward direction on the rear wheel.
(c) In the backward direction on both the front and rear wheels.
(d) In the backward direction on both the front and rear wheels.

Ans. (d)
2. A certain radioactive element $A$, has a half life $=t$ seconds. In ( $\mathrm{t} / 2$ ) seconds the fraction of the initial quantity of the element so far decayed is nearly
(a) $29 \%$
(b) $15 \%$
(c) $10 \%$
(d) $45 \%$
Ans. (a)
3. Which of the following plots would be a straight line ?
(a) Logarithm of decay rate against logarithm of time
(b) Logarithm of decay rate against logarithm of number of decaying nuclei
(c) Decay rate against time
(d) Number of decaying nuclei against time

Ans. (b)
4. A radioactive element $x$ has an atomic number of 100.

It decays directly into an element y which decays directly into element $z$.
In both processes a charged particle is emitted.
Which of the following statements would be true?
(a) y has an atomic number of 102
(b) y has an atomic number of 101
(c) $z$ has an atomic number of 100
(d) $z$ has an atomic number of 101

Ans. (b)
5. If the sum of the roots of the equation $a x 2+b x+c=0$ is equal to the sum of the squares of their reciprocals
then $\mathrm{a} / \mathrm{c}, \mathrm{b} / \mathrm{a}, \mathrm{c} / \mathrm{b}$ are in
(a) AP
(b) GP
(c) HP
(d) None of these Ans. (c)
6. A man speaks the truth 3 out of 4 times.

He throws a die and reports it to be a 6 .
What is the probability of it being a 6 ?
(a) $3 / 8$
(b) $5 / 8$
(c) $3 / 4$
(d) None of the above
Ans. (a)
7. If $\cos 2 A+\cos 2 B+\cos 2 C=1$ then $A B C$ is a
(a) Right angle triangle
(b) Equilateral triangle
(c) All the angles
are acute
(d) None of these
Ans. (a)
8. Image of point $(3,8)$ in the line $x+3 y=7$ is
(a) $(-1,-4)$
(b) $(-1,4)$
(c) $(2,-4)$
(d) $(-2,-4)$
Ans. (a)
9. The mass number of a nucleus is
(a) Always less than its atomic number
(b) Always more than its atomic number
(c) Sometimes more than and sometimes equal to its atomic number
(d) None of the above Ans. (c)
10. The maximum KE of the photoelectron emitted from a surface is dependent on
(a) The intensity of incident radiation
(b) The potential of the collector electrode
(c) The frequency of incident radiation
(d) The angle of incidence of radiation of the surface

Ans. (c)
11. Which of the following is not an essential condition for interference
(a) The two interfering waves must be propagated in almost the same direction or
the two interfering waves must intersect at a very small angle
(b) The waves must have the same time period and wavelength
(c) Amplitude of the two waves should be the same
(d) The interfering beams of light must originate from the same source
Ans. (c)
12. When X-Ray photons collide with electrons
(a) They slow down
(b) Their mass increases
(c) Their wave length increases
(d) Their energy decreases

Ans. (c)
13. An electron emits energy
(a) Because its in orbit
(b) When it jumps from one energy level to another
(c) Electrons are attracted towards the nucleus
(d) The electrostatic force is insufficient to hold the electrons in orbits
Ans. (b)
14. How many bonds are present in CO 2 molecule?
(a) 1
(b) 2
(c) 0
(d) 4
Ans. (d)
15. In a balanced chemical equation
(a) Atoms are conserved
(b) Molecules are conserved
(c) Moles are conserved
(d) Reactant and product molecules are preserved

Ans. (a)
16. How many grams of NaOH will react with 0.2 equivalent of HCl ?
(a) 0.59
(b) 0.285
(c) 1.18
(d) none of these

Ans. (a)
17. Which of the following is least acidic
(a) Ortho-cresol
(b) Para-cresol
(c) Phenol
(d) Meta-cresol

Ans. (b)
18. In Reimer-Tiemann's reaction, the reaction intermediate is
(a) Carbene
(b) Dichloro carbine
(c) Carbonion
(d)

Carbonium ion
Ans. (b)
19. Which of the following is most acidic?
(a) C 2 H 5 OH
(b) CH 3 CHOHCH 3
(c) Ethanol
(d) CH 3 OH
Ans. (b)
20.A catalyst
(a)always slows down the reaction
(b)always starts a rection that would not have ocurred at all otherwise
(c)causes changes in the rate of the reaction
(d)changes the quantities of the products formed

Ans. (c)
21.The rate of the first order reaction depends on the
(a) Concentration of the reactant
(b) Concentration of the product
(c) Time
(d) Temperature

Ans. (d)
22. The most abundant element in the universe is
(a) Hydrogen
(b) Helium (c)
(c) Oxygen
(d) Silicon

Ans. (a)
23. Integrate $3 x+5 /(x 3-x 2-x+1)$
(a) $1 / 2 \log |(x+1) /(x-1)|-4 /(x-1)$
(b) $\log |2+\tan x|$
(c) $-(1+\log x) / x$
(d) $2 \log \mid(\tan x) /(\tan x+2)$

Ans. A
24. If $y=\cos -1(\cos x+4 \sin x) /(17) 1 / 2$, then $d y / d x$ is
(a) 0
(b) 1
(c) -1
(d) none of these

Ans. (b)
25. If the sum of $n$ terms of two series of A.P are in the ratio
$5 n+4: 9 n+6$.find the ratio of their 13th terms
(a) $129 / 231$
(b) $1 / 2$
(c) $23 / 15$ (d)
(d) None of the above

Ans. (a)
26. If the letters of the word "rachit" are arranged in all possible ways and these words are written
out as in a dictionary, what is the rank of the word "rachit".
(a) 485
(b) 480
(c) 478
(d) 481,
Ans. (d)
27. Ravi's salary was reduced by $25 \%$. Percentage increase to be effected to bring the salary
to the original level is
(a) 20\%
(b) $25 \%$
(c) $331 / 3 \%$
(d) $30 \%$

Ans. (c)
28. $A$ and $B$ can finish a piece of work in 20 days $B$ and $C$ in 30 days and $C$ and $A$ in 40 days.
In how many days will A alone finish the job
(a) 48
(b) $342 / 7$
(c) 44
(d) 45 Ans. (a)
29. How long will a train 100 m long travelling at 72 kmph take to overtake another train
200 m long travelling at 54 kmph
(a) 70 sec
(b) 1 min
(c) 1 min 15 sec
(d) 55 sec

Ans. (b)
30. What is the product of the irrational roots of the equation $(2 x-$ 1) $(2 x-3)(2 x-5)(2 x-7)=9$ ?
(a) $3 / 2$
(b) 4
(c) 3
(d) $3 / 4$
Ans. (a)
31. Which of the following parameters is the same for molecules of all gases at a given temperature?
(a) Mass
(b) Momentum
(c) Speed
(d) Kinetic
energy
Ans. (d)
32. A solid is completely immersed in liquid. The force exerted by the liquid on the solid will
(a) Increase if it is pushed deeper inside the liquid
(b) Change if its orientation is changed
(c) Decrease if it is taken partially out of the liquid
(d) None of the above

Ans. (c)
33. Select the correct statements
(a) A simple harmonic motion is necessarily periodic
(b) An oscillatory motion is necessarily periodic
(c) A periodic motion is necessarily oscillatory
(d) All of the above

Ans. (a)
34. An elecrton is injected into a region of uniform magnetic flux density with the components
of velocity parallel to and normal to the flux.What is the path of the electron?
(a) Helix
(b) Parabola
(c) Circle
(d) Rectangle

Ans. (a)
35. A constant voltage is applied between the 2 ends of a uniform metallic wire.
Some heat is developed in it. The heat developed is doubled if
(a) both the length and radius of the wire are halved.
(b) both the length and radius of the wire are doubled
(c) the radius of the wire is doubled
(d) the length of the wire is doubled

Ans. (b)
36. If Young's double slit experiment is performed in water
(a) the fringe width will decrease
(b) the fringe width will increase
(c) the fringe width remains unchanged
(d) there will be no fringe

Ans. (a)
37. The shape of a spot of light produced when bright sunshine passes perpendicular
through a hole of very small size is
(a) Square, because the hole is a square
(b) Round, because it is an image of the sun
(c) Round with a small penumbra around it
(d) Square with a small penumbra

Ans. (b)
Select the alternative that logically follows from the two given statements.
38.

Some forms are books
All books are made of paper
(a) Some forms are made of paper
(b) Some forms are not made of paper
(c) No forms are made of paper
(d) None of the above

Ans. (a)
39.

All toffees are chocolates
Some toffees are not good for health
(a) Some chocolates are not good for health
(b) Some toffees are good for health
(c) No toffees are good for health
(d) Both (a) and (b)

Ans. (a)
The questions 40-46 are based on the following pattern. The problems below contain a question and two statements giving certain data. You have to decide whether the data given in the statements are sufficient for answering the questions. The correct answer is
(A) If statement (I) alone is sufficient but statement (II) alone is not sufficient.
(B) If statement(II) alone is sufficient but statement(I) alone is not sufficient.
(C) If both statements together are sufficient but neither of statements alone is sufficient.
(D) If both together are not sufficient.
(E) If statements (I) and (II) are not sufficient
40. What is the volume of a cubical box in cubic centimetres?
(I) One face of the box has an area of 49 sq.cms.
(II) The longest diagonal of the box is 20 cms .

Ans. D
41. Is z positive?
(I) $y+z$ is positive
(II) $y-z$ is positive

Ans. E
42. Is $x>y$ ? $x, y$ are real numbers?
(I) $8 x=6 y$
(II) $x=y+4$

Ans. B
43. If a ground is rectangular, what is its width?
(I) The ratio of its length to its breadth is 7:2
(II) Perimeter of the playground is 396 mts .

Ans. C
44. If the present age of my father is 39 yrs and my present age is $x$ yrs, what is $x$ ?
(I) Next year my mother will be four times as old as i would be.
(II) My brother is 2 years older than I and my father is 4 years
older than my mother.
Ans. C
45. How many brothers and sisters are there in the family of seven children?
(I) Each boy in the family has as many sisters as brothers
(II) Each of the girl in the family has twice as many brothers as
sisters
Ans. D
46. $x$ is not equal to 0 , is $x+y=0$ ?
(I) $x$ is the reciprocal of $y$
(II) x is not equal to 1

Ans. A
Following questions are based on letter's analogy.First pair of
letters should have the same relationship as the second pair of letters or vice versa.
47. ? : BG
(a) EKNS
(b) DKMT
(c) DLMS
(d) EJOT

Ans. (d)
48. NLO : RPS : : ?: ZXA
(a) VUW
(b) VTR
(c) VTW
(d) TRP

Ans. (c)
49. If "segment" is coded as rffndou, then "ritual" is coded as
(a) shutbm
(b) qjutbk
(c) qhutbk
(d) qhubtk

Ans. (c)
50. If "football" is "cricket" ,"cricket" is "basketball" ,"basketball" is "volleyball","volleyball" is "khokho" and "khokho" is cricket, which is not a ball game?
(a) cricket
(b) football
(c) khokho
(d) basketball

Ans. (a)
51. Which of the following is a recursive set of production
(a) S --> $\mathrm{a} \mid \mathrm{A}, \mathrm{A}-->\mathrm{S}$
(b) $\mathrm{S}-->\mathrm{a} \mid \mathrm{A}, \mathrm{A} \mathrm{-->b}$
(c) S -->aA, $\mathrm{A}-->\mathrm{S}$
(d) None of these

Ans. (c)

1. An electron moving in an electromagnetic field moves in a
(a) In a straight path
(b) Along the same plane in the direction of its propagation
(c) Opposite to the original direction of propagation
(d) In a sine wave Ans. (b)
2. The total work done on the particle is equal to the change in its kinetic energy
(a) Always
(b) Only if the forces acting on the body are conservative.
(c) Only if the forces acting on the body are gravitational.
(d) Only if the forces acting on the body are elastic.

Ans. (a)
3. The following unit measure energy:
(a) Kilo-watt hour.
(b) Volt*volt/sec*ohm.
(c) Pascal*foot*foot
(d) (Coulomb*coulomb)*farad

Ans. (a)
4. Astronauts in stable orbits around the earth are in a state of weightlessness because
(a) There is no gravitational force acting on them.
(b) The satellite and the air inside it have an acceleration equal to that of gravitational acceleration there.
(c) The gravitational force of the earth and the sun balance giving null resultant.
(d) There is no atmosphere at the height at which the satellites move.
Ans. (b)
5. An organ pipe, open at both ends and another organ pipe closed at one end,
will resonate with each other, if their lengths are in the ratio of
(a) $1: 1$
(b) $1: 4$
(c) $2: 1$
(d) $1: 2$

Ans. (c)
6. During an isothermal expansion of an ideal gas
(a) Its internal energy increases.
(b) Its internal energy decreases.
(c) Its internal energy does not change.
(d) The work done by the gas is not equal to the quantity of heat absorbed by it.
Ans. (c)
7. A parallel plate capaciator is charged and the charging battery is then disconnected.
If the plates of the capacitor are moved further apart by means of insulating handles
(a) The charge on the capacitor increases.
(b) The voltage across the plates increases.
(c) The capacitance increases.
(d) The electrostatic energy stored in the capacitor decreases.

Ans. (b)
8. Two equal negative charges q are fixed at point $(0, a)$ and $(0,-a)$ on the $y$-axis.
A positive charge $Q$ is released from rest at the point $(2 a, 0)$ on the $x$-axis. The charge $Q$ will
(a) Execute simple harmonic motion about the origin
(b) Move to the origin and remain at rest
(c) Move to infinity
(d) Execute oscillatory but not simple harmonic motion

Ans. (d)
9. A square conducting loop of length Lon a side carries a current 1.

The magnetic field at the centre of the loop is
(a) Independant of $L$
(b) Proportional to L*L
(c) Inversely proportoinal to L
(d) Directly proportional to $L$

Ans. (c)
10. The focal length of a convex lens when placed in air and then in water will
(a) Increase in water with respect to air
(b) Increase in air with respect to water
(c) Decrease in water with respect to. air
(d) Remain the same

Ans. (a)
11. The maximum kinectic energy of the photoelectron emitted from the surface is dependant on
(a) The intensity of incident radiation
(b) The potential of the collector electrode
(c) The frequency of incident radiation
(d) The angle of incidence of radiation of the surface

Ans. (c)
12. An electron orbiting in a circular orbit around the nucleus of the atom
(a) Has a magnetic dipole moment
(b) Exerts an electric force on the nucleus equal to that on it by the nucleus
(c) Does not produce a magnetic induction at the nucleus
(d) All of the above

Ans. (d)
13. The X-rays beam coming from an X-ray tube will be:
(a) Monochromatic
(b) Having all wavelengths smaller than a certain minimum wavelength
(c) Having all wavelengths larger than a certain minimum wavelength
(d) Having all wavelengths lying between a minimum and a
maximum wavelength
Ans. (c)
14. The mass number of a nucleus is
(a) Always less than its atomic number
(b) Always more than its atomic number
(c) Always equal to its atomic number
(d) Sometimes more and sometimes equal to its atomic number Ans. (d)
15. Two successive elements belonging to the first transition series have the same number
of electrons partially filling orbitals. They are
(a) V and Cr
(b) Ti and V
(c) Mn and Cr
(d) Fe and Co

Ans. (c)
16. When $n+l$ has the same value for two or more orbitals, the new electron enters the orbital where
(a) $n$ is maximum
(b) n is minimum
(c) I is maximum
(d) $I$ is minimum
Ans. (b)
17. A balloon filled with ethylene is pricked with a sharp pointed needle and quickly placed in a tank
full of hydrogen at the same pressure. After a while the balloon would have
(a) Shrunk
(b) Enlarged
(c) Completely collapsed
(d) Remain unchanged in size

Ans. (b)
18. Which of the following statements is not true?
(a) The ratio of the mean speed to the rms speed is independant of temperature
(b) The square of the mean speed of the molecules is equal to the mean squared speed at a certain temperature
(c) Mean kinetic energy of the gas molecules at any given
temperature is independant of the mean speed
(d) None

Ans. (b)
19. Which of the following statements represent Raoult's Law
(a) Mole fraction of solvent = ratio of vapour pressure of the
solution to vapour pressure of the solvent
(b) Mole fraction of solute = ratio of vapour pressure of the solution to vapour pressure of the solvent
(c) Mole fraction of solute = lowering of vapour pressure of the solution
(d) Mole fraction of solvent = lowering of vapour pressure of the solution
Ans. (a)
20. Elements having the same atomic number and the same
atomic mass are known as
(a) Isotopes
(b) Isotones
(c) Isomers
(d) None of the above
21. Which is the most acidic amongst
(a) Nitrophenol
(b) O-toulene
(c) Phenol
(d) Cresol
22. Pure water does not conduct electricity because it is
(a) Almost not ionised
(b) Low boiling
(c) Neutral
(d) Readily decomposed

Ans. (a)
23. In a salt bridge, KCl is used because
(a) It is an electrolyte
(b) The transference number of $\mathrm{K}+$ and $\mathrm{Cl}^{-}$is nearly the same
(c) It is a good conductor of electricity
(d) All of the above

Ans. (d)
24. A depolarizer used in the dry cell batteries is
(a) KCl
(b) MnO 2
(c) KOH
(d) None of the above

Ans. (b)
25. The hydrolysis of alkyl halides by aqueous NaOH is best termed as
(a) Electrophylic substitution reaction
(b) Electrophylic addition reaction
(c) Nnucleophylic addition reaction
(d) Nucleophylic substitution reaction

Ans. (d)
26. The hydrocarbon that gives a red precipitate with ammoniacal cuprous chloride is (where ${ }^{-1}$ means a triple bond)
(a) $\mathrm{CH} 3-\mathrm{CH} 2-\mathrm{CH} 2-\mathrm{CH} 3$
(b) $\mathrm{CH} 3-\mathrm{C}^{\circ} \mathrm{C}-\mathrm{CH} 3$
(c) $\mathrm{CH} 2=\mathrm{CH}-\mathrm{CH}=\mathrm{CH} 2$
(d) $\mathrm{CH} 3-\mathrm{CH} 2-\mathrm{C}^{\circ} \mathrm{CH}$

Ans. (d)
27. Which of the following reagents is neither neutral nor basic
(a) Lucas' reagent
(b) Tollen's reagent
(c) Bayer's reagent
(d) Fehling's solution

Ans. (a)
28. The substance which is most easily nitrated
(a) Toluene
(b) Bbenzene
(c) Nitrobenzene
(d) Chlorobenzene

Ans. (a)
29. Carbylamine reaction is a test for
(a) Primary amine
(b) Secondary amine
(c) Tertiary amine
(d) Quarternary ammonium salt

Ans. (a)
30. Which of the following oxides cannot be reduced by carbon to
obtain metal
(a) ZnO
(b) Al 2 O 3
(c) Fe 2 O 3
(d) PbO

Ans. (b)
31. Which of the following is not an oxide ore?
(a) Cassiterite
(b) Siderite
(c) Pyrolusite
(d) Bauxite

Ans. (b)
32. Which among the following is called philosopher's wool
(a) Cellulose
(b) Calamine
(c) Stellite
(d) Cerussite

Ans. (c)
33. Out of 10 white, 9 black and 7 red balls, in how many ways can we select one or more balls
(a) 234
(b) 52
(c) 630
(d) $879 \quad$ Ans. (d)
34. A and B throw a dice. The probabilty that A's throw is not greater than B 's is
(a) $5 / 12$
(b) $7 / 12$
(c) $11 / 12$
(d) $5 / 36$

Ans. (b)
35. Given two numbers $a$ and $b$. Let $A$ denote the single AM between these and $S$ denote the sum of $n$ AMs
between them. Then $S / A$ depends upon
(a) n
(b) $n, a$
(c) $n, b$
(d) $n, a, b$

Ans. (a)
36. If the sum of the roots of the equation $a x^{2}+b x+c=0$ is equal to the sum of the squares of their reciprocals,
then, $a / c, b / a, c / b$ are in
(a) AP
(b) GP
(c) HP
(d) None of the these

Ans. (c)
In the following questions ~ represents the integral sign-for eg. $1 \sim 2[f(x)]$ means integration of
the function $f(x)$ over the interval 1 to2.
37. Value of $-1 \sim 2\left[\left|2-x^{2}\right|\right] d x$, ie integration of the function $\left|2-x^{2}\right|$ over the interval -1 to 2.
(a) 0
(b) 1
(c) 2
(d) None of the above

Ans. (d)
38. If $0 \sim P[\log \sin x] d x=k$, then the value of $0 \sim P / 4[\log (1+\tan x)] d x$ ,where $P$ stands for pi,is
(a) $-k / 4$
(b) $k / 4$
(c) $-k / 8$
(d) k/8
Ans. (c)
39. If $a, b, c$ be in GP and $p, q$ be respectively AM between $a, b$ and b,c then
(a) $2 / b=1 / p+1 / q$
(b) $2 / b=1 / p-1 / q$
(c) $2=a / p-c / q$
(d) None of the above

Ans. (a)
40. A solution of KMnO 4 is reduced to MnO 2 . The normality of solution is 0.6 . The molarity is
(a) 1.8 M
(b) 0.6 M
(c) 0.1 M
(d) 0.2 M

Ans. (d)
The questions 41-46 are based on the following pattern. The problems below contain a question
and two statements giving certain data. You have to decide whether the data given in the
statements are sufficient for answering the questions. The correct answer is
(A) If statement (I) alone is sufficient but statement (II) alone is not sufficient.
(B) If statement(II) alone is sufficient but statement(I) alone is not sufficient.
(C) If both statements together are sufficient but neither of statements alone is sufficient.
(D) If both together are not sufficient.
41. What is John's age?
(I) In 15 years John will be twice as old as Dias would be
(II) Dias was born 5 years ago

Ans. (C)
42. What is the distance from city A to city C in kms?
(I) City A is 90 kms from City B
(II) City B is 30 kms from City C

Ans. (D)
43.Is $A=C$ ? $A, B, C$ are real numbers
(I) $\mathrm{A}-\mathrm{B}=\mathrm{B}-\mathrm{C}$
(II) $\mathrm{A}-2 \mathrm{C}=\mathrm{C}-2 \mathrm{~B}$

Ans. (C)
44. What is the 30th term of a given sequence ?
(I) The first two terms of the sequence are 1,1/2
(II) The common difference is $-1 /$

Ans. (A)
45.Was Avinash early, on time or late for work?
(I) He thought his watch was 10 minutes fast
(II) Actually his watch was 5 minutes slow

Ans. (D)
46. What is the value of $A$ if $A$ is an integer?
(I) $\mathrm{A} 4=1$
(II) $\mathrm{A} 3+1=0$

Ans. (B)
47. A person travels 12 km in the southward direction and then travels 5 km to the right and then travels 15 km toward the right and finally travels 5 km towards the east, how far is he from his starting place?
(a) 5.5 kms
(b) 3 km
(c) 13 km
(d) 6.4 km

Ans. (b)
48. X's father's wife's father's granddaughter uncle will be related to $X$ as
(a) Son
(b) Nephew
(c) Uncle
(d) Grandfather
Ans. (c)
49. Find the next number in the series $1,3,7,13,21,31$
(a) 43
(b) 33
(c) 41
(d) 45
Ans. (a)
50. If in a certain code "RANGE" is coded as 12345 and
"RANDOM" is coded as 123678.
Then the code for the word "MANGO" would be
(a) 82357
(b) 89343
(c) 84629
(d) 82347

Ans. (d)
51. If "PROMPT" is coded as QSPLOS ,then "PLAYER" should b
(a) QMBZFS
(b) QWMFDW
(c) QUREXM
(d) URESTI

Ans. (a)
The questions 52-53 are based on the following data
6 people $A, B, C, D, E$ and $F$ sit around a table for dinner. Since $A$ does not like C, he doesn't sit either opposite or beside C.B and F always like to sit opposite each other.
52. If $A$ is beside $F$ then who is are the two neighbours of $B$ ?
(a) D and C
(b) E and C
(c) D and E
(d) Either (a) or (b)

Ans. (c)
53. If $D$ is adjacent to $F$ then who is adjacent to $C$ ?
(a) E and B
(b) D and A
(c) D and
(d) either (a) or (c)
Ans.(d)
54. Complete the sequence $A, E, I, M, Q, U,,_{-}$
(a) B, F
(b) Y, C
(c) G, I,
(d) K, O
Ans.(b)
55. A person travels 6 km towards west, then travels 5 km towards north ,then finally travels
6 km towards west. Where is he with respect to his starting position?
(a) 13 km east
(b) 13 km northeast
(c) 13 km northwest
(d) 13 km west

Ans. (c)
56. If A speaks the truth $80 \%$ of the times, B speaks the truth $60 \%$ of the times.
What is the probability that they tell the truth at the same time
(a) 0.8
(b) 0.48
(c) 0.6
(d) 0.14
Ans.(b)
57. If the time quantum is too large, Round Robin scheduling degenerates to
(a) Shortest Job First Scheduling (b)
(b) Multilevel Queue Scheduling
(c) FCFS (d) None of the above
Ans. (c)
58. Transponders are used for which of the following purposes
(a) Uplinking
(b) Downlinking
(c) Both (a) and (b)
(d) None of the above
Ans. (c)
59. The format specifier "-\%d" is used for which purpose in C
(a) Left justifying a string
(b) Right justifying a string
(c) Removing a string from the console
(d) Used for the scope specification of a char[] variable

Ans. (a)
60. Virtual functions allow you to
(a) Create an array of type pointer-to-base-class that can hold pointers to derived classes
(b) Create functions that have no body
(c) Group objects of different classes so they can all be accessed by the same function code
(d) Use the same function call to execute member functions to objects from different classes
62. A sorting algorithm which can prove to be a best time algorithm in one case
and a worst time algorithm in worst case is
(a) Quick Sort
(b) Heap Sort
(c) Merge Sort
(d) Insert Sort
Ans. (a)
63. What details should never be found in the top level of a topdown design?
(a) Details
(b) Coding
(c) Decisions
(d) None of the above

Ans. (c)
64. In an absolute loading scheme, which loader function is accomplished by assembler
(a) Reallocation
(b) Allocation
(c) Linking
(d) Both (a) and (b)
Ans. (d)
65. Banker's algorithm for resource allocation deals with
(a) Deadlock prevention (b) Deadlock avoidance
(c) Deadlock recovery (d) None of these

Ans. (b)
66. Thrashing can be avoided if
(a) The pages, belonging to the working set of the programs, are in main memory
(b) The speed of CPU is increased
(c) The speed of I/O processor are increased
(d) All of the above

Ans. (a)
67. Which of the following communications lines is best suited to interactive processing applications?
(a) Narrowband channels
(b) Simplex channels
(c) Full-duplex channels
(d) Mixedband channels

Ans. (b)
68. A feasibility document should contain all of the following except
(a) Project name
(b) Problem descriptions
(c) Feasible alternative
(d) Data flow diagrams

Ans. (d)
69. What is the main function of a data link content monitor?
(a) To detect problems in protocols
(b) To determine the type of transmission used in a data link
(c) To determine the type of switching used in a data link
(d) To determine the flow of data

Ans. (a)
70. Which of the following is a broadband communications channel?
(a) Coaxial cable
(b) Fiber optic cable
(c) Microwave circuits
(d) All of the above

Ans. (d)
71. Which of the following memories has the shortest access time?
(a) Cache memory
(b) Magnetic bubble memory
(c) Magnetic core memory
(d) RAM

Ans. (a)
72. A shift register can be used for
(a) Parallel to serial conversion
(c) Digital delay line
(d) All the above

Ans. (d)
73. In which of the following page replacement policies, Balady's anomaly occurs?
(a) FIFO
(b) LRU
(c) LFU
(d) NRU
Ans. (a)
74. Subschema can be used to
(a) Create very different, personalised views of the same data
(b) Present information in different formats
(c) Hide sensitive information by omitting fields from the subschema's description
(d) All of the above

Ans. (d)

## 75. Question on I-values in automata

The following are few sample questions that maybe asked in the software paper.We haven't been able to give the values in certain problems ; only the type of questions have been mentioned.
Q What sorting algos have their best and worst case times equal ? Ans. O(nlogn) for mergesort and heap sort
Q. What page replacement algo . has minimumn number of page faults?
Ans. Optimality algorithm
Q. What is the use of virtual base class in c++

Ans. Multiple lines between derived classes.
Q. Find the eccentricity of a given node in a directed graph
Q. Convert the infix to postfix for $A-(B+C)^{*}(D / E)$

Ans. $A B C+D E / *$ -
Q. What is swapping
Q. Assignment operator targets to

Ans. I-value
Q. A byte addressable computer has memory capacity of 2 power m Kbytes and can perform 2 power $n$ operations
an instruction involving three operands and one operator needs maximum of ---bits
Ans. $3 m+n$
Q. In round robin scheduling, if time quatum is too large then it degenerates to
Ans. FCFS
Q. What is network schema?
Q. Packet Burst is $\qquad$
Q. Picard's method uses $\qquad$ ?
Ans. Successive Differentiation.
The following are few sample questions that maybe asked in the hardware paper.We haven't been able to give the values in certain problems ; only the type of questions have been mentioned.
Q. Concentration and restivity is given and conductivity is asked for?
Q. R , resistance and C,capacitance is given ,find the frequency and $Q$ factor of the crystal ?
Q. Critical fequency and angle theta is given ;.the max useable frequency is to becalculated
Q.Questions on parabolic reflector anttena's and half wave dipole antenna's design
Q. Ramp signal is generated from integrator .Whether it is a low or high pass filter .?
Q. Calculate FM bandwidth given max modulation fequency FM, max freq deviation, df and 8 pairs alllowable
side band component?
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1. Add 79 H and 86 H and tell the contents of flags
2. Scr is used for $\qquad$ ( ac, dc , both )
3. Push pull amplifier is used to remove which harmonics (even , odd , both )
4. PAM is demodulated using $\qquad$ ( low pass filter , high pass filter )
5. 16k memory is needed. How many chips with 12 address buses and 4 data buses are needed.
6. AM wave is detected using $\qquad$ detector
7. Which flip flop is used for shift registers
8. Program counter does what __ (stores a memory address, address of the present instruction)
9. In a bistable multivibrator communication capacitor is used for ___ (speed up response, ac coupling)
$\overline{10 . \text { Totem pole is what? }}$
10. Time costant for an integrator and differentiator should be ( small, high etc.)
11. TV waves are __ ( sky waves, space waves etc.)
12. Which configuration has highest i/p imp. ( ce , cb, cc )
13. Parabolic antenna with 2degree angle. What is its directivity. 15. Given 10 mhz pe modulation and we got a 100 mhz band. How many channels can be there.
14. If o/p power is doubled by how much does the sound increase ( $1 \mathrm{db}, 2 \mathrm{db}, 3 \mathrm{db}$ )
ADITI
Section 1
SECTION 1- LOGICAL REASONING:
Each of the following series of statements is followed by four sets. Identify the set that is logically consistent.

## EXAMPLE

1. 

(a) The gap between the average starting salaries of teachers and those of other professionals has shrunk in recent years.
(b) The average age of first year teachers is same as it was in 1975.
(c) Starting teachers are no longer underpaid.
(d) The extent of a persons formal education is a measure by which to determine his level of salary.
(e) Over the last few years, the average starting salaries of other professionals have increased by $20 \%$
(a) ebd
(b) bad
(c) abc (d)

Answer is d; the statement a,e,c are logically sequenced.
1.
(a) Japan now produces more semiconductors, than US.
(b) Semiconductors are one of the fastest growing industry
segments.
(c) A decade ago Japan was producing $24 \%$ and the US was producing $22 \%$ of the worlds semiconductors, respectively.
(d) 10 years ago Japan ranked third in semiconductor production.
(e) During the last 10 years Japans production of semiconductors has increased by $500 \%$ while that of the us has increased by 200\%
(a) abd
(b) cea
(c) edc
(d) bcd
2.
(a) Coding program 1 (b) Writing specifications for program 1
(c) Integrating program 1 with other programs (d) Testing program 1
(e) Collecting cheque from the client of the program
(a) edcba
(b) abcde
(c) badce
(d) abdce
3.
(a) Bob is older than Dinku and Ismer (b) Rahul is oldet than Dinku (c) Rahul is younger than Bob (d) Rahul is older than Ismer (e) Dinku is older than Ismer
(a) edb
(b) bcd
(c) dab
(d) abc
4.
(a) Defining the data type of the variable (b) Using the variable (c) Declaring the variable
(d) Initializing the variable (e) Remove the variable from the memory
(a) cadbe
(b) abcde
(c) cdb
(d) acdbe
5.
(a) In the last six months the number of robberies at gun point in the city has dropped by $18 \%$
(b) Guns are necessary protection against robbers
(c) Strict gun control causes a decrease in violent crime
(d) Most crimes are committed with guns and knives
(e) Six months ago this city's council passed a gun control law
(a) bda (b) acb (c) ebc (d) eac
6.
(a) All missiles follow a fixed trajectory (b) The boomerang requires a high degree of skill
(c) A boomerang is a missile (d) The boomerang is used by Australian aborigines to hunt
(e) A boomerang normally has an elliptical flight path
(a) adc (b) aec (c) cba (d) ebd
7.
(a) Saving the source file
(b) Compiler execution
(c) Pre-processor execution
(d) Bug fixing (e) Reading the error file
(a) eabcd (b) acbed (c) abced (d) cbeda
8.
(a) But if powers that be, extended any, how will be the first one to take might claim
(b) I don't believe in seeking special privileges because I'm a woman
(c) Let me explain this in context of what happened the other
(a) bac (b) acb (c) bca (d) abc
9.
(a) A long search produce a comprehensive list of 203 manufacturing firms
(b) The number of workers employed by the firms in the area ranged from a dozen to approximately 3500
(c) Those concerned with mining and quarrying, construction ,transport, trade and commerce were excluded
(d) The investigation was confined to manufacturing firms in the area
(a) b
10.
(a) The quickly came back with pots laden with water
(b) The water gurgled out and the dying embers hissed and send
up little curls of vapour
(c) The poured it on the glowing bed of charcoal
(d) The men jumped up and rushed to the river
(a) acdb (b) bacb (c) dabc (d) dcba

## SECTION 2- DATA SUFFICIENCY

Each item has a question followed by two statements :
Mark a: If the question can be answered with the help of statement "1" alone
Mark b: If the question can be answered with the help of statement "2" alone
Mark c: If the question can be answered with the help of both the statements but not with the help of either statement by itself
Mark d: If the question cannot be answered even with the help of both the given statements

## Example:

1. Does winking improve eye sight?
1) During the process of winking the focal power of eyes improves
2) Experiments have shown that eye exercise lead to an improvement in eye sight
Answer: d because neither 1 or 2 is adequate.

## Questions :

11. Each floor of a 3 storeyed building is occupied and a total of 15 people live in the building. How many live on the first floor?
1) The no. of people living in the first floor is an odd number
2) The no. of people living on the first floor double the number living on the second floor
12. Program 1 can be implemented
1) Program 1 is tested and error free
2) The implementation site is ready
13. The sum of digits of a 5 digit no. is 10 . The digit in the ten thousandth place is cube of that of units place. what is the number.
1) The digits in the thousandth, hundredth and tenth place are equal
2) The digit in the units and tenth place are not equal
14. If I deposit Rs. 1000 in the bank now and withdraw the amount only at the end of the year how much will I get?
1) The rate of compound interest is $12 \%$ per year
2) The interest is deposited in the account at the end of every six months
15. Variable " $X$ " is an address variable.
1) The value of variable " $X$ " is "adbcf"
2) Program has a statement $X=\& Y$
16. Is white color the best reflector of light?
1) The lower a color's reflection index the better its power of reflection
2) White has a reflection index of 0.28
17. Does Mehta work in an advertising agency?
1) Mehta begins work at 9 am in the morning and works till 9 in the night
2) Mehta is a copywriter
18. Is it true that Maggi Noodles success was largely due to its ability to satisfy a latent consumer need?
1) Before the entry of Maggi Noodles, Others did not have access to a food item which was convenient to prepare and could be consumed between meals.
2) Maggi Noodles was an instant hit with ladies who had children in the range of 10 to 12 years
19. Sachin wrote Program 1
1) It is found in the directory c:luserlsachin
2) Sachin tested Program 1
20. Are all Argots also Knicks?
1) All Argots are Drones
2) All Drones are Knicks
21. Does classical music aid plant growth?
1) Music aids in the development of sugar in plants.
2) In an experiment conducted, its was observed that plants exposed to classical music grew by 5 cm more than plants not exposed to classical music in the same period.
22. Are cheques the safest method of making a payment.
1) Cheques are more convenient than cash in making and resolving payments.
2) Payment by cheques eliminate the risk involved in handling cash.
23. Networking is working fine.
1) Computer $A$ is able to talk to Computer $B$
2) Both Computer A \& B are Pentium Machines.
24. Is it true that smiling is easier than frowning?
1) Smiling requires the movement of 14 facial muscles while frowning requires the movement of 24 facial muscles.
2) Moving every facial muscles requires the same amount of effort.
25. Is it true that the Carpenter lives on the first floor.?
1) the Barber lives two floors above the black smith who in turn stays one floor above the carpenter.
2) the blacksmith lives two floors above the weaver who lives one floor below the carpenter in a three storeyed building.
SECTION 3 - ANALYTICAL.
Questions 26-29 are based on the following:
At a formal dinner for 8, the host and the hostess are seated at opposite ends of a rectangular table, with 3 persons along each side. Each man must be seated next to at least to 1 woman, and vice versa. Alan is opposite to Diana, who is not the hostess. George has a woman on his right and is opposite to a woman. Helga is at the hostess's right, next to Frank. One person is seated between Belinda and Carol.
26.The 8th person present, Eric must be
(a) the host
(b) seated to Diana's right
(c) seated opposite to Carol
(a) a only (b) c only (c) b and c (d) a, b and c
27. If each person is placed directly opposite to his or her spouse, which of the following pairs must be married.
(a) George and Helg
ga (b) Belinda and Frank
(c) Carol and Frank
(d) George and Belinda
28. Which person is not seated next to a person of the same sex.? (a) Alan (b) Belinda (c) Carol (d) Diana
29. George is bothered by the cigarette smoke of his neighbor and exchanges seats with the person 4 places to his left. Which of the following must be true following the exchange?
(a) No one is seated between two persons of the opposite sex.
(b) one side of the table consists entirely of persons of the same
sex.
(c) Either the host or hostess has changed seats
(a) A only
(b) C only
(c) A and B
(d) B and C

Questions 30-33 are based on the following:
The hotel Miramar has two wings, the east wing and the west wing. Some east wing rooms but not all, have an ocean view. All west wing rooms have a harbor view. The charge for all rooms is identical except for the following.
There is an extra charge for all harbor view rooms on or above third floor. There is an extra charge for all ocean view rooms except those without balcony. Some harbor view rooms on the first two floors and some east wing rooms without ocean view have kitchen facilities for which there is an extra charge. Only the ocean view and harbor view rooms have balconies.
30. A guest may avoid an extra charge by requesting
(a) A west wing room on one of the first two floors.
(b) A west wing room on the fourth floor without balcony.
(c) An East wing room without balcony. (d) Any room without kitchen.
31. Which of the following must be true if all conditions are as stated?
(a) All rooms above the third floor involves extra charges.
(b) No room without an ocean or harbor view or kitchen facilities involves extra charge.
(c) There is no extra charge for an east wing room without ocean view.
(d) There is no extra charge for any room without Kitchen facilities.
32. which of the following must be false if all conditions are as stated?
(a) some ocean viewing rooms do not involve an extra charge
(b) all rooms with kitchen facilities involve an extra charge
(c) some west viewing rooms above the second floor do not involve an extra charge
(d) some harbor viewing rooms do not involve an extra charge
33. Which of the following can not be determined on the basis of the information given?
(a) whether there are any rooms without a balcony for which extra charge is imposed
(b) whether any room without at kitchen or a view involves an extra charge
(c) whether two extra charges are imposed for any room (d) none of the above

Questions 34 to 37 are based on the following:
Four cards of different suits are dealt one apiece to A, B, C and D. $B$ says: Mine is not a club. A says: Mine is not a spade.
$D$ says: Mine is not a diamond. C says: Mine is not a spade.
A says: Mine is not a heart.
34. A held
(a) heart (b) clubs (c) diamonds (d) spade
35. B held
(a) heart (b) clubs (c) diamonds (d) spade
36. C held
(a) heart (b) clubs (c) diamonds (d) spade
37. D held
(a) heart (b) clubs
(c) diamonds
(d) spade

Questions 38 to 40 are based on the following:
In a magical temple there are 3 doorways each leading to the interior of the temple. Every door way has an idol just inside. The magical powers of the temple doubles the flowers a devotee carries every time he/she passes under a doorway. Each devotee has to pass on straight through the doorway and cannot retrace his steps till he comes to the innermost idol.
38. Ram carries $X$ flowers at each idol he places an identical
number of flowers $Y$. He returns from the temple without a single flower. X was most probably
(a) 2 (b) 5
(c) 6 (d)
39. In the situation above Y was most probably
(a) 8 (b) 5 (c) 6 (d) 7
40. If Sita took 8 flowers to the temple and offered 4 flowers each to the first two idols then by the time she faces the third idol she has
(a) 40 flowers
(b) 36 flowers
(c) 52 flowers
(d) 56 flowers

## SECTION 4 - COMPUTATIONAL.

41. 2 passengers have together 560 kgs of luggage and are charged for the excess above the weight allowed at $10 \$$ and $26 \$$. If all the luggage had belonged to one of them he would have to pay $46 \$$. The amount of luggage each passenger is allowed without any charge is
(a) 100 kg
(b) 150 kg
(c) 160 kg
(d) Insufficient data
42. 6 pigs cost the same as 9 sheep. 27 sheep cost the same as 30 goats. 50 goats cost the same as 3 elephants. If two elephants cost $\$ 4800$, then the cost of one pig in dollar is
(a) 120
(b) 240
(c) 105
(d) 250
43. A wholesaler allows a discount of $20 \%$ on the list price to the retailer. The retailer sells at $5 \%$ below the list price. If the customer pays Rs. 19 for an article what profit is made by the retailer on it?
(a) Rs. 2
(b) Rs 3
(c) Rs. 4
(d) Rs.4.5
44. A circular metal plate of even thickness has 12 holes of radius 1 cm drilled into it. As a result the plate lost $1 / 6$ th its original weight. The radius of the circular plate is
(a) 16sqrt2
(b) 8sqrt2
(c) 32sqrt2
(d) sqrt72
45. 3 machines $a, b, c$ can be used to produce a product. Machine $a$ will take 60 hours to produce a million units. Machine $b$ is twice as fast as machine a. Machine c takes the same amount of time as machine $a$ and $b$ taken together. How much time will be required to produce a million units if all the three machines are used simultaneously?
(a) 12 hours
(b) 10 hours
(c) 8 hours
(d) 6 hours

## CISCO

SECTION 1 -- BASIC DIGITAL SECTION

1. In order to find out stack fault of a three input nand gate how many necessary input vectors are needed?
2. What is parity generation?
3. A nand gate becomes $\qquad$ gate when used with negative logic?
4. What is the advantage of cmos over nmos ?
5. What is the advantage of synchronous circuits over asynchronous circuits ?
6. What is the function of ALE in 8085 ?
7. A voice signal sample is stored as one byte. Frequency range is

16 Hz to 20 Hz . What is the memory size required to store 4 minutes voice signal?
8. What will the controller do before interrupting CPU?
9. In a normalized floating point representation, mantissa is represented using 24 bits and exponent with 8 bits using signed representation. What is range ?
10. The stack uses which policy out of the following-- LIFO, FIFO, Round Robin or none of these?
11. Where will be the actual address of the subroutine is placed for vectored interrupts?
12. Give the equivalent Gray code representation of AC2H. 13. What is the memory space required if two unsigned 8 bit numbers are multiplied?
14. The vector address of RST 7.5 in 8085 processor is $\qquad$ .
Ans. 003C (multiply 7.5 by 8 and convert to hex)
15. Subtract the following hexadecimal numbers--- 8416-2A16
16. Add the following BCD numbers--- 1001 and 0100
17. How much time does a serial link of 64 Kbps take to transmit a picture with 540 pixels.
18. Give the output when the input of a D-flip flop is tied to the output through the XOR gate.
19. Simplify the expression $A B+A(B+C)+B(B+C)$
20. Determine the logic gate to implement the following terms-$A B C, A+B+C$
21. Implement the NOR gate as an inverter.
22. What is the effect of temperature on the Icb in a transistor
23. What is the bit storage capacity of a ROM with a $512^{*} 4$ organization?
24. What is the reason of the refresh operation in dynamic RAM's ?
25. Suppose that the D input of a flip flop changes from low to high in the middle of a clock pulse. Describe what happens if the flip flop is a positive edge triggered type?
26. How many flip flops are required to produce a divide by 32 device?
27. An active HIGH input S-R latch has a 1 on the $S$ input and a 0 on the R input. What state is the latch in?
28. Implement the logic equation $Y=C^{\wedge} B^{\wedge}+C B^{\wedge} A+C B A$ with a multiplexer.
(where $\mathrm{C}^{\wedge}$ stands for C complement)
29. Equivalent Gray code representation of AC 2 H .
30. What does a PLL consist of ?

We advice you to know the design of PLL as questions pertaining to this may be asked

## II - Software Section

1. The starting location of an array is 1000 . If the array[ $1 . .5 / \ldots 4]$ is stored in row major order, what is the location of element $[4,3]$.
Each word occupies 4 bytes.
2. In a tertiary tree, which has three childs for every node, if the number of internal nodes are $N$, then the total number of leaf nodes are
3. Explain the term "locality of reference" ?
4. What is the language used for Artificial Intelligence

Ans: lisp
5. What is the character set used in JAVA 2.0 ?

Ans: Unicode
6. char $\mathrm{a}=0 \mathrm{xAA}$;
int b;
$\mathrm{b}=$ (int) a ;
$b=b>4$;
printf("\%x",b);
What is the output of the above program segment?
7. struct s1 \{ struct \{ struct \{int x; \} s2 \} s3 \}y; How does one access $x$ in the above given structure definition?
8. Why there is no recursion in Fortran ?

Ans. There is no dynamic allocation.
9. What is the worst case complexity of Quick sort?

Ans. O(n2)
10. What will be sequence of operating system activities when an interrupt occurs?
11. In a sequential search, what is the average number of comparisons it takes to search through $n$ elements ?
Ans: $(n+1) / 2$.
12. What is the size of the array declared as double * $X[5]$ ?

Ans. 5 * sizeof (double *)
13. A binary search tree with node information as $1,2,3,4,5,6,7,8$ is given. Write the result obtained on preorder traversal of the binary search tree ?
Ans: 53124768
14. If size of the physical memory is $232-1$, then what is the size of the virtual memory ?
15. $S$-> A0B A $\rightarrow$ BB|0 B-> AA $\mid 1$

How many strings of length 5 are possible with the above productions?
16. $\left(3^{*} 4096+15^{*} 256+3^{*} 16+3\right)$. How many 1 's are there in the
binary representation of the result ?
Ans. 10
17. In memory mapped I/O how is I/O is accessed?
18. What is the use of ALE in 8085 ?

Ans. To latch the lower byte of the address.
19. If the logical memory of $8 \times 1024$ is mapped into 32 frames, then the number of bits for the logical address are $\qquad$ ?
Ans. 13
20. Context free grammar is useful for which purpose ?
21. In ternary number representation, numbers are represented as $0,1,-1$.(Here -1 is represented as 1 bar.) How is 352/9 represented in ternary number representation?
22. There are processes which take $4,1,8,1$ machine cycles respectively. If these are executed in round robin fashion with a time quantum of 1 , what is the time it take for process 4 to complete?
Ans. 9
23. The minimum frequency of operation is specified for every processor because......
a) for interfacing slow peripherals
b) dynamic memory refreshing.
c) to make compatible with other processor.
24. For linked list implementation, which search is not applicable ?
Ans: Binary search.
25. Each character is represented by 7 bits, 1 bit is used to represent error bit and another bit for parity. If total number of bits transmitted is 1200 bits, then what is the number of symbols that can be transmitted?
Ans: 133
26. Explain set associatively of cache?
27. Write the postfix form of the following expression :
$A+\left[\left[(B+C)+(D+E)^{\star} F\right] / G\right]$
28. What is the function of the linker?
29. void f(int y)
\{
struct s *ptr;
ptr $=$ malloc (sizeof (struct)+99*sizeof(int));
\}
struct s
\{
int i;
float p ;
\};
when free (ptr) is executed, what will happen?
30. To concatenate two linked lists strings, the order is $\mathrm{O}(1)$ is obtained for what kind of list

## CMC

## ANALYTICAL REASONING SECTION

Directions for questions 1-5: The questions are based on the information given below

There are six steps that lead from the first to the second floor. No two people can be on the same step
Mr. A is two steps below Mr. C
Mr. B is a step next to Mr. D
Only one step is vacant (No one standing on that step )
Denote the first step by step 1 and second step by step 2 etc.

1. If Mr. A is on the first step, Which of the following is true?
(a) Mr . B is on the second step
(b) $\mathrm{Mr} . \mathrm{C}$ is on the fourth step.
(c) A person Mr. E, could be on the third step
(d) Mr. D is on higher step than Mr. C.

Ans: (d)
2. If Mr. E was on the third step \& Mr. B was on a higher step than Mr. E which step must be vacant
(a) step 1 (b) step 2 (c) step 4 (d) step 5(e) step 6 Ans: (a)
3. If Mr. B was on step 1 , which step could $A$ be on?
(a) 2\&e only
(b) $3 \& 5$ only
(c) $3 \& 4$ only
(d) $4 \& 5$ only
(e) $2 \& 4$ only

Ans: (c)
4. If there were two steps between the step that A was standing and the step that $B$ was standing on, and $A$ was on a higher step than $D, A$ must be on step
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

Ans: (c)
5. Which of the following is false
i. B\&D can be both on odd-numbered steps in one configuration
ii. In a particular configuration A and C must either both an odd numbered steps or both an even-numbered steps
iii. A person E can be on a step next to the vacant step.
(a) i only
(b) ii only
(c) iii only
(d) both i and iii

Ans: (c)
Directions for questions 6-9: The questions are based on the information given below
Six swimmers A, B, C, D, E, F compete in a race. The outcome is as follows.
i. B does not win.
ii. Only two swimmers separate E \& D
iii. $A$ is behind $D \& E$
iv. $B$ is ahead of $E$, with one swimmer intervening
v. $F$ is a head of $D$
6. Who stood fifth in the race ?
(a) A (b) B
(c) C
(d) D
(e) E
Ans: (e)
7. How many swimmers seperate $A$ and $F$ ?
(a) 1 (b)
Ans: (d)
8. The swimmer between $C$ \& $E$ is
(a) none
(b) $F$ (c) $D$
(d) $B$ (e) $A$

Ans: (a)
9. If the end of the race, swimmer D is disqualified by the Judges then swimmer $B$ finishes in which place
(a) 1 (b) 2 (c) 3 (d) 4 (e) 5 Ans: (b)

Directions for questions 10-14: The questions are based on the information given below

Five houses lettered $A, B, C, D, \& E$ are built in a row next to each other. The houses are lined up in the order $A, B, C, D, \& E$. Each of the five houses has a colored chimney. The roof and chimney of each housemust be painted as follows.
i. The roof must be painted either green, red ,or yellow.
ii. The chimney must be painted either white, black, or red.
iii. No house may have the same color chimney as the color of roof.
iv. No house may use any of the same colors that the every next house uses.
v. House E has a green roof.
vi. House B has a red roof and a black chimney
10. Which of the following is true ?
(a) At least two houses have black chimney.
(b) At least two houses have red roofs.
(c) At least two houses have white chimneys
(d) At least two houses have green roofs
(e) At least two houses have yellow roofs

Ans: (c)
11. Which must be false ?
(a) House A has a yellow roof
(b) House A \& C have different color chimney
(c) House D has a black chimney
(d) House E has a white chimney
(e) House B\&D have the same color roof.

Ans: (b)
12. If house $C$ has a yellow roof. Which must be true.
(a) House E has a white chimney
(b) House E has a black chimney
(c) House E has a red chimney
(d) House D has a red chimney
(e) House C has a black chimney

Ans: (a)
13. Which possible combinations of roof \& chimney can house
I. A red roof 7 a black chimney
II. A yellow roof $\&$ a red chimney
III. A yellow roof \& a black chimney
(a) I only
(b) II only
(c) III only
(d) I \& II only
(e) I\&II\&III

Ans: (e)
14. What is the maximum total number of green roofs for houses
(a) 1(b) 2(c) 3(d) 4(e) 5

NOTE: The questions from 15-27 are multiple choice in the paper 15. There are 5 red shoes, 4 green shoes. If one draw randomly a shoe what is the probability of getting a red shoe
Ans $5 \mathrm{c}_{1} / 9 \mathrm{c}_{1}$
16. What is the selling price of a car? If the cost of the car is Rs. 60 and a profit of $10 \%$ over selling price is earned
Ans: Rs 66/-
17. $1 / 3$ of girls , $1 / 2$ of boys go to canteen .What factor and total number of classmates go to canteen.
Ans: Cannot be determined.
18. The price of a product is reduced by $30 \%$. By what percentage should it be increased to make it $100 \%$
Ans: $42.857 \%$
19. There is a square of side 6 cm . A circle is inscribed inside the square. Find the ratio of the area of circle to square.
Ans. 11/14
20. There are two candles of equal lengths and of different
thickness. The thicker one lasts of six hours. The thinner 2 hours less than the thicker one. Ramesh lights the two candles at the same time. When he went to bed he saw the thicker one is twice the length of the thinner one. How long ago did Ramesh light the two candles.
Ans: 3 hours.
21. If $M / N=6 / 5$,then $3 M+2 N=$ ?
22. If $p / q=5 / 4$, then $2 p+q=$ ?
23. If PQRST is a parallelogram what it the ratio of triangle PQS \& parallelogram PQRST .
Ans: 1:2
24. The cost of an item is Rs 12.60. If the profit is $10 \%$ over selling price what is the selling price?
Ans: Rs 13.86/-
25. There are 6 red shoes \& 4 green shoes. If two of red shoes are drawn what is the probability of getting red shoes
Ans: $6 \mathrm{c}_{2} / 10 \mathrm{c}_{2}$
26. To 15 Its of water containing $20 \%$ alcohol, we add 5 Its of pure water. What is \% alcohol.
Ans: 15\%
27. A worker is paid Rs.20/- for a full days work. He works
$1,1 / 3,2 / 3,1 / 8.3 / 4$ days in a week. What is the total amount paid for that worker ?
Ans: 57.50
28. If the value of $x$ lies between $0 \& 1$ which of the following is the largest?
(a) $x$ b) $x^{2}(c)-x(d) 1 / x$

Ans: (d)

## DATA SUFFICIENCY SECTION

Directions: For questions in this section mark
(a) If condition (i) alone is sufficient
(b) If condition (ii) alone is sufficient
(c) If both conditions together are sufficient
(d) If condition (i) alone \& (ii) alone are sufficient
(e) information not sufficient

1. A man 6 feet tall is standing near a light on the top of a pole What is the length of the shadow cast by the man.
(i) The pole is 18 feet high
(ii) The man is 12 feet from the pole

Ans: (c)
2. Two pipes $A$ and $B$ emptied into a reservoir, pipe $A$ can fill the reservoir in 30 minutes by itself. How long it will take for pipe A and pipe $B$ together to fill up the reservoir.
(i) By itself, pipe B can fill up the reservoir in 20 minutes
(ii) Pipe $B$ has a larger cross-sectional area than pipe $A$

Ans: (a)
3. K is an integer. Is K is divisible by 12
(i) K is divisible by 4
(ii) K is divisible by 3

Ans: (c)
4. What is the distance from $A$ to $B$
(i) A is 15 miles from C
(2) $C$ is 25 miles from $B$

Ans: (e)
5. Was Melissa Brown's novel published?
(i). If Melissa Brown's novel was published she would receive atleast $\$ 1000$ in royalities during 1978
(ii). Melissa Brown's income for 1978 was over $\$ 1000$

Ans: (e)
6. Does every bird fly?
(i) Tigers do not fly.
(ii) Ostriches do not fly

Ans: (b)
7. How much does John weigh? Jim weighs 200 pounds.
(i) Toms weight plus Moes weight equal to John's weight.
(ii) John's weight plus Moe's weight equal to Twice Tom's weight.

Ans: (c)
8. Is the figure $A B C D$ is a rectangle if
(i) angle $\mathrm{ABC}=90$ (degrees)
(ii) $A B=C$
9. Find $x+2 y$
(i). $x+y=10$
(ii). $2 x+4 y=20$

Ans: (b)
10. Is angle $B A C$ is a right angle
(i) $A B=2 B C$
(2) $\mathrm{BC}=1.5 \mathrm{AC}$

Ans: (e)
11. Is $x$ greater than $y$
(i) $x=2 k$
(ii) $k=2 y$

Ans: (e)
12. A piece of string 6 feet long is cut into three smaller pieces.

How long is the longest of the three pieces?
(i). Two pieces are the same length.
(ii) One piece is 3 feet 2 inches lone

Ans: (b)
13. How many rolls of wall paper are necessary to cover the walls of a room whose floor and ceiling are rectangles 12 feet wide and

15 feet long
(i) A roll of paper covers 20 sq feet
(ii) There are no windows in the walls

Ans: (e)
14. $x$ and $y$ are integers that are less than 10. Is $x>y$ ?
(i). $x$ is a multiple of 3
(ii). $y$ is a multiple of 2

Ans: (e)
15. Fifty students have signed up for atleast one of the courses

GERMAN \& ENGLISH, how many of the 50 students are taking GERMANI but not ENGLISH?
(i). 16 students are taking GERMANI \& ENGLISH
(ii). The number of students taking ENGLISH but not GERMANI is the same as the number of students taking GERMAN
Ans: (c)
16. Is $A B C D$ is a square?

(i) $A D=A B$
(ii). $x=90$ (degres)

Ans: (e)
17. How much card board will it take to make a rectangular box with a lid whose base has length 7 inches.
(i). The width of the box 5 inches
(ii). The height of the box will be 4 inches

Ans: (c)
18. Did ABC company made profit in 1980 ?
(i) ABC company made a profit in 1979.
(ii) ABC company made a profit in 1981.

Ans: (e)
19. How much is Janes salary?
(i). Janes salary is 70\% of John's salary
(ii). Johns salary is $50 \%$ of Mary's salary

Ans: (e)
20. Is $x>1$
(i) $\mathrm{x}+\mathrm{y}=2$
(ii) $\mathrm{y}<0$

Ans: (c)
21. How many of the numbers, $x$ and $y$ are positive? Both $x$ and $y$ are less than 20.
(i) $x$ is less than 5
(ii) $x+y=24$

Ans: (b)
22. Is the angle $A C B$ is right angle
(1) $A C=C B$
(2). $(A C)^{2}+C B^{2}=A B^{2}$

Ans: (b)
23. How far it from town $A$ to town $B$ ? Town $C$ is 12 miles east of town A
(i). Town $C$ is south of town $B$
(ii). It is 9 miles from town $B$ to town $C$

Ans: (c)
24. A rectangular field is 40 yards long. Find the area of the field.
(i). A fence around the boundary of the field is 140 yards long
(ii). The field is more than 20 yards width

Ans: (a)
25. An industrial plant produces bottles. In 1961 the number of bottles produced by the plant was twice the number of produced in
1960. How many bottles were produced altogether in the year 1960, 61,\&62
(i). In 1962 the number of bottles produced was 3 times the number of produced in 1980
(ii). In 1963 the number of bottles produced was one half the total produced in the years 1960,1961,1962.
Ans: (e)
26. Is $x y>1$ ? If $x \& y$ are both positive
(i) x is less than 1
(ii) $y$ is greater than 1

Ans: (e)
27. Is it a Rhombus
(i) All four sides are equal
(ii) Total internal angle is 360

Ans: (e)
28. How many books are in the book shelf
(i) The book shelf is 12 feet long
(ii). The average weight of each book is 1.2 pound

Ans: (e)
29. What is the area of the circle?
(i) Radius $r$ is given
(ii) Perimeter is 3 times the area

Ans: (a)

## ARITHMETIC SECTION

1. If the total distance of a journey is 120 km . If one goes by 60 kmph and comes back at 40 kmph what is the average speed during the journey?
Ans: 48 kmph
2. A school has $30 \%$ students from Maharashtra .Out of these $20 \%$ are Bombey students. Find the total percentage of Bombay?
Ans: 6\%
3. An equilateral triangle of sides 3 inch each is given. How many equilateral triangles of side 1 inch can be formed from it?
Ans: 9
4. If $A / B=3 / 5$,then $15 A=$ ?

Ans: 9B
5. Each side of a rectangle is increased by $100 \%$.By what percentage does the area increase?
Ans: 300\%
6. Perimeter of the back wheel $=9$ feet, front wheel $=7$ feet on a certain distance, the front wheel gets 10 revolutions more than the back wheel. What is the distance?
Ans : 315 feet.
7. Perimeter of front wheel $=30$, back wheel $=20$. If front wheel revolves 240 times. How many revolutions will the back wheel take?
Ans: 360 times
8. $20 \%$ of a 6 litre solution and $60 \%$ of 4 litre solution are mixed.

What percentage of the mixture of solution
Ans: 36\%
9. City A's population is 68000 , decreasing at a rate of 80 people
per year. City B having population 42000 is increasing at a rate of 120 people per year. In how many years both the cities will have same population?
Ans: 130 years
10. Two cars are 15 kms apart. One is turning at a speed of 50 kmph and the other at 40 kmph . How much time will it take for the two cars to meet?
Ans: $3 / 2$ hours
11. A person wants to buy 3 paise and 5 paise stamps costing exactly one rupee. If he buys which of the following number of stamps he won't able to buy 3 paise stamps.
Ans: 9
12. There are 12 boys and 15 girls, How many different dancing groups can be formed with 2 boys and 3 girls.
13. Which of the following fractions is less than $1 / 3$
(a) $22 / 62$
(b) $15 / 46$
(c) $2 / 3$
(d) 1

Ans: (b)
14. There are two circles, one circle is inscribed and another circle is circumscribed over a square. What is the ratio of area of inner to outer circle?
Ans: 1:2
Directions for questions 15-17: The questions are based on the information given below
Miss Dean wants to rennovate her house. She hires a plumber, a carpenter, a painter, an electrician and an interior decorator. The work to be finished in one working (Monday - Friday ).
Each worker will take the full day to do his job. Miss Dean permits only one person to work each day.
I. The painter can work only after the plumber and the carpenter have finished their jobs
II. The interior decorator must do his job before the electrician.
III. The carpenter cannot work on Monday or Tuesday
15. If the painter work on Thursday, which one of the following alternatives is possible?
(a) The electrician works on Tuesday.
(b). The electrician works on Friday.
(c) The interior decorator works after the painter does.
(d). The painter works on consecutive days.
(e). Miss Dean cannot fit all of the workers int schedule

Ans: (b)
16. If the painter works on Friday which of the following must be false?
(a). The carpenter may works on Wednesday
(b). The carpenter and the electrician may work on consecutive days
(c). If the carpenter works on Thursday, the electrician has to work on Wednesday
(d). The plumber may work before the electrician does
(e). The electrician may work on Tuesday

Ans: (c)
17. Which argument is possible
(a). The electrician will works on Tuesday and the interior decorator on Friday
(b). The painter will work on wednesday and plumber on thursday
(c). The carpenter will works on Tuesday and the painter on Friday
(d). THe painter will work on Monday and the carpenter on

Thursday
(e). The carpenter will work on Wednesday and the plumber on Thursday
Ans: (e)
12 technologies
Q1.Convert 0.9375 to binar
a) 0.0111
b) 0.1011
c) 0.1111
d) none

Ans. (c)
Q2. ( 1 a 00 * 10 b$) / 1010=100$
a) $a=0, b=0$
b) $a=0, b=1$
c) none

Ans. (b)
Q3. In 32 bit memory machine 24 bits for mantissa and 8 bits for exponent. To increase the range of floating point.
a) more than 32 bit is to be there.
b) increase 1 bit for mantissa and decrease 1 bit for exponent
c) increase 1 bit for exponent and decrease one bit for mantissa

Q4.In $C$, " $X$ ? $Y: Z$ " is equal to
a) if $(X==0) Y$;else $Z$
b) if $(X!=0) Y$;else $Z$
c) if $(X==0) Y ; Z$

Ans. (b)
Q5. From the following program
foo()
int foo(int $a$, int b)
\{
if (a\&b) return 1 ; return 0;
\}
a) if either a or b are zero returns always 0
b) if both $\mathrm{a} \& \mathrm{~b}$ are non zero returns always 1
c) if both $a$ and $b$ are negative returns 0

Q6. The following function gives some error. What changes have to be made
void (int a,int b)
\{
int $t ; t=a ; a=b ; b=t ;$
\}
a) define void as int and write return $t$
b) change everywhere $a$ to * $a$ and $b$ to *b

Q7. Which of the following is incorrect
a) if $a$ and $b$ are defined as int arrays then $(a==b)$ can never be true
b) parameters are passed to functions only by values
c) defining functions in nested loops
a) 0 bytes
b) 5 bytes
c) 11 bytes
d) data is insufficient

Q10. f1(int*x,intflag)
int *y;

* $y={ }^{*} x+3$;
switch(flag)
\{
case 0 :
* $\mathrm{x}={ }^{*} \mathrm{y}+1$;
break;
case 1:
*x=*y;
break;
case 2:
* $x=* y-1$;
break;
\}
return(*y)
main()
\{ $x=5$;
i=f1 (x,0); j=f1(x,1);
printf("\%d \%d \%d ",i,j, $\left.{ }^{*} x\right)$;
\}
What is the output?
a) 888
b) 588
c) 858
d) none of these


## Q12. A function is like this

swap(int a,int b)
\{
int temp;
temp=a;
$a=b ;<b$

## TATA ELXSI

Campus Written Test conducted at Kochi on Aug 2003

1) General Information:

Two seperate tests:

1. Technical(30 questions-30 minutes)- Separate questions for CS
and EC.
2. Analytical(30 questions-20 minutes)
-Technical was conducted first followed by Analytical -
There was no negative marking -
There were no separate question booklets. Everybody had the same one -Technical test (for computer science) consisted MAINLY 'C' questions. And most of them were difficult ones. There were 3 questions from Computer Graphics (Tata Elxsi is also into Multimedia Development, that may be the reason ) -Analytical test DID NOT HAVE ANY ENGLISH QUESTIONS.R.S Aggarwal's 'Quantitative Aptitude' would be very helpful here because there were questions asked from
Numbers/Simplification/Problems on Ages/Profit and Loss/Ratio and Proportion/Time \& Work/Pipes \& Cisterns/Time \&
Distance/Problems on Trains/Problems on Boats \& Streams /Area/Volume \& Surface Area/Calendar/Clocks. So as you can see, they covered almost the entire book
2) Technical Test(20 questions out of 30)
3) Graphics:Painters algorithm is used for
4) Graphics:Why is 'Lighting' operations done on World Coordinates?
5) Graphics:One more question
6) Some question on C External Variables.
7) How can you call a function written in FORTRAN from a C program ?
8) Normal question on pointer addition
9) Another question on pointer adition
10) A question on 64 bit OS's and Virtual Memory it will be having 9) Another question on 64 bit OS
11) A structure was given and it contained normal data as well as some bit-wise data. You had to find the total size taken up by the structure
12) A big code with lots of pointers. There was a struct which contained 2 arrays. Then an array of that structure was declared. The code used these structures and you had to find the values of a variable 'j' at various points inside the code
13) A code which had some declarations of some data items.

There were a couple of normal data items(char,int..) and some pointers as well and a malloc call. You have to find the total memory taken up in the stack(Hint:Pointers and all are allocated in heap, not in stack, so dont count them).Also in most of these questions, they were specifying that the OS was 32 bit
13) A question on nesting of pointers. There was this pointer to a function which returned an array of char pointers.....You had to give the exact definition of the function
14) Value of 2 particular variables in C(MAXINT and some other constant)
15)What do you need to do to open more than 10 files simultaneously in Microsoft Operating System?
-change stdio.h/change CONFIG.SYS/compiler dependent
16) A question on Macro( consisted of something like CTRL\&037)
17) Another question on Macro expansion
18) Yet another question on Macro expansion
19) UNIX question on 'who' output and then doing some other
operation and then asking you whats the output.
20) UNIX question on 'awd' operation.
3)Analytical Test(20 questions out of 30)

1) $101^{\wedge} 100-1$ is divisible by.....
2) Question on boat ( stream velocity given...)
3) Train Question( Goods and Passenger train.. their speeds given..)
4) Pipe question (with leak at the bottom..)
5) Salary \& Proportion problem
6) Another problem on Salary \& Proportion
7) Age question-father and son
8) Another age question
9) Question onratios(Sachin:Saurav=Saurav:Rahul=3:2....together they scored some runs, you had to find the runs scored by Sachin) 10) Angle between hands when time is $2: 20$
10) $x^{\wedge} 2+4 y^{\wedge} 2=4 x y$. Find $x: y$
11) A question on Arithmetic Progression(something like 5 times
the 5th term is 8 times the 8th term..find 12th term...)
12) $A$ and $B$ 's work units given.They were together gievn

Rs.720. When C joined,they together completed the work in 5 days.Find C's wages
14) There was a circle.A square of max size was cut from it. From this square, a circle of max size was cut. What was the ratio of this final size w.r.t initial size?
15) A runs $3 / 4$ th faster than B.One of them was placed some metres ahead.How far should the finishing post be placed so that both of them finish at the same time?
16) Longest time one has to wait for next birthday?(366/365/4 years/8years)
17) Next no: in the seq: $7,11, \ldots, 19,23$
18) Some question on steps....it was 10 ft high...an ant travelled upwards..and total time taken
19) Cricket-some data on runrate of the opposition being $15 \% \ldots$
20) Time \& Distance..somebody was travelling along the circumference....

The questions are not at all complete because lack of memory :-) TATA INFOTECH
VERBAL SECTION
Directions: Give the synonyms for the following words

1. Depreciation: deflation, depression, devaluation, fall, slump
2. Depricate : feel and express disapproval,
3. Incentive : thing one encourages one to do (stimulus)
4. Echelon : level of authority or responsibility
5. Innovation : make changes or introduce new things
6. Intermittent : externally stopping and then starting
7. Detrimental: harmful
8. Conciliation : make less angry or more friendly
9. Orthodox: conventional or traditional, superstitious
10. Fallible : liable to error
11. Volatile: ever changing
12. Manifest: clear and obvious
13. Connotation : suggest or implied meaning of expression
14. Reciprocal: reverse or opposite
15. Agrarian : related to agriculture
16. Vacillate : undecided or dilemma
17. Expedient : fitting proper, desirable
18. Simulate : produce artificially resembling an existing one.
19. Access : to approah
20. Compensation: salary
21. Truncate : shorten by cutting
22. Adherence: stick
23. Heterogenous: non similar things
24. Surplus : excessive
25. Assess : determine the amount or value
26. Congnizance : knowledge
27. Retrospective : review
28. Naive : innocent, rustic
29. Equivocate : tallying on both sides, lie, mislead
30. Postulate : frame a theory
31. Latent : dormant, secret
32. Fluctuation: wavering,
33. Eliminate : to reduce
34. Affinity : strong liking
35. Expedite : hasten
36. Console : to show sympathy
37. Adversary : opposition
38. Affable : lovable or approachable
39. Decomposition : rotten
40. Agregious : apart from the crowd, especially bad
41. Conglomaration: group, collection
42. Aberration: deviation
43. Aurgury : prediction
44. Crediability : ability to common belief, quality of being credible
45. Coincident: incidentally
46. Constituent : accompanying
47. Differential : having or showing or making use of
48. Litigation : engaging in a law suit
49. Maratorium: legally or offficiallly determined period of dealy before
fulfillment of the agreement of paying of debts.
50. Negotiate : discuss or bargain
51. Preparation : act of preparing
52. Preponderant : superiority of power or quality
53. Relevance : quality of being relevant
54. Apparatus: appliances
55. Ignorance : blindness, in experience
56. Obsession: complex enthusiasm
57. precipitate: speed, active

## SERIES SECTION

Directions: In the following questions complete the series
NOTE: This section is quite tough and consists of 26 questions to be done in 10 minutes. Please keep track of time.

1. ACBDEFGI-IHKJL

Ans. H
2. AIZBEYCIXDI-GENJW

Ans. W
3. A D G J M P - R W T S

Ans. S
4. ABCEFGIJK-MLONP

Ans. M
5. ABFGKLPQ-TSVUW

Ans. U
6. J W X U V ST-QPSET

Ans. Q
7. ARHXYTDTWST-NPTKR

Ans. P
8. FMBIPZVIEV-IRYOU
9. NZIYCXKW F - JFVMY

Ans. V
10. AASASPASPKA-RQTSU

Ans. S
11. A ECPS-TRUE

Ans. U
12. B B PRDDLNFFIK-HQJIK

Ans. H
13 AZEXIVMT-RQNSO
Ans. Q
14. A B DGKP-LIWUX

Ans. U
15. BCDAEGHIFJLMNLKNMO

Ans. K
16. XWEFGVUHIJK-PNSRT

Ans. T
17. ODJTOPQNOERT-QOUVW

Ans. O
18. PRNUUPEJRBB-HVUNE

Ans. E
19.L U L M G M N F N P S - O NQPS

Ans. P
NUMERICAL ABILITY

1. $420 \%$ OF $7.79=$ ?

Ans. 32.718
2. $3427 / 16.53=$ ?

Ans. 202
3. $10995 / 95=$ ?

Ans. 115.7365
4. $43+557-247=$ ?

Ans. 353
5. $3107 * 3.082=$ ?

Ans. 9591
6. $48.7+24.9-8.7=$ ?

Ans. 64.90
7.525.0/47.8 = ?

Ans. 11
8. $(135-30-14)^{*} 7-6+2=$ ?

Ans. 3
9. $3 / 8 * 5.04=$ ?

Ans. 1.89
10. $697 / 219=$ ?

Ans. 3.18
$11.8 / 64+64 / 16=$ ?
Ans. 4.14
12. $298 * 312 / 208=$ ?

Ans. 453.54
13. $0.33 * 1496 / 13=$ ?

Ans. 37.98
14.0. $26+1 / 8=$ ?

Ans. 0.385
15. $66 \cdot 17+1 / 3=$ ?

Ans. 67.03
16. $2.84+1 / 4=$ ?

Ans. 3.09
17. $33 \%$ OF $450=$ ?

Ans. 148.5
18. $907.54 / 0,3073=$ ?

Ans. 3002
19. There are two categories of persons in ratio $A: B=2: 3$. $A$ type earns 2.5 dollars/hr and
B type 1 dollar/hr total money earned by both is 24dollars. Then
what is the total number of persons
Ans. 15
20. Total balls are $z$, the number of red balls is $n$ and the
remaining are blak balls,then the \% of black
balls equal to
Ans. $(z-n) / z^{*} 100$
21. If $A=C, B=2 D$ what should be done to make the ratio same.
i.e. $a / b=c / d$

Ans. Multiply A by 2
22. If $P=$ Total number of components, $Q=$ number of defective components. What is the $\%$ of non defective components?
Ans. (p-q) / p*100
23. If the cost of an article is $x$, first discount given is $y \%$ of cost, second discount given is $z \%$ of cost .
The selling price of $x$ is
Ans. x (1-y / 100) (1-z / 100)
24. Which of the following are prime numbers
(a) 119
(b) 115
(c) 127
(d) none

Ans. (c)
25. $\mathrm{A} / \mathrm{B}=\mathrm{C} ; \mathrm{C}>\mathrm{D}$ then
(a) $A$ is always greater than $D$
(b) $C$ is always greater than $D$
(c) $B$ is always less than $D$
(d) None of these

Ans. (a)
26. If $B>C$ and $A<C$ which of the following is larger than $A+B+C$

Ans. $(A+B) C$
27. If for $H$ hours of work the salary is $S$ and the employee gets $x$
hours of medical leave, then what is the salary/hr ?
Ans. $\mathrm{s} / \mathrm{H}-\mathrm{x}$
28. $(1 / 6$ of 596$) /(0.695)=$ ?

Ans. 142
29. $35-30+4 / 7-5+1=$ ?

Ans. 3
30. $10995+95=$ ?

Ans. 11090
31. If on a salary of Rs."S" per month, one has to pay one tax of $x$

Rs. and a second type of tax of $y$ Rs
then \% of salary taken home is

Ans. $\mathrm{s}-(\mathrm{x}+\mathrm{y}) / \mathrm{s}$ * 100
32. $B>A$ then which expression will be highest value
(a) $A-B$
(b) $A B$
(c) $A+B$
(d) Can't Say

Ans. (b)
33. $K$, $L$ are men who take home a salary of $x$, $y$ respectively. The
total amount taken home is
Ans. Kx + Ly
34. If out of $X$ bulbs $y$ bulbs are broken; The \% of non broken bulbs

Ans. ( $x-y$ ) / $x^{*} 100$
35. If on a salary s per month, a tax of $x \%$ of the salary and
another of $\mathrm{r} \%$ of the salary is deducted what
is the income.
Ans. $\mathrm{s}^{*}(1-(\mathrm{x}+\mathrm{r}) / 100$
36. $0.512 * 18902358=$ ?

Ans. 9678007.296
37. If the \% of defective balls is $10 \%$ balls, and the number of defective balls is 5 . The number of balls is
Ans. 50
38. $6.29 \%$ of $2.8=$ ?

Ans. 0.18
39. $0.398 * 456=$ ?

Ans. 181.49
40. $0<x<1$ which is greater
(a) $1 / x 2$
(b) $1 / x$
(c) $x$
(d) $x 2$

Ans. (a)
41. If $c=a / b ; a-1=c$, what is the relation between $a$ and $b$ ?

Ans. $b=a / a-1$
42. What is the sum of 7 consecutive odd numbers with 27 as the fourth number
Ans. 189

## FLOWCHART SECTION

Directions: There are 7 flow charts and each has 5-6 blank rectangles/diamonds with
subquestion number in the rectangle/diamond. You have to fill the blank from the
5 options given against respective question number
NOTE:These types of questions are not at all tough. You have to understand the logic and then it is very easy to fill the blanks.
Some information is provided for getting to the answers. There will be blanks which have to be filled.
Examples of flow charts asked to be filled:
(1) There are 3 boxes of 3 balls each. you have to select the heaviest among all.
(2) There are red and black balls in a box. You select some balls from the blocks. If the ball chosen is red then you get one point. If the chosen ball is ball black and previous ball is red then you get two points. For winning u have to get seven points. No point for selecting consecutive balls of the same color.
(3)Classify objects in class A, class B and scrap. for classfing you have to do different tests such as weight test, material test etc.
(4)There is production process in which action depends on temperature and pressure and we have some temperature and pressure controls. Draw a flowchart to complete the process.
(5)Find max. and min. of the 12 nos.in an array.Arrang the array in ascending order and find the maximum and
minimum value in the array
(6)Diffrent age group are given and also diffrent salary slabs are given. Depending on the salary group as well as his group you have to classify the group of people in particular class.

## CTS1

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1. Using the digits $1,5,2,8$ four digit numbers are formed and the sum of all possible such numbers.
ans:106656
2. Four persons can cross a bridge in 3,7,13,17 minutes. Only two can cross at a time. find the minimum time taken by the four to cross the bridge.
ans:20
3. Find the product of the prime numbers between 1-20
ans.. 9699690
4. 2,3,6,7--- using these numbers form the possible four digit numbers that are divisible by 4. ans.----8
5. Two trains are traveling at 18 kmph and are 60 km apart. There is fly in the train. it flies at 80kmph. It flies and hits the second train and then it starts to oscillate between the two trains. At one instance when the two trains collide it dies. Distance traveled by the fly when both trains collide is Ans.---12km
6. there are 1000 doors that are of the open-close type. When a person opens the door he closes it and then opens the other.
When the first person goes he opens-closes the doors ion the multiples of 1 i.e., he opens and closes all the doors. when the second goes he opens and closes the doors 2, 468 respectively. Similarly when the third one goes he does this for 36912 15th doors resly. Find number of doors that are open at last.
Ans:square numbers
7. There are 9 balls of this one is defective. Find the minimum no.
of chances of finding the defective one.Ans 3times
8. There are coins of Rs.5, $2,1,50 p, 25 p, 10 p, 5 p$. Each one has got a weight. Rs 5 coin weighs 20 gms . find the minimum number of coins to get a total of 196.5 gms .
9.A can do a work in 8 days, B can do a work in 7 days, $C$ can do a work in 6 days.
A works on the first day, B works on the second day and $C$ on the third day resly.that is they work on alternate days. When will they finish the work. (which day will they finish the work)
Ans: 7 7/168 days
10.A batsman scores 23 runs and increases his average from 15 to 16 . find the runs to be made if he wants top inc the avg to 18 in the same match.
ans: 39runs.
11.A man sells apples. First he gives half of the total apples what he has and a half apple.
Then he gives half of the remaining and a half apple. He gives it in the same manner. After 7 times all are over. How many apples did he initially have.
ans: 127 apples.
12.In a club there are male and female members. If 15 female quit then the number of females will become double the number of males. If 45 males quit no. of female becomes five times the number of males. Find the number of females.
ans: females: 175 ,males: 80
9. When I was married 10 years back my wife was the sixth member of my family. Now I have a baby. Today my father was dead and I had a new baby.now the average age of my family is the same as that when I was married. Find the age of my father when I was married.
ans:50
14.I and two of my friends were palying a game. For each win I get

Rs 3. totally I had three wins. Player 2 got Rs9 and player 3 got Rs
12. how many games had been played.
15. A person gives a secret to two other persons in 5 minutes. How long will he take to tell the secret to 768 people.
16. There are 40 seats in a bus. People agree to share the money for the number of seats. The total money comes to 70.37 . how many seats were free.
9 seats.Rs.2.27
17.I had Rs100 and I play. If I win I will hav Rs110 and if I lose I will hav Rs90. at the end I hav 2 wins and 2 loses. How much do I hav.
18.There were sums related to diagrams. They asked to calculate
the areas of the circle, rectangle that were enclosed in other objects. They were simple.
20. In a village, there is flood. In one village causalities were less than the other. Why?
Ans : There were better health care centres(HCC).
21. A question on Pythagoras Theorem. Ans. 20
23. The distance between Mumbai \& Calcutta is 25000 Km. Train goes from Mumbai to Culcutta for which Speed \& Time are given. From C->M Speed alone is give. Of the above conditions which is not required. (Not Complete)
ans: The distance $25,000 \mathrm{Km}$ is not required. Because, Speed *
Time = Distance. So only two conditions are required.
24. $m<n \& x>y$ Which is false?

Ans: $x-m<y-n$
25. A person has Rs.100. If he wins he gains $10 \%$. If he loses the game, he loses 10\%. He wins twice and loses twice. How much he has at the end?
Ans: Always less than 100.
26. Area of Shaded portion is ?

## Ans : 115.5

Verbal
27. In A tribal group two groups live in different climatic conditions.

Ear Sensitivity is tested and found that one has more when compared to other. What is the reason.
Ans. Depends on the physical place and condition he is living
There were many questions on logical reasoning.
Eg:
There are two identical islands. Same tribe live in the islands. But their receptiveness varies.
This is the question.
There were four choices and we have to select the most appropriate one.
For the above one the answer is ----- because of climatic changes
There was a question in which they gave a polygon with all the external angles. we have to calculate the asked interior angle.

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