SAMSUNG TEST PATTERN

Important topics to refer:-
a)Data Interpretation
b) Simple arithmetic (Ages,Percentage,
c) Puzzles
d)C,C++,Data Structures, Operating system

Samsung Paper IIT- Guwahati

1.No. of trailing zeros in 100! = 22 (check)..

2.No. numbers <= 100 which are not divisible by 2,3,5
a) 24 b)26 c)29 d) none
Ans.(check)

3if a + b + c = 0, then (a^2 + b^2 + c^2)/(ac^2 -ab) = ?
A)0 b) 1 c)-2 d)-2 check
Ans a)

4.some salary problem. 1/4th of salary for rent, 1/5th of salary for transport remaing deposit. he deposited Rs50/- then monthly salary ???
Ans. 1000/- check..

5.some time & work problem.
a & b can do in 8 days
b & c can do in 12 days
a & c can do in 24 days.
then b can alone do in ??? days

6.some diagrams were given see gre barron book find shaded area one square was given in that one 4 circles inserted. find the area left by ciclrs in the square
Ans : 16(4-pi)...

7.1mile g cents and m cents extra cost. for 100 miles cost ?????

8 .There is W kg rice in bag. a rat eats r kg of rice each day. After 25 days what percent of rice was eaten by rat ???
Ans) 2500r/w (check)

Section II : Technical

1.Ipv6 --- 16 bytes.

2.multi cast addressing range...

3.subnet was given how many computer can be connected ??? 255.255.255.242 ??

4.RS232C binary 0 ---- +4v (+ve)..

5.socket programming --- select (not related to socket system calls)

6.HDLc --- a) GO back n b) Go back n-1 c)select repeat n d)none of the above..

7.piggy backing --- acknowledgements..

8.ATM -- basic question.

9.Max no. of outstanding acknowledgements...

10.int a;
static int a;
int fun() { return a;}
static int fun() { return a; }

which of the above 2 statements can,t exist in the same file...

11.some program

```
main()
{
    extern int i;
     print i;
}
```

ans) linker error..

12.Advantage of digital over analog signal ??

13.study digital modulation techniques..

```
   int j=3;
   int *p=&j;
  printf("%d %d", *p++,++*p);
```

*it will not increment j value as ++ is done first on p before *, so address gets incremented and garbage value will be there*

14.Which is non-deterministic structure
a)ethernet b)802.4 c) 802.5 d)none
Ans) ethernet check..

15.3 bits on size of structures...

16.Linux --- memory model
a) small b)hughe c) flat d)none. see..

17.Which one does not involve direct recursion..
a) backtracking
b) divide and conquer
c) dynamic programming
d) none of the above..

18. sort time complexity based on
a) No of comparisions
b) no of swaps.
c) no of copies.
d) all of the above (check)...a
Ans:( )(e) none of these

7.A and B are two stations 330km apart.A train starts from A at 8pm.and travels toward B at 60kmph.another train starts from B at 9pm. And travels towards A at 75 kmph.at what time do they meet?
(a) 11am (b) 12pm (c) 11.30am (d) 11.45am
Ans:(a)

8.if you have a sixth sense, it may help you to solve this one 6 396 2376 1425.6 8.5536 ?
(a) 4.5536 (b) 2.5536 (c) .513216 (d) .00513216
Ans:(d)

9. 20 ? 150 18 11 (a) 2 (b) 4 (c) 6 (d) 8 (e) none of these

Ans:(c)

10. The one in our paper was 100 365 24 60 _?
Ans 60

10.if (BE)^2=MPB and the letters B,E,Pand M stands for distinct digits,then M equals
(a) 1 (b) 6 (c) 3 (d) 9 (e) 5
Ans:(c)

DATA SUFFICIENCY

11. Is X =Y?

(1) X-Y=X^2-Y^2 ans:( )

(2) X and Y are greater than 1.

12. Is CAB a code word in language Q?
(1) ABC is the base word.
(2) If c immediately follows B, then C can be moved to the front of the code word to generate another word?

13. A dress was initially listed at a price that would have given the store a profit of 20 percent of the wholesale cost. What was the wholesale cost of the dress?
(1) After reducing the asking price by 10 percent, the dress sold for a net profit of 10 dollars.(2) The dress sold for 50 dollars.

14. If X and Y do not equal 0, is X/Y an integer?
(1) X is prime
(2) Y is even

15. What is the price of a banana?
(a) 14 banana and 35 oranges cost Rs. 84
(b) with a 50% discount on banana, Rs. 12 can buy 4 bananas and 5 oranges.

Analytical Reasoning

In a game, exactly six inverted cups stand side by side in a straight line, and each has exactly one ball hidden under it. The cups are numbered consecutively 1 through 6. Each of the balls is painted a single solid color. The colors of the ball green, magenta, orange, purple, red and yellow. The balls have been hidden under the cups in a manner that conforms to the following conditions: The purple ball must be hidden under a lower- numbered cup than the orange ball. The red ball must be hidden under a cup immediately adjacent to the cup under which the magenta ball his hidden The green ball must be hidden under cup 5.

16. Which of the following could be the colors of the balls under the cups, in order from 1 through 6?
(a) Green, yellow, magenta, red, purple, orange
(b) Magenta, green, purple, red, orange, yellow
(c) magenta, red, purple, yellow, green, orange
(d) orange, yellow, red, magenta, green, purple
(e) red, purple, magenta, yellow, green, orange

17. A ball of which of the following colors could be under cup6**?**
(a) Green
(b) Magenta
(c) purple
(d) red
(e) yellow

18. If the purple ball is under cup4, the orange ball must be under
(a)1 (b) 2 (c) 3 (d) 5 (e) 6

19. Which of the following must be true ?
(a) The green ball is under a lower - numbered cup than the yellow ball.
(b) The orange ball is under a lower - numbered cup than the green ball.
(c) The purple ball is under a lower - numbered cupthan the red ball

sample of the technical questions asked

1. If integer needs two bytes of storage, then maximum value of an unsigned integer is

a. 2^16-1

b. 2^15-1

c. 2^16

d. 2^15

2.If integer needs two bytes of storage, then maximum value of a signed integer is

a. 2^16-1

b. 2^15-1

c. 2^16

d. 2^15

3.What is the output of

printf (“%d”, printf(“tim”));

a. results in a syntax error

b. outputs tim3

c. outputs garbage

d. prints tim and terminates abruptly

4.Length of string “correct” is

a.7

b.8

c.6

d. implementation dependant

5.Consider the following program fragment

char c= ‘a’;

```
while(c++ <= 'z')
        putchar(xxx)
```

If the required output is abcd…wxyz, then xxx should be

a. c

b. c++

c. c-1

d. --c

6.Consider the function

```
find(int x, int y)
{
        return ((x<="" y="" –="" 0:x="" ?="">
}
```

The call find (a, find (a, b)) can be used to find

a. maximum of a, b

b. positive difference of a, b

c. sum of a, b

d. minimum of a, b

7.If abc is the input, then the following program fragment

```
char x, y, z.
printf("%d",scanf("%c%c%c", &x, &y, &z));
```

results in

a. a syntax error

b. a fatal error

c. segmentation violation

d. printing of 3

8.Consider the statements

```
putchar(getchar());

putchar(getchar());
```

If ab is the input, the output will be

a.an error message

b. this can't be input

c. ab

d. a b

9.The operators **.**, ||, <, = if arranged in the ascending order of

a. . , || , < , =

b. =, < , || , .

c. =, || , <, .

d. <, || , = , .

10.The following program fragment

```
unsigned i=-1;
        int j = -4
        printf("%u", i+j);
```

prints

a. garbage

b. -3

c. an integer that changes from machine to machine

d. none of the above

11.The following program fragment

```
                for( i=3; i<15;i+=3);
                        printf("%d",i);
```

results in

a. a syntax error

b. an execution error

c. printing of 12

d. printing of 15

12.The following description of the program, please pick the wrong one?

```
int main(void) {
        int i= 100;
        int*pi=&i;
        int**dpi = π
}
```

a. dpi to store a pointer with the address for pi is a double pointer

b. (*pi==i) is true.

c. (*pi== **dpi)is true.

d. (*dpi == 100) is true

Below, please find the results for the program do?

```
int counter = 0, i;
for(i=0;;i++) (
        if (i < 100) continue;
        counter ++;
if (counter == 100) break;
)
printf(%d%d",i, counter);
```

a.199 100

b. 200 100

c. 199 99

d. 200 0

13.See below for a description of the defined array, please choose the wrong thing ?

int a [] = {10,20,30,40};

a. successive one-dimensional array of elements in the array a[1], a[2] is located in the contiguous memory space.

b. a[1] and a* (a+1) is the same.

c. During the initialization of an array; array size must be specified
otherwise the initial value at compile error occurs

d. & a[1] which has a +1 value, such as the address

14..Define sqrt(x) x*x
Sqrt(3-5);

Answer: -17;

Define true 1
define false -1
define null 0
if(null)
printf("……");
else if(false)
printf("true");

Ans: True;

15.int i=10;
Switch(i)
{
Printf("samsung");
Case 10:printf("some string");

```
Break;
Case 5*2:printf(“some string”);
Break;
}
```

Ans: Error Due to Conflicting Case;

```
16.int i=5,*j;
Void *k;
K=j=&I;
Printf(“%d”,k+1);
```

Ans: Compilation error (but its running on gnu) bec arithmetic operations not allowed in void pointer;

```
17.char *c=’a’;
Printf(“%d %d %d”,size(c),size(‘a'),size(*c);
```

Ans: 4,1, 1;

```
18.class abc
{
static int i;
Int a;
};
abc ob;
cout<<sizeof(ob)
```

ANS-8,

```
19.class abc
{
};
abc ob;
cout<<sizeof(ob);
```

Ans-1 (size of object of empty class is 1)

```
20..int i=512;
Char *c=(char *)&i;
C[0]=1;
Printf(%d”,i);
```

Ans: 513;

21.int *b={1,2,3,4,5,6,9,8};
Print(“%d”,(b+1)[5]);
Ans -Error

22.static int I;
Main()
{
If(i==5)
Printf(“Samsung”);
i++;
return(i=main());
}

Ans: Stack Overflow

23.main(){.printf(“%s”,printf(“Samsung”)+fun());}
fun()
{
return “electronic”;//not remember exactly
}

Ans: Samsung IC
Ans: 9

25.char *a=”hello\0world\0!!”;
Printf(“%d”,strlen(a));
a=a+6;
Printf(“%d”,strlen(a));
a=a+7;
Printf(“%d”,strlen(a));

Ans : 5 5 1

13.struct abc
{
};
Struct abc arr[10];
Struct abc *p=arr;
Which will be increment the pointer to point the next array element?

Ans:- p=p+sizeof(abc);

14.int main()
{
char a='\0';

printf("%d",a);
return 0;
}
ans-0

14-When CPU Service Interrupt

Ans : (a) after executing the current instruction

15-On Switch on the Computer Which Loader Come in Action First.
Ans: Boot Strap Loader

16-which of the following are not related to file system
Ans-file are in main memory

17-How Many No. of Node Will Make a Complete Binary Tree.
Ans: 15;

18-.Property of Heap?

Ans: Every Node is Greater Than its Child;

19-.In Case of Recursion Wis Overhead.

Ans : Stack

20-hich languages necessarily need heap allocation in the runtime environment?
(A) Those that support recursion
(B) Those that use dynamic scoping
ANs(C) Those that allow dynamic data structures
(D) Those that use global variables

21-main()
{
int i=- 1;
-i;
printf("%d",i);
return 0;
}
ans: -1

22-main()
{
char *p;
printf("%d %d ",sizeof(*p),sizeof(p));
}
Answer:1 4

23-how may times printf will executed
main()
{
for(int i=-1;i<=10;i++)
{
if(i==5)

```
continue;
else
break;
printf("samsung");
}
```
ans-0 times
Some question are from gate papers only C and data structure part..

```
 </sizeof(ob);
</sizeof(ob)
```

1. what is the advantage of ADSL(assymetric digital subscriber line) over modem

Ans) it has normal uplink band width but higher down link bandwidth (something like that)

2. Min sampling freq for 20-20kHz analog signal is

a) 20khz b)40khz c)44.1khz d) 20hz Ans) b

3. Adventages of digital over analog signal:

a)noise immunity b)data security and integrety c)efficient transmission d)all of the above

Ans) d

4. Where Myprog is an exe file. What will the output of the following program ?

```
main(argc, argv)
{
printf("%c"++**argv);
```
some thing and the progname is myprog on command line.

a) m b) n c) none d) myprogram

5. In 1.5 fixed format how is -1 represented

a)0xFFFF b)0xF000 c)0x8000 d)0x0001 (options may not be correct but ques is correct)

Ans) a

6.main()
{
i=2;
printf(I=%d i=%d",++i,++i)
}

Ans) vary compiler to compiler

7. main()
{ unsigned char i=0x80;
printf("i=%d",i<<1);
}

Ans)256

8.main(
{
B=0xFFFF;
~B ;
printf(%d",B);
}

Ans) 0xFFFF

9.Func(int a, intb)
{
int a;
a=10;
return a;
} will there be any error and some other options are there.

Ans) No error.

10. Determine network ID of classful IP address 192.42.14.1

a)192 b)192.42 c)192.42.14 d)192.42.14.1

Ans) c (class c)

11. If m people take d days to complete, then m+r people take how many days

Ans) m*d/m+r

12-13) Three questions were on Analgies one was:

12. Square:___ :: Quadreplet:couplet
options were a)parallelogram b)triangle c)___ d) _____

Ans) do not Remember

13. Gazzle:swift :: Earth options : a) life b) zoology

14. If DISTANCE is written as IDTUBECN and DOCUMENT is written as ODDVNTNE then THURSDAY will be written as ans) a (HTVSTYAD)

15. A is 10 km from B and C is 17 km from B. then which option is true.....
a)A is in between B and C.
b)B is in between A and C
c)C is in between A and B
d)a and b Ans) d

16. If length of rectangle of increases by 20% and breadth decreases by 20%. Then the area
a) decreases by 4% b)---- c) same d) none
Ans) a

17. If it costs x dollors for making certain item if quantity is 1000 and if quantity increase then the item is made using y dollars. If z number of items are made which are greater than 1000 then what is the total cost.
Ans 1000(x-y) +yz

18. A girl is at 11th position from both th ends of a straight row. Then total no. girls in a row are
Ans) 21

19. series is given such as 2,7,6,-,12,-,20,49,---- ? Ans) 71(sure) break into 2 series

20. If the distance between two trains is 110KMs and two trains travel opposite in direction . If one starts at 7AM and other at 8AM and their velocities are 20 and 25 KMPH then they meet at.
Ans 10AM

1. A person is to go up a tree 60ft high. In every second, he climbs 5ft but slips 4ft. After how many seconds, will he be able to touch the top of the tree?
(1) 60
(2) 59
(3) 56
(4) 58

2. enum day { saturday,
sunday=3,
monday,
tuesday
};
value of saturday,tuesday.

3. enum day {
saturday,
sunday=-1,
monday,
tuesday
};
int x=monday;
value of x?

4. First general purpose microprocessor
a) 2002 b)4004 c)8080 d)8085

5. What is 8253?

6. which of the followinf is not CDMA technology
a)DS-FH (Discrete spectrum-freq hoping) b)DS_FT C)DS- d)TDMA-FS.
Ans) d

7. A semaphore with negative count n(s=n) has how many processes in the Q?
(a)0
(b)n
(c)n+1
(d)n-1

8. If in a PCM system the no of bits used is increased from n to n+1,the signal-to-noise ratio improves by
(a)3dB
(b)6dB
(c)20ndB

(d)24ndB

9. A is 10 km from B and C is 17 km from B. then which option is true.....
a)A is in between B and C.

b)B is in between A and C
c)C is in between A and B
d)a and b
Ans) d

10. 802.2 LLC b)802.3 CSMA/CD c)802.4 Token Bus d)802.5 Token Ring
Ans) a

11. #define Sqr(b) b*b;
main( )
{
int i=3;
printf("%d",SQR(i+2);
}

Ans) 11

12. Main(){
Char c='a';

Printf("%d %d", sizeof(c),sizeof('a'));
}
options:- a) 1 1 b) 2 2 c) 2 1 d) 1 4

Ans: d

13. How many bits of IP address are required to make 8 subnets

a)1 b) 2 C) 3 d)4
Ans) 4 (as 000 and 111 0f 3 bits are not valid subnets so take 4 bits)

14. Which statement were incorrect regarding multicast and broadcast options do not remember

15. network equipment's make hierarchy in which topology
a) bus b)star c) ring d) tree

Ans) Tree

16. In a row of 5 girls conditions such as Radha and Asha never sit together and other conditions
Ans Radha

17. Problem on average ages given age of captain 25 and wicket keeper's Age 3 years more than captain's age. now the average of the remaining team is one less than the avg of whole team. what is the avg age of each.
Ans) 22

18. Asoka is as much young as Vimal and as much old as Arun. GIven sum of Vimal and Arun ages to be 40. then Ashoka age is ---
Ans) 20.

19. F is brother of A , C is daughter of A, G is brother of C, who is uncle of G and some conditions
Ans) F

20. In an innings the score done by A,B,C is 128runs A and B scored 90, C & A scored 68 is some number What is the score done by C