Directions of Test

Test Name	Bull Placement Amazon 01	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 question: *In the question, select the alternative which will come in place of (?) sign out of the four alternatives given below each.*

Question No. : 1

BLOCKED : YOLXPVW : : ? : OZFMXS

A) DEBATE B) RESULT C) LABOR ✓D) LAUNCH

Explanation:-
The position of each alphabet in BLOCKED is taken from A-Z while same position number has been taken for YOLXPVW from Z-A i.e. B is 2nd letter from the start and its code Y is 2nd letter from end, L is 12th letter from start and its code O is 12th letter from end and so on. On the same lines OZFMXS is the code of LAUNCH.

DIRECTIONS for the question: *In the following question, a group of three interrelated word is given. Choose a word from the given alternatives that belongs to the same group.*

Question No. : 2

breeze : Cyclone : : drizzle: ?

✓A) downpour B) Damage C) Accident D) Earthquake

Explanation:-
'downpour' as the given analogy is of varying intensity.

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

Question No. : 3

M and N are two stations on a railway line. A single rail track is present between these stations. X, Y and Z are three trains that run between M and N. X runs half as fast as Y, which, in turn, runs at a speed $33\frac{1}{3}\%$ less than that of Z. Each day, X leaves M at 7:00 a.m., for N, and as soon as it reaches N, Z starts from N and reaches M at 9:00 a.m. One day, X started 24 minutes behind schedule but increased its speed by $11\frac{1}{9}\%$ to try to catch up on the schedule. If Z also increased its speed and reached M at the usual time, find the ratio of the speeds of Z and X, on that day.

A) 23: 5 B) 31: 5 ✓C) 27: 5 D) 29: 5

Explanation:-

Let the initial speeds of X, Y and Z be x, y and z respectively.

$x = \frac{Y}{2}$ and $y = z - \frac{1}{3}z = \frac{2}{3}z$

$\therefore x = \frac{1}{3}z$ ..... (1)

Total time of travel of x and z, usually = 2 hours.

⇒*Usually z runs for 30 minutes and x runs for 90 minutes. On the day that X runs 24 minutes behind schedule, total time of travel = 96 minutes. On that day X increased its speed by* $11\frac{1}{9}\%$ *i.e. by* $\frac{1}{9}$ *th of its original speed.*

∴*New travel time of x =* $\frac{9}{10}(90) = 81$ minutes. *Z must have travelled for 96 – 81 = 15 minutes.*

∴*Z doubled its speed (since it usually takes 30 minutes)*

∴*Required ratio =* $(z)(2) : (x)\left(\frac{10}{9}\right)$

$= (3x)\,(2) : (x)\left(\frac{10}{9}\right) = 27 : 5$

DIRECTIONS for the question: *The fitness school marathon attracted 16 entrants this year. Each of the five houses entered a team of three runners and field was made up by the Sports master, Alamkhir, who is the sixteenth runner. The school houses were competing for the trophy. The number of points by each entrant would be equal to his finishing position. The five houses tied for the cup, their totals being equal, although no two competitors tied for the same position. In order to determine the order in which the houses should keep the trophy for 73 days each in a year, they multiplied the finisher's positions together in each house. The house with the smallest product, Black, would hold the trophy first and so on to the house with the largest product, Blue who held it last. But per chance Green and White houses still tied, and had to be separated by the toss of the coin.*

Mr. Alamkhir later noted that no house had two finishers in consecutive positions although Green house would have achieved this had Mr. Alamkhir himself not managed to get between two of the runners in the race.

Question No. : 4

The product of Black house is

A) 136 B) 360 C) 120 ✓D) 128

Explanation:-
From the given information, we can make the following table:

House	Rankings			Product
Black	1	8	16	128
Red	2	9	14	252
White	4	6	15	360
Green	3	12	10	360
Blue	5	7	13	455

Product of black house is 128.

DIRECTIONS for the question: *The fitness school marathon attracted 16 entrants this year. Each of the five houses entered a team of three runners and field was made up by the Sports master, Alamkhir, who is the sixteenth runner. The school houses were competing for the trophy. The number of points by each entrant would be equal to his finishing position. The five houses tied for the cup, their totals being equal, although no two competitors tied for the same position. In order to determine the order in which the houses should keep the trophy for 73 days each in a year, they multiplied the finisher's positions together in each house. The house with the smallest product, Black, would hold the trophy first and so on to the house with the largest product, Blue who held it last. But per chance Green and White houses still tied, and had to be separated by the toss of the coin.*

Mr. Alamkhir later noted that no house had two finishers in consecutive positions although Green house would have achieved this had Mr. Alamkhir himself not managed to get between two of the runners in the race.

Question No. : 5

Which of the following is a possible combination of the Red, the second house?

A) 2, 11, 16 ✓B) 2, 9, 14 C) 5, 11, 15 D) 1, 4, 18

Explanation:-
From the given information, we can make the following table:

House	Rankings			Product
Black	1	8	16	128
Red	2	9	14	252
White	4	6	15	360
Green	3	12	10	360
Blue	5	7	13	455

Red has 2, 9 and 14 as per the table.

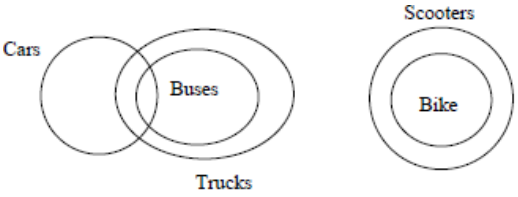
DIRECTIONS for the question: *The question below has either two or three statements followed by two or three conclusions. You have to take the given statements to be true and then decide which of the given conclusions logically follows from the given statements, disregarding the commonly known facts.*

Question No. : 6

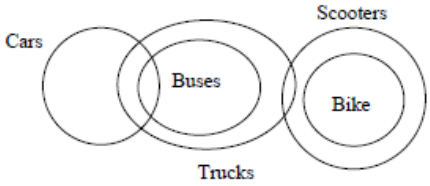
Statements: Some cars are buses. No truck is a bike. All buses are trucks. All bikes are scooters.
Conclusions: I: Some trucks are cars. **II:** No truck is a scooter.

✓A) Only I follows B) Only II follows C) Either I or II follows D) Both I and II follow

Explanation:-



Conclusion 1: *Some trucks are cars. As we can see the shaded portion, the trucks in that portion are cars also. So I is true.*
Conclusion 2: *No truck is scooter, it seems ok in the above, but if we draw it as.*



So it is not a conclusion.

Thus answer is first option.

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

Question No. : 7

What will come in place of question mark (?) in the following number question?
4 2 2 3 6 ?

✓A) 15 B) 11 C) 12 D) 13

Explanation:-
*4 * 0.5 = 2, 2*1 = 2 ; 2*1.5 = 3 ; 3*2 = 6 , 6*2.5 = 15 Hence answer is option A*

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

Question No. : 8

An ant starts from a point O and takes steps successively towards North, East, North, West, North, East and so on. The initial step of the ant measures 9 cm and every step thereafter measures one third the previous step. If the ant converges to a point P after taking infinite such steps, how is P located in relation to O?

✓A) P is $\frac{27}{10}$ cm to the east, $\frac{81}{8}$ cm to the north of O.
B) P is $\frac{81}{10}$ cm to the east, $\frac{27}{8}$ cm to the north of O.
C) P is $\frac{27}{10}$ cm to the east, $\frac{81}{10}$ cm to the north of O.
D) None of these

Explanation:-

The measure of the steps taken in an order are 9, 3, 1, $\frac{1}{3}, \frac{1}{9}, \frac{1}{27}, \frac{1}{81}, \frac{1}{243}, \ldots\ldots$

Now starting from the first step every alternate step is in north.

$\therefore$ Northward displacement

$$= 9 + 1 + \frac{1}{9} + \frac{1}{81} + \ldots\ldots\infty = \frac{9}{1 - 1/9} = \frac{81}{8}$$

Starting from the second step every alternate step contributes towards the horizontal displacement, the sum of these steps to infinity gives Eastward displacement.

$$= 3 - \frac{1}{3} + \frac{1}{27} - \frac{1}{243} \ldots\ldots\infty = \frac{3}{1 - \left(-\frac{1}{9}\right)} = \frac{27}{10}$$

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

Question No. : 9

One bag contain 5white and 4black balls. Another bag contains 7white and 9black balls. A ball is transferred from the first bag to the second and then a ball is drawn from second bag. Find the probability that ball drawn is white?

✓A) $\frac{4}{9}$ B) $\frac{3}{9}$ C) $\frac{60}{151}$ D) None of these

Explanation:-

It is possible that ball drawn from the first bag is white or it is black

$$\text{Required Probability} = \frac{5}{9} \times \frac{8}{17} + \frac{4}{9} \times \frac{7}{17} = \frac{40}{153} + \frac{28}{153} = \frac{68}{153} = \frac{4}{9}$$

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

Question No. : 10

There are 5 envelopes corresponding to 5 letters. If the letters are placed in the envelopes at random, what is the probability that atleast two letters are not placed in the right envelopes?

A) $\frac{1}{120}$ B) $\frac{1}{60}$ C) $\frac{1}{30}$ ✓D) None of these

Explanation:-

Total number of ways of placing 5 letters in 5 envelops = 5! = 120

Except one way i.e. all correct, rest will be desired way. So required probability =

$$1 - \frac{1}{120} = \frac{119}{120}$$

DIRECTIONS for the question: *In the following questions, select a suitable replacement for the word in bold/underlined.*

Question No. : 11

Consider the following algorithm.
Step 1 : Input *z* a positive integer
Step 2 : If *z* is even, replace *z* by *z*/2
Step 3 : If *z* = 1, then output *z* and stop.
Step 4 : If *z* is odd, replace *z* by 3*z* + 1.
Step 5 : Go to Step 2.

Given that the input *z* in step 1 is 7, find out how many values would have been assigned to *z* before the program finally stops?

✓A) 17 B) 15 C) 16 D) *z* never equals 1

Explanation:-
The values taken by z are: 7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1. Hence there are 17 values.

DIRECTIONS for the question: *In the following questions, select a suitable replacement for the word in bold/underlined.*

Question No. : 12

What is the sum of all three-digit multiples of 3 or 5?

A) 263,498 ✓B) 230,850 C) 198,000 D) 233,168

Explanation:-
3-digit multiples of 3 range from 3 × 34 = 102 to 3 × 333 = 999. So, there are 333 – 33 = 300 such multiples and their sum is (300/2)(102 + 999) = 165150. 3-digit multiples of 5 range from 5 × 20 = 100 to 5 × 199 = 995. So, there are 199 – 19 = 180 such multiples and their sum is (180/2)(100 + 995) = 98550.Multiples of 15 will be common to both sets. 3-digit multiples of 15 range from 15 × 7 = 105 to 15 × 66 = 990. So, there are 66 – 6 = 60 such multiples and their sum is (60/2)(105 + 990) = 32850.Thus the sum of all 3-digit multiples of 3 or 5 is 165150 + 98550 – 32850 = 230,850.

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

Question No. : 13

An array A[1…..m]is said to be p-ordered ifA(i-p)<=A[i]<=A[i+p] for each I such that p<i<=m-p.
for example the array 1 4 2 6 3 7 5 8 is 2-ordered.in a 2-ordered array of 2n elements that is the maximum number of positions that an element can be from its position if the array were 1-ordered

A) 1 B) 2 ✓C) N D) n/2

Explanation:-

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

Question No. : 14

Suppose the partition function of quicksort is called on this array
4 7 6 5 1 8 0

Which of the array below could result from the call i.e. which of them satisfies the post condition of partition(assume partition chosen the first element of pivot).

✓A) 1 0 4 5 6 8 7 B) 1 0 5 4 6 8 7 C) 4 0 1 5 6 8 7 D) 4 0 1 5 6 7 8

Explanation:-

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

Question No. : 15

Semaphores are used to solve the problem of

A) race condition ✓B) process synchronization and mutual exclusion C) mutual exclusion only D) none of the above

Explanation:-

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

Question No. : 16

Let R be a relation. Which of the following comments about the relation R are correct?

A) R will necessarily have not a composite key if R is in BCNF also not in 4NF.
✓B) If R is in 3NF and if every key of R is simple, then R is in BCNF. C) If R is in BCNF and cannot be in 4NF.
D) If R is in 3NF but can never be in 5NF.

Explanation:-

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

Question No. : 17

Consider the following relations A, B and C.

A			B			C		
ID	**Name**	**Age**	**ID**	**Name**	**Age**	**ID**	**Name**	**Age**
12	Arun	60	15	Shreya	24	10	2200	02
15	Shreya	24	25	Hari	40	99	2100	01
99	Rohit	11	98	Rohit	20			
			99	Rohit	11			

How many tuples does the result of the following relational algebra expression contain?

Assume that the schema of A∪B is the same as that of A.
$(A \cup B) \infty_{A.Id>40 \text{ V } C.Id<15} C$

✓A) 7 B) 4 C) 5 D) 9

Explanation:- *A∪B will be*

ID	Name	Age
12	Arun	60
15	Shreya	24
99	Rohit	11
25	Hari	40
98	Rohit	11

(A ∪ B) ∞ C will be

ID	Name	Age	C.ID	Phone	Area	Will it be included in the result set?
12	Arun	60	10	2200	02	Yes because C.Id< 15
15	Shreya	24	10	2200	02	Yes because C.Id< 15
99	Rohit	11	10	2200	02	Yes because C.Id< 15
25	Hari	40	10	2200	02	Yes because C.Id< 15
98	Rohit	11	10	2200	02	Yes because C.Id< 15
12	Arun	60	99	2100	01	No because condition is not met
15	Shreya	24	99	2100	01	No because condition is not met
99	Rohit	11	99	2100	01	Yes because A.Id> 40
25	Hari	40	99	2100	01	No because condition is not met
98	Rohit	11	99	2100	01	Yes because A.Id> 40

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

Question No. : 18

Consider the following relations A, B and C.

A		
ID	**Name**	**Age**
12	Arun	60
15	Shreya	24
99	Rohit	11

B		
ID	**Name**	**Age**
15	Shreya	24
25	Hari	40
98	Rohit	20
99	Rohit	11

C		
ID	**Name**	**Age**
10	2200	02
99	2100	01

How many tuples does the result of the following SQL query contain?

```
SELECT   A.Id
FROM A
WHERE A. Age >ALL(SELECT B.Age
FROM B
WHERE B.Name = 'Arun')
```

A) 4 ✓B) 3 C) 0 D) 1

Explanation:- *The query (SELECT B.Age FROM B WHERE B.Name = 'Arun') will return NULLbecause no row in relation B has name Arun. So all the three rows from relation A willbe returned.*
Note: Some RDBMS implementations will not return any row because A.age> NULL will fail for any A.age (including NULL).

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

Question No. : 19

Sequence of events takes place while starting a Database is

A) Database opened, File mounted, Instance started ✓B) Instance started, Database mounted & Database opened
C) Database opened, Instance started & file mounted D) Files mounted, Instance started & Database opened

Explanation:-

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

Question No. : 20

Oracle precompiler translates the EMBEDDED SQL statements into

A) Oracle FORMS B) Oracle REPORTS C) Oracle LIBRARY ✓D) None of the above

Explanation:-

Section : Programming

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

Question No. : 21

A) B) C) D)

Explanation:-

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

Question No. : 22

A) B) C) D)

Explanation:-