

1. The grammar for A, B, S is given below.

$S \rightarrow Ax|By$

$A \rightarrow Ax|y$

$B \rightarrow x|y$

possible ans is $xy|xy$

2. In $n \times n$ matrix, there non zero numbers in diagonal and either side of the diagonal. If represented in one dimensional array, assign the values which are non zeros.

find relation with i, j iteration and linear array

like $a[2*(i-1)+j]$ this

the matrix will be

x x 0 0 0 0 -----

x x x 0 0 0 0 -----

0 x x x 0 0 0 -----

0 0 x x x 0 0 -----

0 0 0 x x x 0 0 -----

| | | | | | | |

| | | | | | | |

remumber $n \times n$ matrix

3. In-order of the letters is given as below:

If written in pre-order like given below:

write the post-order:

4. fun(n)

```
{
    if(n<=2)
        return (1);
    else
        return ((fun(n-1)*fun(n-2)));
}
```

find the order of complexity of the programme.

possible answer ---- $N(2^n)$

5.

6. If a and b are given. write the results of the programme given below.

$a = a \text{ XOR } b;$

$b = a \text{ XOR } b;$

$a = a \text{ XOR } b;$

answer is swapping of a and b

so b, a is answer

7.

8. for a given CMOS the voltage is halved

frequency doubled

capacitance halved

what is the present CMOS power

ans (b)---- dynamic power is $\frac{1}{2} * C * f * V^2$

9. if a row dominated two dimensional array in the following which one is

advantage

and why?

```
a) for(i=0;i<1000;i++)
    for(j=0;j<1000;j++)
        temp=temp+a[i][j];
b) for(j=0;j<1000;j++)
    for(i=0;i<1000;i++)
        temp=temp+a[i][j]
```

I donot know ans

10. what is area of a Hexagon with side as 1unit

ans is $3 \cdot (\sqrt{3})/2$

11. If traverse in a chess board right and down from one corner to another corner

how many possible ways will be there

ans is $C(16,8)$ or $(16!/(8! \cdot 8!))$

12. Tick the below which can biparate (graph theory)

1)tree 2)forest of trees 3) evencycle graph 4) oddcycle graph

ans is 1,2,3

13.The fig shown in below is a SRAM (1K* 4 bits) ,how many of this SRAMS are

required to design 16K of one byte

ans is 32 SRAMS and one 4 to 16 decoder

14. suppose two persons entering into one room in the morning 5 to 6 A.M.

what is the probability they will enter in 10 minits gap.

I donot know this answer

15. In a binary tree what is the hight and lowest no of levels for N nodes.

ans is highest is N and lowest is $\log(N+1)$ base 2

16.represent 3 and -3 in base -2 form taking two states (0,1) only

i do not know the ans

OTHER 5 QUESTIONS FROM SORTING TECHNICS SO PLEASE GO THROUGH SORTING TECHNICS .

OTHE 5 QUESTIONS FROM FLIP-FLOP DELAYS EXAMPLE

1. THERE IS ONE LOOKAHEAD ADDER IS THERE ONLY TWO STAGES IT GIVES CARRY

AHEAD WHAT IS

THE TOTAL DELY IF IT IS 8 BIT ADDER.

2. WHAT IS PROPAGATION DELAY TIME FOR RING COUNTER.

B.....

3.OB. WHAT IS MAX FREQUENCY FOR SOME COUNTER SO PLESE CHECK COUNTES AND

FLIP-FLOPS

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~

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TISL

part 1

it consists of number series. In some institutes alphabetical series is given instead of number series. I am having number series so I am sending that. Please go through the alphabetical tests also.

1. 19, 24, 20, 25, 21, 26, ? ans: 22
 2. 11, 14, 12, 15, 13, 16, ? ans: 14
 3. 10, 2, 8, 2, 6, 2, ? a: 4
 4. 8, 9, 11, 14, 18, 23, ? a: 29
 5. 25, 25, 22, 22, 19, 19, ? a: 16
 6. 14, 2, 12, 4, 10, 6, ? a: 8
 7. 7, 16, 9, 15, 11, 14, ? a: 13

8. 40, 42, 39, 44, 38, 46, ? a: 37
 9. 3, 18, 4, 24, 5, 30, ? a: 6
 10. 18, 20, 22, 20, 28, 20, ? a: 22
 11. 18, 20, 10, 12, 4, 6, ? a: 0
 12. 7, 6, 8, 5, 3, 7, ? a: 4
 13. 9, 18, 21, 25, 20, ? a: 30
 14. 3, 3, 4, 8, 10, 36, ? a: 33
 15. 30, 28, 25, 20, 34, 28, ? a: 21
 16. 4, 8, 16, 32, 64, 128, ? a: 256
 17. 8, 16, 24, 32, 40, 48, ? a: 56

18. 13, 11, 14, 12, 15, 13, ? a: 16
 19. 6, 18, 36, 108, 216, 648, ? a: 1296
 20. 4, 4, 8, 8, 16, 16, ? a: 32
 21. 2, 6, 18, 54, 162, 486, ? a: 1458
 22. 4, 20, 35, 49, 62, 74, ? a: 85
 23. 10, 18, 15, 23, 20, 28, ? a: 25
 24. 4, 10, 8, 14, 12, 18, ? a: 16
 25. 10, 15, 12, 17, 14, 10, ? a: 16

part 2 consists of non-verbal reasoning (figures). So it is impossible for me to send those. (25 questions)

part 3 (quantitative)

1. A clerk multiplied a number by ten when it should have been divided by ten. The answer he got was 100. What should the answer have been?
 a: 1

2. If Rs 20/- is available to pay for typing a research report & typist

A
produces 42 pages and typist B produces 28 pages. How much should typist
t

A
receive?

a:rs12

3. The average salary of 3 workers is 95 Rs. per week. If one earns
Rs.115 and second earns Rs.65 how much is the salary of the 3rd worker
.

Ans.105.

4. A 16 storied building has 12000 sq.feet on each floor. Company A rents
s
7

floors and company B rents 4 floors. What is the number of sq.feet of
unrented floor space.

Ans.60000

5. During a given week a programmer spends $\frac{1}{4}$ of his time preparing
flow
chart, $\frac{3}{8}$ of his time coding and the rest of the time in debugging the
e
programs. If he works 48 hours during the week, how many hours did he
spend debugging the program.

Ans. 18.

6. A company installed 36 machines at the beginning of the year. In
March

they installed 9 additional machines and then disconnected 18 in
August.

How many were still installed at the end of the year.

Ans .27

7. A man owns $\frac{2}{3}$ of the market research bureau business and sells $\frac{3}{4}$
of

his shares for Rs. 75000. What is the value of Business.

Ans.150000

8. If 12 file cabinets require 18 feet of wall space, how many feet of
wall space will 30 cabinets require?

Ans.45

9. A computer printer produced 176,400 lines in a given day. If the

printer was in operation for seven hours during the day, how many lines
s
did it print per minute?

Ans.420

10. From its total income, a sales company spent Rs.20,000 for

advertising, half of the remainder on commissions and had Rs.6000 left .

What was its total income?

Ans.32000

11. On Monday a banker processed a batch of cheques, on Tuesday she processed three times as many, and on Wednesday she processed 4000 cheques. In the three days, she processed 16000 cheques. How many did

she process on Tuesday?

Ans.9000

12. The cost of four dozen proof machine ribbons and five dozen accounting machine ribbons was Rs.160/-. If one dozen accounting machine ribbons cost Rs.20/-, what is the cost of a dozen proof machine ribbons?

Ans.Rs.15

13. If a clerk can process 80 cheques in half an hour, how many cheques

can she process in a seven and one half hour day?

Ans.1200

14. In a library, there are two racks with 40 books per rack. On a given

day, 30 books were issued. What fraction remained in the racks?

Ans.5/8

15. The average length of three tapes is 6800 feet. None of the tapes is

less than 6400 feet. What is the greatest possible length of one of the

other tapes?

Ans.7600

16. A company rented a machine for Rs.700/- a month. Five years later

the treasurer calculated that if the company had purchased the machine

and paid Rs.100/- monthly maintenance charge, the company would have saved Rs.2000/-. What was the purchase price of the machine?

Ans.Rs.34000

17. Two computers each produced 48000 public utility bills in a day. One

computer printed bills at the rate of 9600 an hour and the other at the

rate of 7800 an hour. When the first computer finished its run, how many

bills did the other computer still have to print?

Ans.9000

18. If a salesman's average is a new order every other week, he will break the office record of the year. However, after 28 weeks, he is

six orders behind schedule. In what proportion of the remaining weeks does he have to obtain a new order to break the record?

Ans. $\frac{3}{4}$

19. On a given day, a bank had 16000 cheques returned by customers. Inspection of the first 800 cheques indicated that 100 of those 800 had errors and were therefore the available immediately for data processing.

On this basis, how many cheques would be available immediately for data processing on that day?

Ans. 14000

20. A company figured it needed 37.8 sq.feet of carpet for its reception room. To allow for waste, it decided to order 20% more material than needed. Fractional parts of sq.feet cannot be ordered. At Rs.9/- a sq.feet, how much would the carpet cost?

Ans.

a. Rs.324 b) Rs.405 c) Rs.410 d) Rs.414 e) Rs.685

21. A tape manufacturer reduces the price of his heavy duty tape from Rs.30/- to Rs.28/- a reel and the price of a regular tape from Rs.24/-

to

Rs.23/- a reel. A computing centre normally spends Rs.1440/- a month for tapes and $\frac{3}{4}$ of this is for heavy duty tapes. How much will they save

a

month under the new prices?

Ans. Rs.87

22. In a team of 12 persons, $\frac{1}{3}$ are women and $\frac{2}{3}$ are men. To obtain

a

team with 20% women how many men should be hired?

Ans. 8

23. The dimensions of a certain machine are 48" X 30" X 52". If the size

of the machine is increased proportionately until the sum of its

dimensions equals 156", what will be the increase in the shortest side?

Ans. 6"

24. In a certain company, 20% of the men and 40% of the women attended the annual company picnic. If 35% of all the employees are men, what percent of all the employees went to the picnic?

Ans.33%

25. It cost a college Rs.0.70 a copy to produce a Programme for the homecoming football game. If Rs.15,000/- was received for advertisements

in the programme, how many copies at Rs.0.50 a copy must be sold to make

a profit of Rs.8000/- ?

Ans. 35000

Some extra questions other than you send to me are follows.

I already send view logic paper yesterday.

best of luck

TATA INFOTECH -99

VERBAL

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 approach
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. Cognizance : 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
3. affable : lovable or approachable
39. Decomposition : rotten
40. egregious : apart from the crowd, especially bad
41. conglomeration: group, collection

4. 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 offfficiallly 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 : applianes
55. Ignorance : blindness, in experience
56. obsession: complex enthusiasm
57. precipitate : speed,active

Section III

Letter Series

These are too tough. Maintain time 26 questions ----- 10min

1. A C BDEFGI - I H K J L ANS: H
2. AIZBEYCIXDI - GENJW ANS;W
3. ADGJMP - RWTS ANS; S
4. ABCEFGIJK - MLONP ANS; M nOTE: MLONP ARE GIVEN OPTIONS
5. ABFGKLPQ - TSVUW ANS;U

- 6 JWXUVST - QPSET ANS; Q
7. ARHXYTDTWST - NPTKR ANS; P
- 8.FMBIPZVIEV - IRYOU
9. NZI YCX KWF - JFVMY ANS;V
10. AASASPASPKA - RQTSU ANS;S
11. AECPS - TRUE ANS;U
12. BBPRDDLNFFIK - HQJIK ANS'H
- 13 AZEXIVMT - RQNSO ANS: Q
14. ABDGKP - LIWUX ANS:U
15. BCDAEGHIFJLMN LKNMO ANS: K
16. XWEEGVUHIJK - PNSRT ANS: T
17. ODJTOPQNOERT - QOUVW ANS;O
18. PRNUUPEJRBB - HVUNE ANS: E
- 19.LULMGMNFNPS - ONQPS ANS:P

QUESTIONS ARE NOT IN SEQUENCE.

NUMERICAL

- 1.420% OF 7.79 = 32.718
- 2 3427 / 16.53 = 202
3. 10995 /95 = 115.7365
4. 43+557-247 =353
5. 3107*3.082= 9591
6. 48.7 + 24.9 - 8.7 = 64.90
- 7.525.0/47.8 = 11
8. (135-30-14)*7 - 6 +2 = 3
- 9.3/8 * 5.04=1.89
- 10.697 /219 =3.18

$$11. 8/64 + 64/16 = 4.14$$

$$12. 298 \times 312 / 208 = 453.54$$

$$13. 0.33 \times 1496 / 13 = 37.98$$

$$14. 0.26 + 1/8 = 0.385$$

$$15. 66.17 + 1/3 = 67.03$$

$$16. 2.84 + 1/4 = 3.09$$

$$17. 33\% \text{ OF } 450 = 148.5$$

$$18. 907.54 / 0.3073 = 3002$$

19. THERE ARE two categories of persons in ratio A, b i.e. $A:B = 2:3$ A type earns 2.5 dollars/hr and B type 1 dollar/hr total money earned by both is 24 dollars. then total number of persons

Ans: 15

20. Question not clear

Slowing running - n hours - A

Medium running - B

fast running - k hours - c

Ans: $nA + kC$

21. Total balls z, red balls N remaining are black balls, then % of black balls equal to Ans: $z - n / z \times 100$

22. Multiplication three digits and two digits number will result the

Ans: Hint: four digit number first number must be one.

23. $A = C; B = 2D$ what should be do to make the ratio same. i.e. $a/b = c/d$

Ans: multiply A by 2

24. P- Total number of components

Q= defective number of components

% of non defective equals to $p - q / p \times 100$

25. Cost of article x, first discount is y% of cost, second discount is z% of cost. The price of x is

Ans: $x(1-y/100)(1-z/100)$

26. Prime number a) 119 b) 115 c) 127 d) none Ans: C

27. $A/B = C; C > D$ then

Ans: A is always greater than D

28. $B > C$ and $A \geq B$ then which expression will be highest value

Ans: AB

37. K, L -- Men ; X, Y -> Ans: $kX + Ly$

38. If A, B are same number, which one of the following doesnot satisfy this Ans: $A*B/B^{**}2$

39. X - bulbs'; y - broken; % of non broken bulbs Ans: $x-y/x*100$

40. Adding X, Y to A equals to Ans: a (large expression)

41. Salary s per month, tax x% of the salary, r% of salary is deducted what is the income.

Ans: $s*(1-(x+R)/100)$

42. Add three digits and two digits numbers the first digit is

Ans: 1 (four digit number starting with one)

43. $0.512 * \text{large number} = ?$

Ans: divide the given number by 2

44. In 10% balls 5 are defective, % of defective

Ans: 50%

45. 6.29% of 2.8 = 0.18

46. $0.398*456=181.49$

47. $0 < x5$

person 3 says $3N > 20$

person 4 says $3n > 10$

person 5 says N

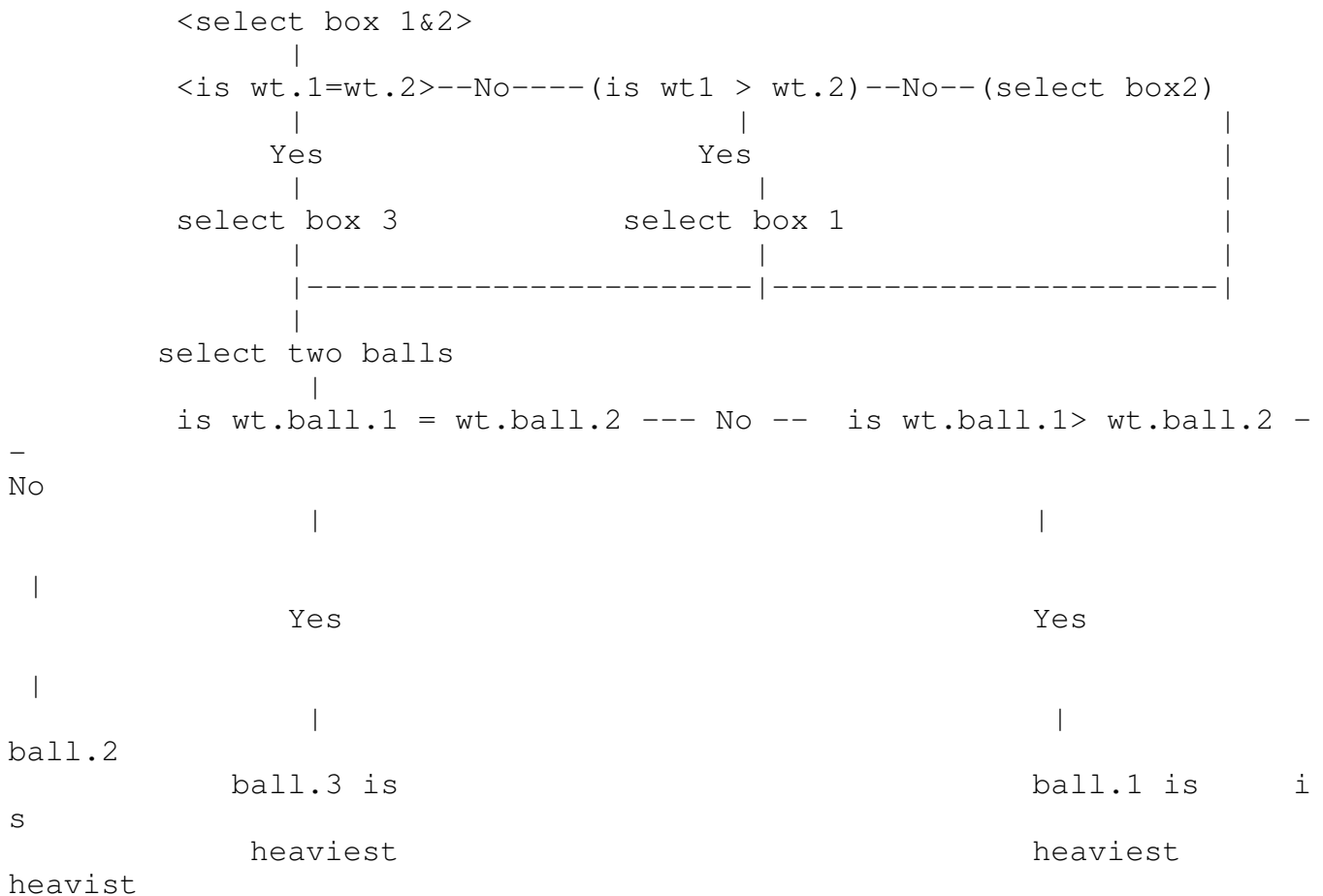
>Group discussion topics:

>Instructions:

- 1) There are 7 flow charts & each has 5-6 blank rectangles/diamonds with subquestion no. in rectangle/diamond. you have to fill the blank from the 5 options given against respective question no.
- 2) You have to understand the logic & then it is very easy to fill the blanks.
- 3) they had provided some information which you have to use for getting answers.

Flow charts:

1) there are 3 boxes of 3 balls each. you have to select the heaviest among all.



so there will be some blank in this flow chart and u have to fill up the blank with correct option.

Q2)

there are red and black balls. if ball is red then one point. if ball is black and previous ball is red then two points. For winning u have to get seven points. No point for same color consecutive balls.

```

|----- select ball
|
|           |
|       is ball red --- Yes -- Is previous --No---
|           |           ball red
|       No           p=p+1       |
|           |           No
|       is previous       |
|       ball black --No----- p=p+2 --count=
count+1
|
|           |
|       Yes           |---is ball left
|           |           |
|       No pointQ3)

```

Classify objects in class A, class B and scrap. for classfing u have to do diffrent test such as weight, material etc. and Flow char for this ques. will be there along with some blanks.

Q4)

There is production process in which action depend on temprature and pressure. and there are temp. and press. controls.

Q5)

find max. and min. of the 12 nos. there will array and u have to arrange the numbers in assending/ descending order and find out max. and min.

Q6)

diffrent age group are given and also diffrent salary slabs are given. so depending on the salary group as well as his group u have to fill the person in particular class. (ques. is not in exact form.)

>1. Brain drain: i.e. related to why immigration to U.S; I opposed partially and supported partially

>

>2. Electronic media effect; Internet, TV ,Email multimedia

>

> G.D they won't eliminate so many people. but you have

participate

>with enthusiasm.You talk something. Interview as usual, stereoscopic
>questions.like TCS.

>

>

> I went upto interview, afterwards out.

COMPUTER VISION (CV)

=====

>

>

>1. $|X-A| == A-X$, Ans. c. $x \leq a$

>2. There is six letter word VGANDA. How many ways you can arrange the
>letters

> in the work in such a way that both the 'A's are together.

> ans. 120

>3. It two cards are toked on after other without replacing from a pac
k

>of

> 52 cards. What is the probability for the two cards to be queen.

> ans. $1/17 * 1/13$

>4. 51 X 53 X X 59.

> a. $99!/44!$ b. c. d $(99! X 25!) / (2^{2^4} X 49! X 51!)$

> ans. d.

>5. The ratio of boys to girls is 6:4. Sixty percent of the boys and
>fourty

> percent of the girls lake lunch in the canteen. What percent of
the

>class

> takes lunch in the canteen?

> ans. 52%

>

>

>DATA SUFFICIENCY

>-----

>a. Only statement A is sufficient,

>b. Only statement B is sufficient,

>c. Both are necessary,

>d. Both are not sufficient.

>

>6. X is an integer. Is X divisible by 5?

> a. $2X$ is divisible by 5,

> b. $10X$ is divisible by 5.

> ans. a

>7. Is Anna the tallest in the class

> a. Anna is the tallest girl,

> b. Anna is taller than all boys.

> ans. c

ANALYTICAL

>-----

```

> Zulus always speak truth and Hutus always speak lies. There are
>three persons A, B,&C. A met B and says "I am a Zulus as I am a
>Hutu". We don't know
> what exactly he said. The B meets C and says to C that " A is a
>Zulu".
> Then C replied " No, A is a Hutu".
>
>9. How many Zulus are there?
> ans. 2
>10. Who must be a Zulu?
> ans. B, b (may be)
>
>
> A father F has 5 sins, P,Q,R,S,T not necessarily in this order
.
Two
>are
> of same age. The eldest and teh youngest cannot be twins. T is
elder
>to R
> and younger to Q and S has three older brothers.
>
>questions:. 11, 12, 13, 14.
>
> Who are the twin?
> Who is the oldest/youngest.
>
>ans. order may be QTRPS
>
> There are 7 people who take a test, among M is the worst, R is
> disqualified. P & S obtain same marks, T scares less than S and Q
>scores
> less than P, N scores higher than every one.
>
>questions: 15, 16, 17, 18
> ans. NPSTQRM
>
> highest marks is to 'N'
> least marks is to 'M'.
>
>UNIX & C
>-----
>
>19. What does chmod 654 stand for
> ans. -rw-r-xr--
>20. Which of following is used for back_up files?
> a. compress b. tar c. make d. all the above
> ans. d
>21. What does find command do?
> ans. search a file

```



```

>22. What does "calloc" do?
>    ans. A memory allocation & initialising to zero.
>23. What does exit() do?
>    ans. Came out of executing program.
>24. What is the value of the 'i'?
>    i= strlen("Blue") + strlen("Purple")/strlen("Red") -
strlen("green")
>    ans. 1
>25. i = 2;
>    printf("%ld %ld %ld %ld ", i, i++, i--, i++);
>    ans. chck out answer is wrong.
>26. Using pointers, changeing A to B and B to A i.e., swapping the
>function
>    using two addresses and one temporary variable, How will be the
>function
>    look like?
>    ans. swap (int *, int *, int)
>27. In '^' how are the arguments are passed by befault?
>    ans. by value.
>28. Find the prototype of Sine function
>    ans. extern double sin(double);
>29. Scope of a global variable which is declared as static?
>    ans. File.
>30. ASCII problem,  i = '^'-...
>    ans. 6
>31.What is the output of,
>    printf("Helow \0 is the world");
>    ans. Hello is teh world.
>32. Clarifying the concept addresses used ever arrays, i.e., changing
>the
>    address of a bare element production. What is error?
>33. Child process ---- fork,
>    child shell ---- sh.
>34. read about yacc, awk, man, etc.
>
>
>

```