Directions of Test

Test Name	Bull Placement Amazon 02	Total Questions	22	Total Time	90 Mins

Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Aptitude Reasoning Test	20	0:20(h:m)	1	1/4
Programming	2	1:10(h:m)	1	0

Section : Aptitude Reasoning Test

DIRECTIONS for the questions: *Answer question based on the following given below.*
Question No. : 1

On the basis of the following three statements, determine which of the ensuing conclusions can be logically inferred:

I. People with high cholesterol levels always get heart attacks.
II. Some people who eat fatty food have high cholesterol levels.
III. All people who eat fatty food and exercise regularly do not have high cholesterol levels.

Choose the correct option:

A) Some people with high cholesterol levels exercise regularly   B) All people who eat fatty food exercise regularly
C) All people who get heart attacks have high cholesterol levels   ✓D) Some people who eat fatty food get heart attacks

Explanation:-
option D can be inferred combining statement I and II.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 2

A contractor undertook a project planned to be completed in 40 days. He engages 100 men at the beginning and added 100 more after 35 days to complete the work in stipulated time. If he had not engaged the additional men, how many days behind schedule would it be finished ?

✓A) 5 days   B) 15 days   C) 25 days   D) 45 days

Explanation:-
Let one man will do one unit of work in one day. So 100 men will do 3500 units in 35 days. For the last 5 days we have 200 men and they will do 1000 units. So the total work is 3500 + 1000 = 4500 units. If the additional men are not engaged then this work would be done in 45 days i.e. 5 days behind the schedule.

DIRECTIONS for the question: *Answer the question on the basis of the information given below.*

Prof. Mukesh handed over a gift parcel to each of his five daughters (Jyoti, Kanchana, Nandini, Rupa and Sharada). The wrappers looked alike. The Prof. told his daughters, "Open the parcel secretly without any of your sisters seeing it and close it again." They did so.
The Prof. Then said, "Three of you have a powder tin each; two of you have got a biscuit tin each; I shall now whisper to each of you what one of the others have received. I may whisper about one girl's gift in more than one ear; or I may not."

He did so, and then said, "No one (among you) can deduce the present of any 3rd girl; but I shall just mention that Kanchana got a powder tin."
"I now know every one's gift" said Jyoti.
"So do I, now," said Nandini soon after.

Note: *All the members of the learned Professor's family (including even the Professor) were perfect in logical analysis, and also spoke out immediately on arriving at the solution of any problem.*

Question No. : 3

The girls, who got a biscuit tin each, were

A) Nandini & Rupa   B) Jyoti & Nandini   C) Jyoti & Rupa   ✔D) Rupa & Sharada

Explanation:-
Father mentioned that Kanchana has powder tin. Now we are left with two girls were having powder tin and two were having biscuit tin. After whispering, only Jyoti announces that she came to know what each has i.e Jyoti knew her gift and Kanchana's gift. If she was having biscuit tin, then she would be puzzled for one more biscuit tin and two powder tins. But when father must have told her about the gift of one more girl, she got very clear picture, that means she must be having powder tin, so that only one more powder tin give her the whole idea. And same is the case with Nandini. So Jyoti and Nandini have powder tins.

As Jyoti and Nandini have powder tins, so Rupa and Sharada must have biscuit tins

DIRECTIONS for the question: *Answer the question on the basis of the information given below.*

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"I now know every one's gift" said Jyoti.
"So do I, now," said Nandini soon after.

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Question No. : 4

About the gift received by whom did the Professor whisper in Jyoti's ear?

A) Rupa   ✔B) Nandini   C) Kanchana   D) Sharada

Explanation:-
Father mentioned that Kanchana has powder tin. Now we are left with two girls were having powder tin and two were having biscuit tin. After whispering, only Jyoti announces that she came to know what each has i.e Jyoti knew her gift and Kanchana's gift. If she was having biscuit tin, then she would be puzzled for one more biscuit tin and two powder tins. But when father must have told her about the gift of one more girl, she got very clear picture, that means she must be having powder tin, so that only one more powder tin give her the whole idea. And same is the case with Nandini. So Jyoti and Nandini have powder tins.

Jyoti knew her gift and Kanchana's gift i.e powder tin. We are left with only one powder tin and hence if she knows all the gifts, so Professor must have whispered about one powder tin i.e with Nandini.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 5

Some letters are given below in the first line and numbers are given below them in the second line. Numbers are the codes for the alphabets and vice-versa. Choose the correct letter code for the given set of numbers.

E M K B Z W Q U D J
5 9 1 6 4 8 2 0 7 3

What is code for 6 3 0 8 2 5 ?

A) B J Q W U E   ✔B) B J U W Q E   C) B J W U Q E   D) B J E W U Q

Explanation:-
From given data, we get the following values,

6   3   0   8   2   5

B   J   U   W   Q   E

Ans. is option B.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 6

There are six friends. K is sitting between V and R. V is sitting next to M. M is sitting next to B, who is sitting at extreme left and Q is next to R. Who is adjacent to V?

A) R and O   B) Q and K   C) B and M   ✔D) M and K

Explanation:-
If we arrange the persons then the seating arrangement will be B M V K R Q. So M and K are adjacent to V.

DIRECTIONS for the question: *Select the pair of words, which exhibits the same relationship between each other as the given capitalized pair of words.*

Question No. : 7

TALLY : VOTES : :

✔A) census : population   B) government : laws   C) taxation : revenue   D) team : athletes

Explanation:-
Tally is count of votes and census is count of population.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 8

9: 7 : : 80: ?

A) 48   B) 50   ✔C) 78   D) 82

Explanation:-
In simple way, 9 – 2 = 7 and 80 – 2 = 78

So option C should be answer.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 9

A file of soldiers two – kilometer long is walking one behind the other at a uniform speed. An inspecting officer starts at the rear, moves forward till he reaches the front. Then he starts back with the same speed till he reaches the last man at the rear. When he gets to the last man, the last man has reached exactly the spot where the man at the front was when the officer started his inspection.

What is the total distance travelled by the officer in this whole operation?

A) 4.24km   B) 4.42km   C) 4.62km   ✓D) 4.82km

Explanation:-
Let the ratio of the speeds of the inspecting officer to the soldiers be k and let the distance travelled by the man at the front when the inspecting officer comes abreast of him be d km. Then $\frac{(2+d)}{d}=k$. Also, for the reverse trip, we have the equation Also, for the reverse trip, we have the equation $\frac{d}{2-d}=k$. Solving, we get d = $\sqrt{2}$ and the total distance traveled by the officer equal to 2+2d=2+2 $\sqrt{2}$, 2+2×1.41,2+2.82=4.82. Hence 4

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 10

A person has to travel 120km. He travels x km by bus and the remaining y km by bike. The total amount that he spends on travelling this way is Rs.324. But when he travels a distance of 2y km by bus and the rest by bike, his total travelling cost is Rs.312. What will be the total travelling cost if he travels y km by bus and x km by bike and the combined cost of travelling 1 km by bus and 1 km by bike is Rs.5 ?

A) Rs.240   B) Rs.258   ✓C) Rs. 276   D) Rs.252

Explanation:-
x + y = 120
y =120-x
Now let Rs. 'a' per km be the cost of travelling by bus and Rs. 'b' per km be the cost of travelling by bike. From the given data:
(120-y) a + by = 324....(I)
And 2ya + b(120-2y) = 312.....(II)
a + b = 5................(III)
Adding (1) and (II),
120(a+b) + y(a-b) = 636
From III
y(a-b)=36.....(IV)
Now from equation (II) we get
b×120+2y(a-b)=312
∴ b×120+2×36=312
∴ b×120=240
We have to find ay + bx
ay + bx = ay + b (120-y)
= ay + b × 120 - by
= b×120 + y (a-b)
= b×120 + 36 = 240 + 36 = 276. Hence (3)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 11

How many positive integers less than 143 are relatively prime to 143?

A) 142   ✓B) 120   C) 43   D) None of these

Explanation:-

As $143 = 11 \times 13$ Required number of numbers $= 143\left(1-\frac{1}{11}\right)\left(1-\frac{1}{13}\right) = 120$ *Alternate solution*: Of all the 143 numbers up to 143, we are not interested in numbers that share a common factor other than 1 with 143. Since $143 = 11 \times 13$, we are not interested in numbers which are multiples of 11 or 13 or both. Up to 143, there are 13 multiples of 11 and 11 multiples of 13. However, 143 is common to both lists. So, the number of multiples of 11 or 13 is $11 + 13 - 1 = 23$. Thus the numbers of integers that are relatively prime to 143 is $143 - 23 = 120$.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 12

In how many ways we can arrange 3 red flowers, 4 yellow flowers and 5 white flowers in a row if the white flowers are to be separated in any arrangement (Flowers of same colour are identical) ?

✓A) 1960   B) 1200   C) 1520   D) None of these

Explanation:-

Total we have 12 flowers 3 red, 4 yellow and 5 white.
Now first arrange 3 red & 4 yellow
This can be done in $\frac{7!}{3! \times 4!} = 35$ ways
Now select 5 places from among 8 places (including extremes) & put the white flowers there.
This can be done in $^8C_5 = 56$.
So the number of ways $= 35 \times 56 = 1960$.

DIRECTIONS for the question: *Mark the best option:*

Question No. : 13

What is meaning of following declaration?

int(*ptr[5])();

A) ptr is pointer to function   ✓B) ptr is pointer to array of function
C) ptr is pointer to such function which return type is array.   D) ptr is pointer to array of function.

Explanation:- *Here ptr is array not pointer.*

DIRECTIONS for the question: *Mark the best option:*

Question No. : 14

If $(675.625)_{10} = (X)_{16}$. Then value of X is

A) $(2B3.A)_{16}$ ✔B) $(2A3.A)_{16}$ C) $(2C3.C)_{16}$ D) $(2A3.B)_{16}$

Explanation:-

DIRECTIONS for the question: *Mark the best option:*

Question No. : 15

Consider a memory system of size 16kb which is to be designed using 10 address lines and 4 data lines each. What is the number of such chips required to design the memory system?

A) 16   ✔B) 32   C) 64   D) 128

Explanation:-

DIRECTIONS for the question: *Mark the best option:*

Question No. : 16

ICI (interface control information) is

A) used to transfer user data from layer to layer
B) used to exchange information by peer entities at different sites on the network toinstruct an entity to perform a service function
C) a combination of service data unit (SDU) and protocol control information (PCI)
✔D) a temporary parameter passed between TV and N - 1 layers to involve service functions between two layers

Explanation:-

DIRECTIONS for the question: *Mark the best option:*

Question No. : 17

The SQL statement

SELECT TRUNC(45.926, -1) FROM DUAL;

A) is illegal   B) 5   C) prints 45.9   ✔D) prints 40

Explanation:-   *TRUNC(45.926,-1) truncates 1 decimal place to the left of the decimal point (left because of the - sign). The 45 will be made 40.*

DIRECTIONS for the question: *Mark the best option:*

Question No. : 18

State which statement is true:-
i) Switching the CPU to another process requires saving the state of the old process and loading the saved state for the new process is called context switching.
ii) The long-term scheduler executes much less frequently.
iii) As processes enter the system, they are put into a job queue.

A) i   B) i and ii   C) ii and iii   ✓D) i, ii and ii

Explanation:-

DIRECTIONS for the question: *Mark the best option:*

Question No. : 19

The purpose of watchdog timer is......

A) It acts as an external timer that resets the system if the software fails to operate properly
B) It acts as an internal timer that sets the system if the software fails to operate properly
✓C) It acts as an internal timer that resets the system if the software fails to operate properly
D) Keeps track of the processor speed

Explanation:-

DIRECTIONS for the question: *Mark the best option:*

Question No. : 20

Consider the following relation schemes for the library database of your college.

Book (Title, Author, Catalog_no, Publisher, Year, Price)
Collection(Title, Author, Catalog_no)
with the following functional dependencies
I.   Title Author → Catalog_noTitle Author → Catalog_no
II.   Catalog_no → Title Author Publisher YearCatalog_no → Title Author Publisher Year
III.   Publisher Title Year→ PricePublisher Title Year→ Price

Assume {Author, Title }{ Author, Title } is the key for both schemes. Which of the following statements is true?

A) Both book and collections are in BCNF   B) Both book and collection are in 3NF
✔C) Book is in 2NF and Collection is in 3NF   D) Both book and collection are in 2NF

Explanation:-   *Table Collection is in BCNF as there is only one functional dependency*
 "Title Author –> Catalog_no" and {Author, Title} is key for collection.
 Book is not in BCNF because Catalog_no is not a key and there is a functional dependency.
 "Catalog_no –> Title Author Publisher Year".
As Book is not in 3NF because non-prime attributes (Publisher Year) are transitively dependent on key [Title, Author].
Book is in 2NF because every non-prime attribute of the table is either dependent on the key [Title, Author], or on another non prime attribute.

Section : Programming

DIRECTIONS for the question: *Solve the following question:*

Question No. : 21

Given a string, your task is to find the number of patterns of form 1[0]1 where [0] represents any number of zeroes (minimum requirement is one 0) there should not be any other character except 0 in the [0] sequence. Write your code in C++

Intput:
The first line contains T denoting the number of test cases. Then follows description of test cases. Each case contains a string.

Output:
For each test case, output the number of patterns.
Constraints:
1< = T < = 20
1 < = Length of String < = 2000

Example:
Input:
2
100001abc101
1001ab010abc01001

Output:
2
2

A)   B)   C)   D)

Explanation:-   *#include*
using namespace std;
int main() {
        int t;
        cin>>t;
        while(t--){
           string s;
           cin>>s;
           int count=0;
           for(int i=0;i   if(s[i]==1){
                   int flag=0;
                   i++;
                   while(s[i]== 0&& i   flag=1;
                      i++;
                   }
                   if(s[i]==1 && flag){
                      i--;
                      count++;
                   }
                   else{
                      i--;
                   }
              }
           }
           cout<   }
        return 0;
}

DIRECTIONS for the question: Solve the following question:

Question No. : 22

A number is a special number if it's digits only consist 0, 1, 2, 3, 4 or 5.Given a number n and we have to find n-th Special Number. Write your code in C++

Input:
First line of input contains the number of test cases.
The only line of the test case contains N.

Output:
Print the nth special number.

Constraints:
1<=T<=100
1<=N<=100000

Example:

Sample Input:
2
6
10

Sample Output:
5
13

A)   B)   C)   D)

Explanation:- \"\"